

Preventing Disease Transmission in Livestock and Poultry

ORAL/INGESTION



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

WHAT IS ORAL DISEASE TRANSMISSION?

Oral transmission occurs when disease organisms enter the mouth and are swallowed (i.e., ingestion).

This can occur in a variety of ways. The most obvious is eating contaminated food or feed, or drinking contaminated water. However, animals can also ingest organisms when licking or chewing on objects in the environment. A few examples include feed bunks, water troughs, fencing, salt and mineral blocks, possibly even other animals.

Contamination of feed, water, or objects with disease-causing organisms can occur from the feces or body fluids (e.g., urine, saliva, nasal discharge) of an infected animal. Garbage feeding of swine or the inclusion of animal proteins in animal rations represent other potential sources. Rodents and wild birds, dogs and cats, or wildlife can also contaminate ingestible items with their feces and urine.



Photos from (top) Stephen Ausmus, USDA; (bottom) Porkcheckoff via Flickr, CC BY-NC-ND 2.0

WHAT ARE EXAMPLES OF ANIMAL DISEASES TRANSMITTED ORALLY BY INGESTION?

	Common	Foreign Animal Diseases
Cattle	Anthrax , bovine viral diarrhea (BVD), brucellosis, coccidiosis, cryptosporidiosis , Johne's disease, leptospirosis , salmonellosis , vesicular stomatitis	BSE-bovine spongiform encephalopathy,
Swine	Atrophic rhinitis (<i>Bordetella bronchiseptica</i> , <i>Pasteurella multocida</i>), porcine reproductive and respiratory syndrome (PRRS), porcine epidemic diarrhea virus (PED), transmissible gastroenteritis (TGE), swine influenza	African swine fever, classical swine fever (hog cholera), foot and mouth disease, Nipah virus
Small Ruminants	Pasteurellosis (<i>Pasteurella multocida</i> , <i>Mannheimia haemolytica</i>); caseous lymphadenitis, enterotoxemia, chlamydiosis , Q fever , anthrax	Sheep pox virus, goat pox virus
Equids	Anthrax , cryptosporidiosis , equine herpes virus, equine protozoal myeloencephalitis, leptospirosis , Rhodococcus equi , <i>Streptococcus equi</i> (strangles)	Hendra virus , glanders , meliodosis
Poultry	Campylobacteriosis , salmonellosis , colibacillosis (<i>E. coli</i>), psittacosis , histoplasmosis, cryptococcosis	Newcastle disease , avian influenza

Additional disease examples and their transmission routes can be found on the species specific *Disease Exposure Routes* handouts at <https://www.cfsph.iastate.edu/infection-control/routes/>.

Bolded diseases are zoonotic and can also affect people.

WHAT ARE WAYS TO DECREASE ORAL TRANSMISSION OF DISEASES BETWEEN ANIMALS?

Preventing oral transmission can be difficult, but there are a few ways to decrease the risk.

- Separate sick animals from healthy animals.
- Clean water buckets and troughs frequently.
- Remove manure or litter often.
- Keep objects in animal areas clean.
- Purchase feed from reputable sources with a quality assurance program.
- Handle and store feed in a way that avoids contamination.
 - Store feed in sealed containers.
 - Do not use equipment (e.g., shovels) for feeding that is also used for handling manure.
- Prevent access to stored feed or feed areas by scavengers and vermin (such as rodents and wild birds).
- Clean up any spilled or unused feed right away.



Photos from (top) Pam Zaabel, Iowa State University;
(bottom) Renée Dewell, Iowa State University

WHAT ARE WAYS TO DECREASE ORAL TRANSMISSION OF DISEASE FROM ANIMALS TO PEOPLE?

Some animal diseases can be spread to people by oral transmission (or ingestion). Take these precautions to prevent oral exposure.

- Wash hands after contact with animals and before eating.
 - Contaminated hands can transfer disease organisms to the mouth.
 - Watch young children closely to prevent them from putting dirty hands, objects, or dirt in their mouths.
- Do not eat or drink in animal areas.
- Use safe food preparation measures.
 - Cook meats thoroughly and to the proper temperature.
 - Do not eat or drink unpasteurized dairy products.



Photo from Tessa Klein, Iowa State University

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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