

Preventing Disease Transmission in Livestock and Poultry

FOMITES

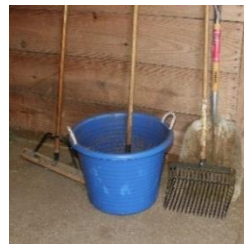


One way animal diseases can spread is by fomite transmission. These prevention measures can help minimize the risk disease exposures by fomite transmission for your animals and the people around them.

WHAT IS FOMITE TRANSMISSION?

Fomites are objects or surfaces that become contaminated with the manure, urine, saliva, or reproductive fluids of an infected animal. Many disease-causing organisms can survive on surfaces or in the environment for hours, days, even weeks. Removal is a key step in preventing disease for animals and people. It is important to remember that for some diseases animals may not show signs of illness even when infected.

WHAT ARE EXAMPLES OF COMMON FOMITES ON THE FARM?



Vehicles and Equipment	Animal Handling Equipment	Animal Care Equipment	Animal Treatment Equipment	People On The Farm	Animal Housing
Trucks Trailers Tractors Skid loaders Feed wagons Hay wagons Loader buckets 4-wheelers	Chutes Crowding panels Alleyways Halters Lead ropes Nose tongs Sorting sticks	Brushes Clippers Feed buckets or pans Water troughs or tanks Feed bunks Hay feeders Bottles/nipples Snares Shovels, brooms, manure rakes	Balling guns Needles Syringes Calf jack OB chains Tube feeders Dehorner Castration equipment Implant guns	Boots/shoes Coveralls Gloves Rain suits Hats Other clothing Hands	Calf hutches Neck tethers Fences Gates Milking Equipment Milking unit liners Teat dip applicators Towels

HOW CAN I DECREASE FOMITE TRANSMISSION ON MY OPERATION?

Fomites can spread diseases to other animals, other locations on or off your operation, or to the next person that comes in contact with the item.

- Keep animal housing environment clean and dry to help prevent fomite disease transmission.
- Minimize people and vehicles in animal areas to only those necessary – especially for animals being isolated/quarantined or treated for an illness. This will help reduce the risk of transfer of disease causing organisms on fomites such as footwear, vehicle tires, and other objects.
- Avoid sharing equipment with other farms. If items are shared, clean and disinfect them before use.

Cleaning and Disinfection (C&D)

- Frequently clean and disinfect objects used in the care and handling of animals.
- Cleaning and disinfection is a two-step process.

Clean the Right Way

- **Remove debris (dry cleaning).** Remove all visible material, such as manure and dirt, by brushing, scraping, sweeping and hauling to a central disposal area. Ensure this waste material does not contaminate feed, water or animal areas during removal or disposal.
- **Wash.** Wash item(s) with soap/detergent and water to remove remaining visible material. Be sure to clean all equipment in the area (e.g., waterers, feed troughs, buckets). Caution should be used with high pressure washers (5000-10,000 psi) as they can aerosolize disease organisms and spread them to other areas or expose the person cleaning.
- **Rinse.** Remove all detergent residue by applying a low pressure water rinse on all surfaces. Some disinfectants are inactivated by detergent or soap.
- **Dry.** It is best to allow the object or area to dry completely before applying a disinfectant so it can work effectively.



Photo: Megan Smith, Iowa State University

Disinfect the Right Way

- **Choose the correct product.** Disinfectants differ in their ability to kill disease-causing organisms. The CFSPH [*Characteristics of Selected Disinfectants*](#) handout summarizes disinfectant classes, their antimicrobial spectrum and other characteristics. Work with your herd or flock veterinarian to select the correct disinfectant(s) for your operation.
- **Read the product label.** Key product information is listed on the label. This includes disease-causing organisms the product is effective against, specific dilutions, application methods, contact time needed, and safety precautions for people and animals.
- **Apply the disinfectant.** Apply the product at the correct dilution. Be sure to let it “sit and work” (e.g., contact time) according to the label directions for best results. Surfaces should remain wet throughout the entire recommended contact time.
- **Rinse.** Some products are toxic to animals. It is important to rinse away disinfectant solutions after the full contact time has been reached
- **Dry.** Whenever possible, allow the object or area to completely dry.



Photo: Danelle Bickett-Weddle, Iowa State University

****If the item being cleaned will be used for the administration of antibiotics, electrolytes or hormones, special precautions must be taken. Certain disinfectants will inactivate medication. Consult with your herd or flock veterinarian for assistance.**

Other C&D Tips

- **Consider surface type:** The type of material you are cleaning can affect the cleaning and disinfection process. Smooth, non-porous surfaces are easiest to C&D. Material surfaces that are more porous (e.g., braided cotton, wood, concrete) will need more soaking or scrubbing to make sure all visible material is removed than less porous surface materials such as metal or plastic. .
- **Water.** Water composition (e.g., mineral content) can interfere with the action of soaps and disinfectants. Check the product label for any interactions. Water temperature also affects how well organic matter (such as manure) is removed and the effectiveness of disinfectants. Warm water (100.4°F) is best.
- **Wear protective clothing.** Disinfectants are chemicals. It is best to wear personal protective equipment—gloves, long pants, long sleeves, and possibly a mask – when mixing or applying disinfectant solutions.
- **Avoid contamination during storage.** After cleaning and disinfecting items or areas, it is important to avoid contamination if the C&D item will not be used immediately. Store in a manner to avoid contamination by bird or rodent droppings, or animal feces.



Photo from Danelle Bickett-Weddle, Iowa State University

Special Considerations

In a disease outbreak situation, specific disinfectants may be needed for their killing action against a specific disease organism. Work with your herd or flock veterinarian to implement a C&D plan.

- These products may be caustic or cause damage to certain objects being disinfected. However, during an outbreak situation, it is more important to destroy and control the disease organism than to protect the fomites.
- Consult with your veterinarian to choose a disinfectant that is best for a specific disease situation.

FOR MORE INFORMATION

[Animal Diseases By Routes of Transmission](#). Center for Food Security and Public Health.

[Disease Exposure Route Resources](#). Center for Food Security and Public Health.

[Biosecurity Tip Sheets](#). Center for Food Security and Public Health.

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