

What People Who Raise Pigs Need To Know About Influenza (Flu)



Introduction

As someone who raises pigs, whether for show (e.g. 4-H or Future Farmers of America [FFA]) or as part of a farming operation (i.e. commercial pork producer), you may have questions about influenza (the flu) in both pigs and people. This document addresses what is known about flu viruses in pigs and people and what people in contact with pigs can do to reduce the risk of getting sick or of getting their pigs sick.

Influenza Virus Infections in Pigs

There are many causes of respiratory disease in pigs, including influenza. Among influenza types, only type A influenza viruses are known to infect pigs. Although pigs and people now share the H1N1 pandemic virus, other viruses circulating in swine are different from viruses circulating in people. At this time, there are three main flu A viruses that circulate in U.S. pigs: influenza A H1N1, influenza A H1N2 and influenza A H3N2. These viruses do not usually infect people and are genetically different from the H1N1 and H3N2 viruses that commonly circulate in people. When swine flu viruses are very different from the human flu viruses causing illness in people, people may have little to no immune protection against these swine viruses. Also human flu vaccines probably would not offer protection against the viruses that are found in pigs.

Flu viruses commonly infect pigs and pig herds and can result in high rates of illness among pigs, but few deaths.

Signs of influenza in pigs include:

- Coughing (“barking”)
- Sneezing
- High fevers
- Breathing difficulties
- Discharge from the nose
- Going off feed

However, pigs also may become infected with flu viruses from people, and from birds. This cross-species spread and possible mixing of flu viruses can lead to new and very different flu viruses that might gain the ability to spread easily between people.



Questions & Answers about Influenza in Pigs

Q. How does influenza spread among pigs?

A. Flu viruses are thought to spread among pigs in the same way that human influenza viruses spread among people. That is mainly through close contact between infected and uninfected pigs and possibly from contact by an uninfected pig with an object contaminated by an infected pig. Pigs also can be infected by flu viruses from their human caretakers.

Q. Can influenza virus infections be prevented in pigs?

A. It may be possible to lessen the risk of infections in pigs and/or severity of disease by following these management strategies:

- Vaccinating herds
- Using good biosecurity measures
- Practicing good hygiene
- Vaccinating pig caretakers with seasonal influenza vaccine
- Using proper ventilation systems

Q. What about flu vaccines for pigs?

A. Flu vaccines for pigs can help, but are not 100% effective. Sometimes the vaccine used may not protect against the virus or viruses circulating. In addition, current vaccines may not be effective in young pigs due to interference from antibodies received from the sow. Generally, protection of young pigs is achieved by vaccinating sows; however, those maternal antibodies are not fully protective for the young pig and decrease by the time they are 10 to 13 weeks old or sooner. Producers may vaccinate their animals after maternal antibodies decrease.

Q. How can veterinarians help?

A. You should work together with your veterinarian to develop management strategies to reduce the spread of influenza among herds and to prevent the introduction and spread of flu viruses between pigs, people, and birds.

Q. Can people get swine influenza from eating pork?

A. Swine influenza has not been shown to be transmissible to people through eating properly handled and prepared pork (pig meat) or other products derived from pigs. For more information about the proper handling and preparation of pork, visit the USDA website fact sheet "Fresh Pork from Farm to Table" at http://www.fsis.usda.gov/factsheets/Pork_From_Farm_to_Table/index.asp.

Q. What about 2009 H1N1?

A. The 2009 H1N1 flu virus was first detected in people in the United States in April 2009. It was a new influenza virus among humans which was able to spread easily from person-to-person, causing the first influenza pandemic in more than 40 years. This virus had two genes from flu viruses that normally circulate in pigs, in Europe and Asia, three genes that normally circulate in North American pigs, and genes from flu viruses from birds and people as well. This particular virus, however, had not been detected in North American pigs before April 2009. This virus is now considered a human influenza virus.

In October 2009, the first case of 2009 H1N1 flu virus infection in a pig in the United States was confirmed. Pig infections with the 2009 H1N1 flu virus also have been found in other countries, including Canada, Australia and Argentina. USDA and other researchers conducted studies in pigs that showed that the 2009 H1N1 virus caused illness in swine similar to those of other well-known, circulating swine flu viruses. The extent to which the 2009 H1N1 virus continues to infect pigs in the United States is not fully known; however, data from the USDA Swine Influenza Virus (SIV) Surveillance Program suggests the 2009 H1N1 virus may be widespread in the U.S. swine population. This was initially the result of pigs becoming infected with the virus when they came in contact with infected people after April 2009, but likely continues through pig-to-pig spread of the virus.

Q. How common are swine influenza infections in people?

A. Human infections with influenza A viruses normally found in swine (now called variant viruses) are rare events, but the frequency of such detections has increased recently. This could be occurring for a number of reasons including: improved laboratory methods for testing for these viruses in the United States, increased surveillance in the United States for influenza, or it is possible that the increased frequency of detection of variant viruses represents a true increase in the number of such cases, possibly occurring from exposure to infected swine or through subsequent, limited human-to-human transmission.

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The Flu Can Spread from Pigs to People and from People to Pigs

- Human flu viruses can infect pigs and can introduce new flu viruses into the swine population.
- The flu viruses that normally circulate in pigs can infect people, but this is not common.
- In 2005 and 2006, three cases of infection with flu viruses that normally circulate in swine (“variant viruses”) were reported in people.
- Beginning in 2007 about three to four of these cases were reported per year. This increased reporting may partially be because human infection with novel (non-human) flu viruses became nationally notifiable in 2007. That means that when a human infection with a non-human influenza virus is detected in people, it must be reported to federal authorities.
- In 2011, 14 cases of infection with variant viruses were reported.
- The flu viruses that commonly spread in humans are different from the ones that spread in pigs, with the exception of 2009 H1N1.
- People who get vaccinated annually against human influenza can still get sick from swine influenza viruses.
- Pigs that have been vaccinated for swine influenza can still get sick from some human influenza viruses.
- When people are infected with variant flu viruses, the symptoms are basically the same as those caused by illness from human influenza viruses and can include fever, cough, body aches, headaches, fatigue and runny or stuffy nose. There may also be vomiting or diarrhea.

- Most reported cases of human infection with variant viruses have occurred in people who have been near infected pigs in public settings such as fairs or petting zoos, or who work directly with infected pigs.
- Recent studies have shown that 15 percent to 25 percent of swine farmers in the United States may have been exposed to flu viruses common among pigs at some time in their lives, as well as about 10 percent of veterinarians.
- Investigations of human cases of infection with variant viruses are routine. These investigations are designed to determine if the flu virus in question is spreading from person to person. It is important to know if flu viruses common among pigs are spreading among people so that cases in other people can be prevented.

Prevent the Spread of Flu Viruses Between People and Pigs

Like everyone else, animal caretakers tending pigs should get annual seasonal influenza vaccines. Although vaccination of people with seasonal influenza vaccine probably will not protect against infection with swine influenza viruses (because they are substantially different from human influenza A viruses), vaccination is important to reduce the risk of transmitting seasonal influenza A viruses from ill people to other people and to pigs. Seasonal influenza vaccination might also decrease the potential for people or pigs to become co-infected with both human and swine influenza A viruses. Such dual infections are thought to be the source of reassortment of two different influenza A viruses which can lead to a new influenza A virus that has a different combination of genes, and which could pose a significant public or animal health concern.

Other routine measures to take:

- Wash your hands frequently with soap and running water before and after exposure to animals,
- Avoid close contact with animals that look or act ill, when possible, and
- Avoid contact with pigs if you are experiencing flu-like symptoms.

If you must come in contact with pigs while you are sick, or if you must come in contact with pigs known or suspected to be infected, or their environment, you should use appropriate protective measures (for example, wear protective clothing, gloves, masks that cover your mouth and nose, and other personal protective equipment) and practice good respiratory and hand hygiene (see next page).



If you or your family members become sick with flu-like symptoms and need medical treatment, take the following steps:

- Contact your health care provider and let them know about your symptoms and that you work with swine. Your doctor may prescribe treatment with influenza antiviral medications and may want a nose and throat specimen collected from you for testing at your state health department.
- Avoid or limit contact with household members and others while you are sick, and avoid travel.
- Practice good respiratory and hand hygiene. This includes covering your mouth and nose with a tissue when coughing or sneezing and putting used tissues in a waste basket. If tissues are

not available, cough or sneeze into your upper sleeve. Always wash your hands after coughing or sneezing. This is to lower the risk of spreading whatever virus you have to others.

- Avoid or limit contact with pigs as much as possible. Stay away from pigs for 7 days after symptoms begin or until you have been fever-free for 24 hours without the use of fever reducing medications, whichever is longer. (This is to protect your pig(s) from getting sick.)

Almost all influenza cases in humans are caused by human flu viruses, not viruses from swine. However, if you are infected with an influenza virus of animal origin, the health department will want to talk with you about your illness and make sure that other people you live and work with are not sick with the same virus.



For more information, visit:

<http://www.cdc.gov/flu/swineflu/>

http://www.aphis.usda.gov/animal_health/animal_dis_spec/swine/siv_surv_manual.shtml

http://www.cfsph.iastate.edu/Factsheets/pdfs/swine_influenza.pdf

<http://www.porknetwork.com/pork/smart-thinking/The-Changing-Face-of-Swine-Influenza-Virus-133249878.html#>

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