

Influenza A Viruses in Exhibition Swine



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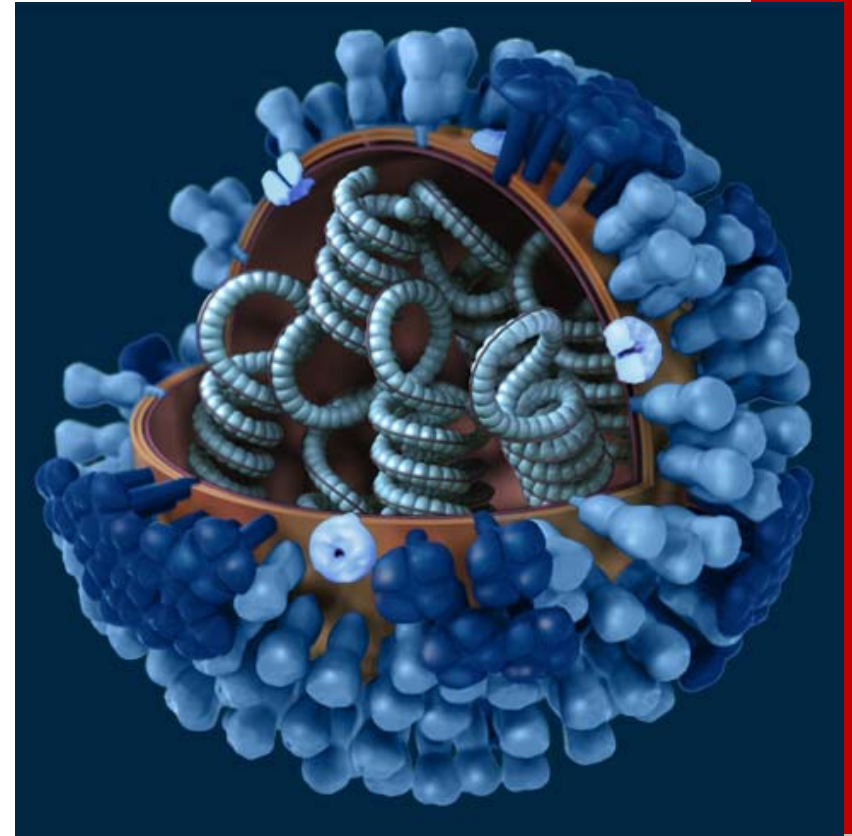
Agenda

- What is influenza?
- Why do we care about influenza A virus in pigs?
- History of IAV in swine at agricultural fairs
- Group Activity
- What to do before, during, and after the fair to keep you and your pigs healthy



Influenza Background

- Influenza A is a virus that causes respiratory illness in humans, pigs, horses, dogs, poultry, and other mammals.
- IAVs have RNA (not DNA like people) that is unstable and changes often making it difficult to control disease in people and animals.
- Influenza A viruses are named for the Hemagglutinin (HA) protein and Neuraminidase (NA) protein

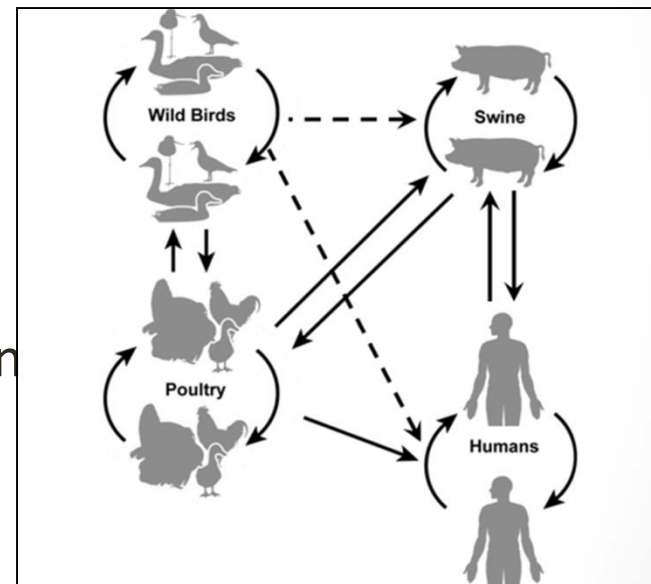


What does influenza A virus look like in People?

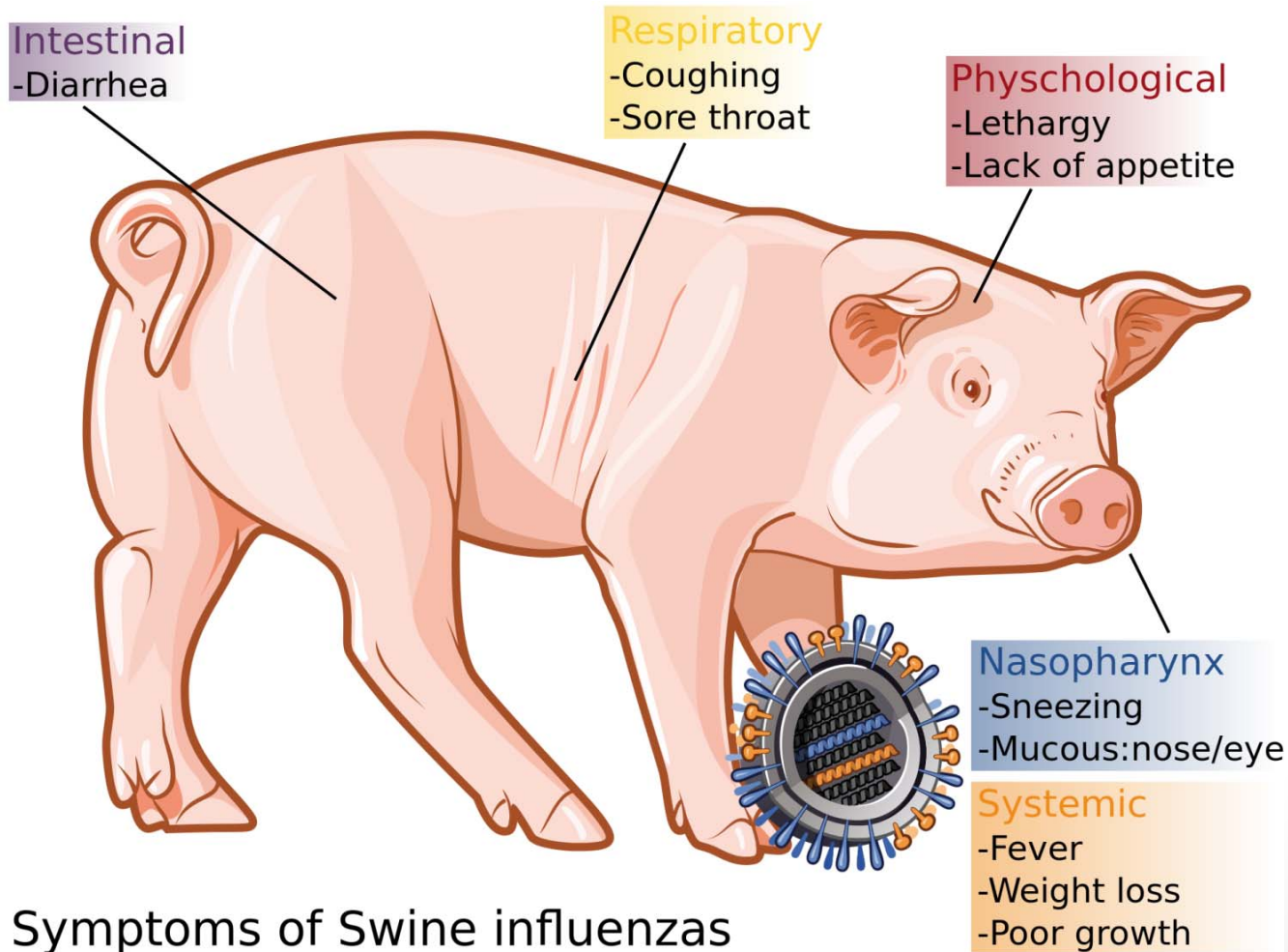


Influenza A Virus in Swine

- Swine are commonly infected with IAVs
- Swine influenza costs pork producers about \$3.23-\$10.31 per pig produced
- Pigs have receptors in their respiratory tract for swine-, human-, and avian-origin influenza A viruses and thus, as depicted in the Figure, have been called 'mixing vessels' for influenza A viruses



What does influenza A virus look like in Swine?



How does influenza A virus spread?

Contact transmission

Nose – Nose contact



Aerosol Transmission

Viral particles in the air (sneezing, coughing, dust)

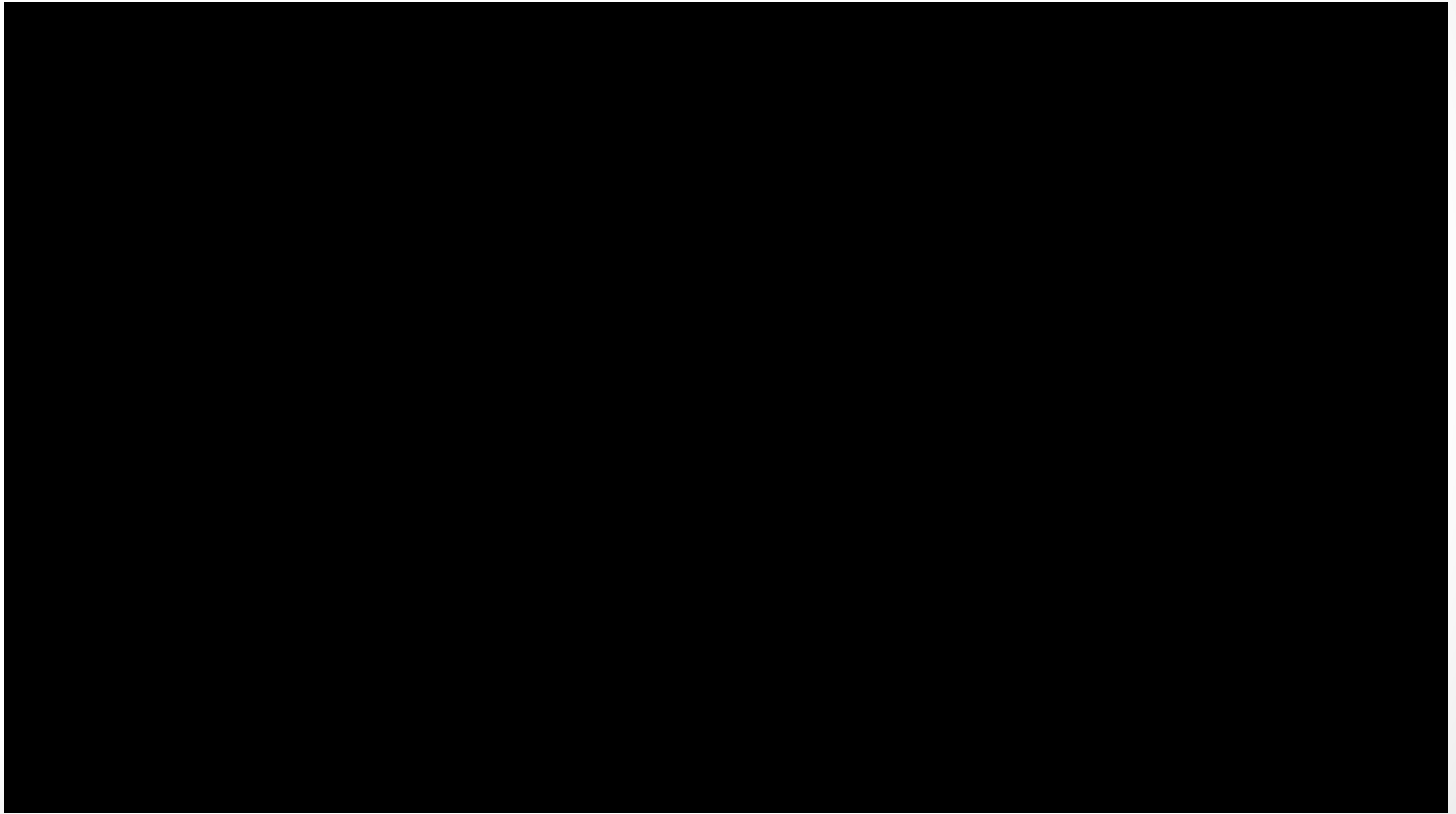


IAV at County Fairs



- Since 2009, OSU AIEERP has been collecting nasal swabs from pigs at agricultural fairs in Ohio.
- Approximately 25% of fairs we visit have pigs that are shedding IAVs
- Most infectious pigs are NOT displaying clinical signs
- If a fair has 1 positive pig, it probably has lots of positive pigs
- In the United States, approximately 150 million people attend agricultural fairs each year.

Snout Wipe Video



Swine – Human Interface

- There was a dramatic increase in the number of documented variant influenza A cases in people during 2011-2014.
- 306 reported human cases of variant H3N2 influenza A (H3N2v) that occurred in 2012 linked the majority of them to human-swine exposure occurring at fairs.
- Data from the H3N2v outbreaks show children have the highest risk of infection with H3N2v



Group Activity

- Divide into groups of 3 and complete the worksheet within 10 minutes.
- Each group will have a chance to share their ideas at the end.



What is Bio-Security?

- The protection of agricultural animals from any type of infectious agent -- viral, bacterial, fungal, or parasitic.
- Started when you brought your pig home and is a continuous process for your entire pig project.
- What types of things can you do to protect your pigs health?



Things to consider before the fair...

- Develop and implement applicable biosecurity and swine health practices at home.
 - Cleaning and disinfection of facilities, feeders, chore boots
 - Limiting pigs exposure to people and traffic
 - Control exposure to wildlife, birds, and other pests
- Evaluate your pig's health daily
 - Is your pig eating normally?
 - Is your pig coughing or having trouble breathing
 - Does your pig have a fever?
 - Does it appear depressed?
 - Does your pig have loose stool?
- Seek veterinary assistance if a pig becomes sick.



Taken from "Measures to Minimize Influenza Transmission at Swine Exhibitions, 2014" National Assembly State Animal Health Officials (NASAHO) National Association of State Public Health Veterinarians (NASPHV) and "A Champions Guide to Youth Swine Exhibition: Biosecurity & Your Pig Project" National Pork Board

Things to consider before the fair...

- Take only clean and disinfected equipment to the show
- Don't show a pig or pen-mates for at least seven days after returning from an exhibition
- Discuss the use of swine influenza vaccines with a veterinarian and check the exhibition rules for any requirements. Swine vaccinated for influenza may be less likely to become ill, and if they become sick, they may be contagious for a shorter time.
- Never bring an unhealthy animal to exhibition. Sick pigs and sick people need to stay home so they do not risk infecting other pigs or people.



Things to consider during the fair...

- Evaluate your pig's health daily
 - Is your pig eating normally?
 - Is your pig coughing or having trouble breathing
 - Does your pig have a fever?
 - Does it appear depressed?
 - Does your pig have loose stool?
- Report any influenza-like illness to the designated exhibition veterinarian or the appropriate exhibition staff so the pig can be evaluated.
- If you feel ill, see your doctor and tell them you have had pig exposure. People with influenza-like illness should stay away from pigs until they are fever-free for at least 24 hours without the use of fever-reducing medication



Things to consider during the fair...

- Do not borrow or share equipment with other exhibitors
- Keep your area and equipment clean
- Use precautions when caring for sick pigs to minimize the opportunity for disease transmission to other swine or people.
- Wash your hands after contact with pigs and equipment
- No eating or drinking in the animal areas
- Do not sleep in animal areas



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Things to consider **after** the fair...

- Consult a health care provider and public health official as soon as possible if exhibitors or family members develop influenza-like illness
 - Inform the health care provider of close contact with swine and/or exhibition attendance.
 - Ill people should avoid all contact with swine until they are fever-free for at least 24 hours without the use of fever-reducing medications
- Isolate and observe animals daily for illness after returning home and before allowing contact with other animals
 - The isolation/observation period for clinical signs of influenza should be no fewer than 7 days.
 - Clean and disinfect equipment, clothing, shoes, and vehicles/trailers that were at the exhibition.
 - Consult a veterinarian if pigs become ill.

Questions???

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