

# CONTROL OF DIRECT CONTACT DISEASE TRANSMISSION FOR BEEF AND DAIRY PRODUCERS

Transmission by **direct contact** requires the presence of a disease causing agent or organism in the environment or within an infected animal. Exposure occurs when this agent directly touches open wounds, mucous membranes or the skin of a susceptible animal. Transmission can occur from contaminated blood or saliva, nose to nose contact, rubbing or biting. It is important to note that direct contact transmission is possible with some diseases between animals of different species as well as to humans.

Two specific types of direct contact transmission deal with breeding and pregnancy. **Reproductive transmission** is the spread of pathogenic agents from animal-to-animal and can occur in two ways. The first is through **breeding**, either naturally with bulls or artificially and the second is **in-utero**, when the dam infects the offspring during pregnancy.

**Fomites** are also a component of direct contact transmission. A fomite is any inanimate object that can carry disease agents from one susceptible animal to another. Such objects include contaminated brushes, clippers, needles, balling guns, clothing, feed or water buckets, shovels, and others commonly found on livestock operations. These items should be managed as fomites but it is important to remember that they can transmit disease when they contact an infected animal first and then have direct contact with a susceptible animal.

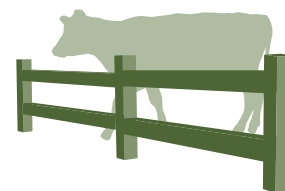
**Traffic transmission** is a type of fomite transmission in which a vehicle, trailer or human spreads contaminated material from one location to another. These routine movements can spread disease to other locations on farm or to other farms. For specific information on limiting disease transmission by properly managing fomites, please refer to the Fomites- Managing Them to Minimize Disease Spread handout.

The following list highlights a few easy and inexpensive practices that are especially important for controlling direct contact transmission.

## ANIMAL TRANSMISSION



- Prevent fence line contact between your animals and neighboring livestock.
  - This reduces the risk of disease spread by direct contact with neighboring animals.
- Maintain fences to minimize the risk of your animals escaping or other animals entering.
  - Mixing other livestock or wildlife species with your herd increases the risk of disease exposure.
  - Wildlife can transmit many diseases to cattle and contact should be minimized.
- Prevent contact between animals of differing ages and immune status on your farm.

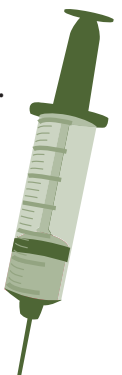


- Calves are generally more susceptible than older cattle to diseases spread by direct contact and other routes.
- Prevent contact of newborns with older animals and contaminated environments to minimize their disease exposure.
- Calve heifers separately from cows.
- Ensure that calving takes place on clean, dry bedding or pasture.
  - During calving, disease organisms can be shed into the environment; it is a significant disease risk period for both the cow and calf.
  - Calving pens should be deeply bedded with an absorbent material (e.g. straw, sand, wood shavings or paper) to drain birthing materials away from the newborn calf and minimize its contact with contaminated materials (e.g. manure, urine, dirty tail, legs, and udder of its dam).
  - Calving pens should be cleaned and fresh bedding added between animals.
- Dip the navel of newborn calves with a 7% tincture of iodine immediately after birth.
  - The umbilical cord provides direct access to a calf's body and iodine helps dry it out to prevent disease agents from entering.
- Provide a dry place for cows to lie down so their udders do not become covered with mud or feces.
  - This will limit the risk of mastitis and reduce the disease exposure to the calf.
- Decrease stocking density and minimize congregation of animals.
  - Increasing the distance between animals will reduce direct contact between healthy ones and those that may be carrying disease.
  - Always ensure adequate space for the number of animals that utilize feed, water, and shade sources.
  - Work with your local livestock extension specialist and herd veterinarian to determine the ideal stocking density for your pastures/pens.
- Clean or move congregation sites frequently to prevent accumulation of waste.
  - Moving feeders, shade structures, and other areas where animals congregate will minimize build-up of disease organisms in the environment.
- Isolate all sick animals immediately so that they do not contact other susceptible animals.

## REPRODUCTIVE TRANSMISSION



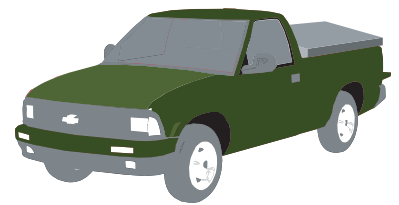
- Limit the sources and number of replacement bulls and females that you purchase.
  - Only purchase those that have tested negative for diseases of concern.
  - Quarantine replacement females and bulls prior to allowing reproductive contact with other animals in your herd.
  - Consult your herd veterinarian to establish appropriate protocols for testing and quarantine.
- Verify that semen used in your artificial insemination programs is checked for quality and is from bulls that test negative for diseases of concern prior to collection.
  - Semen can carry disease causing organisms resulting in unbred cows, infected calves or cows, abortions, and other fertility problems.
- Work with your herd veterinarian to develop and maintain a vaccination program for reproductive diseases.



## FOMITE/TRAFFIC TRANSMISSION



- Post signs with clear instructions regarding your policies for visitors.
- Lock gates to limit unauthorized animal contact or access to your feed and equipment.
- Require visitors to park in a designated area at your farm entrance and away from animal traffic areas.
- Clean clothes and footwear should be required and provided for ANY-ONE entering your operation or deny their entry to animal areas.
- Minimize on-farm traffic by placing animal delivery/load out facilities and rendering piles at the perimeter of the farm.
  - Cattle hauling trailers sometimes gather animals from multiple sources.
  - Rendering trucks can visit several farms in one day picking up animals that may have died from contagious diseases.
  - By keeping them off your farm, you minimize the risk of introducing diseases.
- Do not share equipment or vehicles between farms.
  - If equipment must be shared, all manure and bedding should be removed, the equipment washed with warm water and soap, rinsed, disinfected and rinsed again before using it with animals from your farm.



## DIRECT CONTACT TRANSMISSION SUMMARY

There are many diseases that are present in the U.S. that are transmitted by the direct contact route. Some examples include anthrax, brucellosis, bovine viral diarrhea (BVD), infectious bovine rhinotracheitis (IBR or red nose), leptospirosis, mastitis, Q fever, and rabies. In addition, the direct contact route is involved with many foreign animal diseases (FADs) including foot and mouth disease (FMD), contagious bovine pleuropneumonia (CBPP), malignant catarrhal fever (MCF), and rinderpest. Prevention practices aimed at one disease can help to protect against others because they are transmitted in the same manner. For a complete listing of all diseases transmitted by the direct contact route, please refer to the Bovine–Direct Contact Transmission and Bovine–Reproductive Transmission handouts.

This handout complements other Biological Risk Management materials. To develop the most comprehensive and effective disease management plan for your operation, it is important to utilize all resources available and work with your local extension livestock specialist and herd veterinarian.