



PUBLIC HEALTH



Zoonotic Disease Prevention at the Fair

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With fair season upon us, it is important to remember that zoonotic diseases can be easily spread at fairs and other public animal exhibitions. During 1996–2012, over 200 human infectious disease outbreaks involving animals in public settings were reported to the Centers for Disease Control and Prevention (CDC). Fairs are enjoyable and educational experiences, but without proper preventative measures, they can lead to zoonotic pathogen exposure.

The fair environment favors the spread of disease. Many people from different environments come into contact with exhibition animals and many animal species from various locations congregate. Furthermore, animals are more likely to shed pathogens because of the stress of transportation and change of environment. Some of the common zoonoses that infect humans at fairs are enteric pathogens such as *Salmonella*, *E. coli*, *Cryptosporidium*, and *Campylobacter*. These zoonoses are spread by fecal-oral transmission. Other common zoonoses that occur at fairs are Q fever, ringworm, and influenza A. These are most often transmitted to humans who are in close contact with infected animals. One example of a zoonotic disease outbreak associated with agricultural fairs is the 2012 outbreak of an influenza A virus of swine origin, H3N2v. There were over 300 cases of H3N2v among humans, with 16 hospitalizations and 1 death. Of those infected, 95% had close contact with swine and 93% had visited an agricultural fair. The median age of those infected with H3N2v was 7 years and the median age of those hospitalized was 5 years.

Children aged less than five years, elderly persons, pregnant women, and persons with weakened immune systems have an increased risk for serious illness if infected with zoonotic diseases. These people should be extra cautious when visiting fairs and coming into close contact with animals. Young children are particularly susceptible to disease due to their tendency to put objects in their mouths. Children should be closely supervised by an adult when they are around animals.

You can help prevent illness by educating your clients on ways to prevent the spread of disease. The following are measures that exhibitors and fair organizers can take to help keep themselves and their animals healthy.

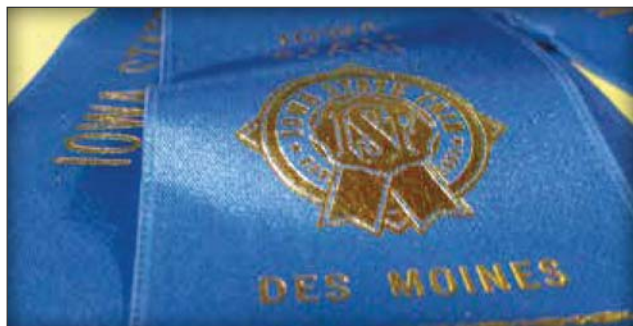
BEFORE GOING TO THE FAIR

You should work with your clients to make sure that their animals are healthy before being brought to any public setting. Make sure that all animals being brought to the fair are up to date on preventative care such as vaccinations and parasite control. Exhibitors should also be sure that their animals meet all health requirements that have been set by the fair. Sick animals should not be brought to a public setting.

AT THE FAIR

Measures Exhibitors Can Take to Prevent the Spread of Disease

- **Routinely monitor animals for signs of disease.**
- **Recognize signs of illness and report it to the proper authorities.** The enteric pathogens (e.g. Salmonella, Cryptosporidium, and Campylobacter) cause diarrhea, fever, poor appetite, and weight loss in animals. Clinical signs of influenza A of swine include fever, lethargy, inappetence, coughing, sneezing, and labored breathing.
- **Isolate any sick animals from the healthy animals, and remove them for exhibition.**
- **Limit the comingling of animals from different farms as much as possible.**
- **Avoid sharing equipment with other exhibitors.**
- **Clean and disinfect equipment regularly.**
- **Clean pens and remove manure frequently.**
- **Wash your hands frequently.** Hand washing is especially important before and after animal contact and after contact with manure. If hand washing is not readily available, exhibitors should use hand sanitizer right away and then wash their hands when possible.
- **Avoid bringing objects that could serve as fomites (e.g., strollers, toys, and pacifiers) into an animal area.** If these objects must be in the animal area they should be cleaned and disinfected before leaving.
- **Avoid eating or drinking in areas where animals are housed.**
- **Avoid sleeping in animal areas.**
- **Be cautious about who has contact with your animals.** Visitors who do come in contact with the animals should be encouraged to wash their hands.



REFERENCES:

1. Centers for Disease Control and Prevention. Stay Healthy at Animal Exhibits. <http://www.cdc.gov/features/animalexhibits/>
2. ISU Extension. Bio-Security and Fairs. <https://www.extension.iastate.edu/4hfiles/agriculture/lhgenbiosecurity.pdf>
3. National Association of State Public Health Veterinarians. Animals in Public Settings Compendium, 2013. <http://nasphv.org/Documents/AnimalContactCompendium2013.pdf>
4. National Association of State Public Health Veterinarians. Measures to Minimize Influenza Transmission at Swine Exhibitions, 2015. http://nasphv.org/Documents/Influenza_Transmission_at_Swine_Exhibitions_2015.pdf
5. Technical zoonotic disease fact sheets and client education handouts are available at <http://www.cfsph.iastate.edu/DiseaseInfo/> and <http://www.cfsph.iastate.edu/FastFacts/>

Measures Fair Organizers Can Take to Prevent the Spread of Disease

- **Make hand washing stations available wherever there are animals and position them to promote hand washing after animal contact.** Running water and soap are best but hand sanitizer can be used if necessary. The hand washing stations should be accessible to all people (e.g., small children and persons with disabilities).
- **Place signs in barns telling visitors to wash their hands and showing the correct hand washing procedure.** The signs should also remind visitors not to bring food, drinks, strollers, and toys, etc. into an area with animals and should educate them on the risks associated with animal contact.
- **Establish a temporary isolation area in case any animals become ill while at the fair.**
- **Keep records of animal identification and home farms.**
- **Locate any long-term animal exhibits away from the housing for competition animals.**
- **Hold breeding shows before terminal shows, or schedule a break between the shows to clean and disinfect the facilities.**
- **Limit the amount of time swine spend on the fairgrounds.** Ideally they should be on the grounds for less than 72 hours.

AFTER THE FAIR

When returning home from the fair, exhibitors should isolate animals from others for at least seven days. During this time, they should be observed for signs of illness. All equipment, clothing, shoes, and vehicles that were at the fair should be cleaned and disinfected before being used at home.

A few simple preventative measures can help keep everyone safe and healthy when visiting the fair. The National Association of State Public Health Veterinarians (NASPHV) publishes the 'Compendium of Measures to Prevent Disease Associated with Animals in Public Settings.' This document provides information on recent outbreaks and gives disease prevention guidelines for public settings where animals are present. It also provides posters (e.g. safety at animal exhibits, handwashing) that are free to download and can be hung up at the fair. The document and posters can be downloaded at <http://nasphv.org/documentsCompendiumAnimals.html>.