



Key Questions and Answers for 2009 Pandemic H1N1 Influenza Scenario 2: Detection in Commercial Swine as of October 9, 2009

Educating the media and the public about the complexities of the 2009 pandemic H1N1 influenza virus strain vs. swine influenza as a disease among pigs is one of USDA's primary communications objectives.

As part of this effort, USDA, in partnership with the Department of Health and Human Services, has developed four scenarios in the event of a detection and/or outbreak of 2009 pandemic H1N1 influenza in the U.S. swine herd and provision of USDA services during the pandemic.

The scenarios are:

- 1) general animal health;
- 2) a detection of 2009 pandemic H1N1 influenza in commercial swine;
- 3) USDA services during pandemic; and
- 4) food safety

Each of these scenarios contains a series of key questions and answers about animal health, guidance for the public regarding USDA services during the pandemic, as well as a summary of the actions USDA would take in the event of a 2009 pandemic H1N1 influenza detection in U.S. swine.

KEY QUESTIONS

- 2-1 How can USDA help swine producers protect their pigs from catching this 2009 pandemic H1N1 flu virus from humans?
- 2-2 What advice does USDA have for other commercial herd owners?
- 2-3 When samples are submitted through the surveillance program, when would USDA have definitive test results?
- 2-4 Can chickens get this 2009 pandemic H1N1 flu virus?
- 2-5 What will be done with a herd that is diagnosed with the 2009 pandemic H1N1?
- 2-6 What vaccines and/or drugs are being developed to protect or treat swine? What is their effect on human health?
- 2-7 Are concentrated animal feeding operations (CAFO) the origin of this 2009 pandemic H1N1 influenza virus?



Key Questions and Answers for 2009 Pandemic H1N1 Influenza Scenario 2: Detection in Commercial Swine as of October 9, 2009

2-1 How will USDA protect the pigs from catching this 2009 pandemic H1N1 flu virus from humans?

Early detection is key.

- USDA has implemented a swine influenza virus surveillance program in cooperation with other stakeholders.
- Should the 2009 pandemic H1N1 influenza virus be detected in U.S. swine, USDA along with States or Tribal partners agreed to:
 - Increase protective measures (i.e., biosecurity practices) that prevent the introduction of or slow the spread of the virus; and
 - Monitor swine in affected groups so that only swine no longer showing clinical signs of illness or shedding influenza virus are moved.
 - Share influenza viruses and information with public health officials at the state, local and federal levels to ensure safety of the public.

USDA and the swine industry have a long history of dealing with swine influenza.

- We're working with state officials to ensure that all proper protective measures are implemented.
- We're encouraging pork producers to intensify the protective animal health practices they've long had in place.
 - Do not lend equipment or vehicles to other farms, or borrow them from other farms.
 - Swine from outside sources should not be brought back to the farm and mingled with pigs already on the farm.

2-2 What advice does USDA have for other commercial herd owners?

Pig owners should keep people with respiratory illness away from pigs.

- Flu viruses are occasionally transmitted from people to pigs.
- Recognize flu-like symptoms in humans - fever, cough, sore throat, runny or stuffy nose, body aches, headache, chills, fatigue, and possibly vomiting or diarrhea.
- Anyone who has been diagnosed with flu, has flu-like symptoms, or reports contact with others who have flu-like symptoms should avoid contact with pigs.

Swine owners should learn the warning signs of influenza virus in pigs

- Signs in pigs can include sudden onset of fever, depression, coughing (barking), runny nose or eyes, sneezing, breathing difficulties, red eyes or swelling and appetite loss.
- Isolate pigs that show signs of illness from healthy swine.
- If your pig is showing any of these signs, call your veterinarian.

Pig owners should be utilizing protective measures to keep their animals healthy.

- Permit only essential workers and vehicles to enter the farm to limit the chances of bringing the virus from an outside source.
- Avoid visiting other livestock farms.
- Disinfect shoes, clothes, hands, crates, vehicles and tires – all of which can carry the virus.
- Protect your herd from contact with other animals; swine from outside sources, should not be brought back to the farm and mingled with pigs already on the farm.

USDA Key Messages for 2009 Pandemic H1N1 Influenza

Scenario 2: Detection in Commercial Swine

as of 9/1/2009 9:58 PM

- Purchase animals from reputable sources and ensure that you have documentation of the animal's origin.
- Have your new animals checked by a veterinarian.
- Do not lend equipment or vehicles to other farms, or borrow them from other farms.

Producers need to submit samples for testing if their pigs show signs of influenza like-illness.

- Monitoring and studying these influenza viruses in swine, will help us learn more about them.
- It will help us develop better tools to diagnose them as well as to develop new and improved vaccines to protect our U.S swine herds.
- By submitting samples, producers can help us learn if a particular novel virus has evolved into a potential animal or public health threat.

2-3 When samples are submitted through the surveillance program, when would USDA have definitive test results?

There are several steps between a veterinarian's submission of samples from sick animals and confirmation of the 2009 pandemic H1N1 virus.

- Nasal swabs and tissue samples are collected and submitted to a local diagnostic laboratory.
- If the local diagnostic laboratory identifies a possible case of the 2009 pandemic H1N1 virus, they are asked to forward the samples to our USDA laboratory.
- USDA laboratories will determine if the illness is the novel 2009 H1N1 flu or another flu virus or other cause of respiratory illness in pigs.
- Laboratories can identify the 2009 pandemic H1N1 virus based on tests that can be run in a day. However, complete confirmation and characterization of the virus will require sequencing the genetics of the virus, which takes longer.

To date, the 2009 pandemic H1N1 flu virus has not been found in the U.S. swine heard.

USDA will work as quickly as possible to identify if the illness is caused by influenza.

- Our primary goals are preventing the spread of influenza in swine and limiting human exposure.
- The herd will be monitored until the pigs have fully recovered and have stopped shedding virus.

2-4 Can my chickens get this 2009 pandemic H1N1 flu virus?

Because of USDA's experience with avian influenza in birds and concern that birds might be affected by the 2009 pandemic H1N1 influenza virus, USDA conducted a study.

- USDA experts at the Agricultural Research Service Southeast Poultry Research Laboratory studied a 2009 pandemic H1N1 virus isolate from a human case on 4 species of birds – ducks, chickens, turkeys & quail.
- None of the bird species became clinically ill after clinical infection.
- USDA continues to monitor the evolution of influenza viruses in birds in case changes occur and the H1N1 flu virus adapts and can spread in poultry.

USDA Key Messages for 2009 Pandemic H1N1 Influenza

Scenario 2: Detection in Commercial Swine

as of 9/1/2009 9:58 PM

- USDA's study has been scientifically reviewed and concluded that these four species of birds are not likely to be vehicles for transmission of the 2009 pandemic H1N1 influenza virus.
- The study will be published in a scientific journal in the near future.

Because the novel human H1N1 virus continues to evolve, USDA knows it is important to continue studying the virus in agriculture animals to provide the best protection for both public and animal health.

- USDA has received a report from the Chilean government that they have identified the 2009 pandemic H1N1 influenza virus in turkeys.
- USDA is validating these results.
- USDA plans to conduct experiments in birds to determine how the Chilean H1N1 isolate compares to the novel North American H1N1 isolate in the ability to infect turkeys and other birds.

2-5 What will be done with a herd that is diagnosed with the 2009 pandemic H1N1?

If swine are identified with 2009 pandemic H1N1 flu, the herd will be monitored until pigs showing signs of illness are no longer present.

- Once pigs recover fully under the supervision of a licensed veterinarian and the pigs are no longer shedding influenza virus, they can move to other premises or to slaughter.
- Generally, pigs recover from influenza and return to normal health within a few days.

2-6 What vaccines and/or drugs are being developed to protect or treat swine? What is their effect on human health?

An animal vaccine for the 2009 H1N1 influenza strain will help ensure that the United States is prepared to contain the disease in swine should it emerge.

- Pigs in the U.S. are frequently vaccinated for influenza viruses.
- Currently, commercial vaccines are made from viruses already known to circulate in the swine population.
- Herd specific vaccines often are used to protect against specific viruses in a herd.
- There is no evidence that animal influenza vaccines pose any health risk to humans/consumers.

USDA scientists are working with the U.S. swine industry to generate new vaccines to provide protection to pigs against the 2009 pandemic H1N1.

- Experiments by USDA scientists at the ARS National Animal Disease Center indicate that the current vaccines used in the U.S. swine herd might not be effective in protecting against the 2009 pandemic H1N1.
- USDA continues to run additional tests to determine if any vaccines currently available can protect swine against the 2009 H1N1 strain.
- USDA has an active swine influenza vaccine discovery research program to develop next generation vaccines to protect our pork industry from new and emerging swine influenza viruses.
- A possible beneficial effect on human health would be to reduce the circulation of influenza viruses in swine generally, thus reducing the chances of these viruses mutating into different forms that could present a more significant risk to animal or human health.

USDA Key Messages for 2009 Pandemic H1N1 Influenza

Scenario 2: Detection in Commercial Swine

as of 9/1/2009 9:58 PM

USDA has made the master seed virus for the 2009 H1N1 flu available to veterinary biologics manufacturers in an effort to speed development of an effective vaccine for swine.

- This eliminates the need for manufacturers to develop their own master seed.
- Each manufacturer can begin working immediately on vaccine production.
- Producers could have a vaccine available by the end of the year.

2-7 Are concentrated animal feeding operations (CAFO) the origin of this 2009 pandemic H1N1 influenza virus?

There currently is no evidence that this 2009 pandemic H1N1 influenza virus originated in a CAFO.

Today's food animal production systems offer many opportunities to quickly detect, treat and contain disease.

- Animal caretakers constantly can monitor herd health, keep animals clean and protect the animals from predators, disease and extreme weather.
- Animals are provided care through the advice of veterinarians.
- Animal health products are provided to prevent, control and treat disease.

Animals reared in a CAFO setting have a lower incidence of infectious disease compared to those kept in free range operations.

- Swine that are maintained in free range conditions have more opportunities to become exposed to a broader range of pathogens and parasites because they are raised on soil and could come in contact with other animal species, including wildlife, that might carry diseases.