

**Attachments for
Guidelines for 2009
Novel H1N1 2009 Virus in
Swine in the United States**

August 7, 2009

Version 2.0

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Veterinary Services



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Swine Influenza Virus (H1 and H3) Seroprevalence on U.S. Swine Operations

Background

Since 1998, two main swine influenza virus hemagglutination types have circulated in the United States—H1 and H3.¹ Viruses of these hemagglutination types can cause respiratory disease within a swine herd and pose a public health threat. Swine can act as a reservoir for influenza viruses that affect humans.²

Swine influenza is often a seasonal disease, usually affecting swine herds between October and March. Acute respiratory signs include a barking cough, nasal discharge, and sneezing.²

Occasionally, reproductive problems occur, including abortions and infertility. While this disease has a high morbidity, its mortality rate is low.²

While current vaccine strategies provide some protection, herds are still susceptible to swine influenza because of the multiple subtypes and variants of the virus.³ Due to interspecies transmission and the infectious nature of swine influenza, standard biosecurity measures need to be implemented to help control this disease.²

Swine influenza prevalence on U.S. swine sites

In 2006, the USDA's National Animal Health Monitoring System (NAHMS) conducted a study on swine health and management practices from a random sample of swine production sites in 17 States divided into 4 regions*. These States represented about 94 percent of the U.S. pig inventory and 94 percent of U.S. pork producers with 100 or more pigs. Overall, 2,230 swine

production sites participated in the first interview from July 17 to September 15, 2006.

Producers participating in the NAHMS Swine 2006 study had the opportunity to submit up to 35 blood samples from grower/finisher pigs to be tested for antibodies to H1 and H3 swine influenza viruses. From September 5, 2006, through March 15, 2007, a total of 6,235 samples were collected from 185 swine sites and tested using the IDEXX enzyme linked immunosorbant assay (ELISA) test.

Because the ELISA test does not differentiate between titers due to field virus exposure and titers from swine influenza vaccination, estimates reported here are from unvaccinated grower/finisher pigs only. Of the 6,235 samples tested for swine influenza antibodies, 5,307 were from 158 sites that did not vaccinate grower/finisher pigs for H1 or H3 virus. These 158 sites were used in all subsequent calculations.

Overall, 25.5 percent of samples tested were positive for H1, 26.1 percent were positive for H3, and 38.6 percent were positive for either. In addition, 7.4 percent were suspect for H3.

A site was considered positive if at least one sample tested positive. Overall, 58.2 percent of sites that did not vaccinate for either swine influenza hemagglutination type was positive for H1, 57.6 percent was positive for H3, and 71.5 percent was positive for either.

The percentage of sites with at least one positive sample and the percentage of all samples positive in unvaccinated herds is shown for each hemagglutination type in figure 1.

* **Regions/States**

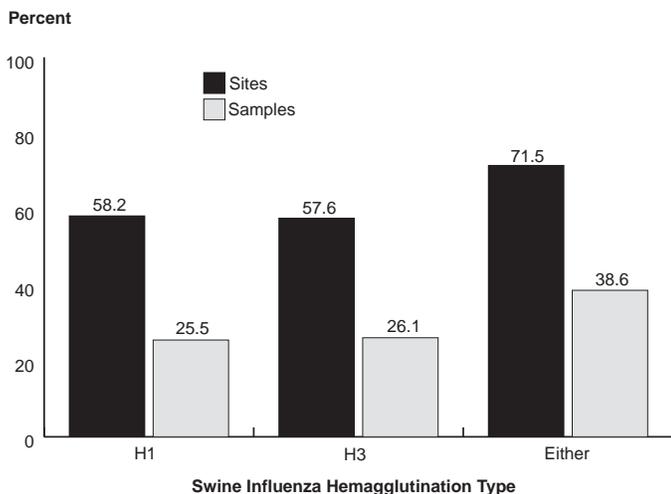
North: Michigan, Minnesota, Pennsylvania, and Wisconsin

West Central: Colorado, Kansas, Missouri, Nebraska, and South Dakota

East Central: Illinois, Indiana, Iowa, and Ohio

South: Arkansas, North Carolina, Oklahoma, and Texas

Figure 1. Percentage of Sites and Percentage of Samples Positive for H1 and H3 Swine Influenza Virus Antibodies in Unvaccinated Herds



Published literature suggests that influenza outbreaks occur more often in the fall and winter.² Table 1 shows the percentage of unvaccinated animals that tested positive for H1, H3, and either strain, by time of year the samples were collected.

An association was observed between the time of year and the presence of antibodies to H1, H3, or either strain. In winter, 30.8 percent of unvaccinated animals were H1 positive compared with 17.5 percent in fall.

Table 1. Percentage of Sites and Percentage of Samples Positive for H1, H3, and Either Serotype, by Season

Hemagglutination Type	Winter ¹		Fall ²		Total	
	Pct. Sites	Pct. Samp.	Pct. Sites	Pct. Samp.	Pct. Sites	Pct. Samp.
H1	65.3	30.8	47.6	17.5	58.2	25.5
H3	62.1	27.7	50.8	23.7	57.6	26.1
Either	76.8	44.1	63.5	30.3	71.5	38.6

¹January, February, and March.

²September, October, November, and December.

For sites that did not vaccinate against flu, the percentage of positive sites is shown in table 2. Over 8 of 10 sites in the East Central region had at least 1 positive sample.

Table 2. Percentage Sites Positive for H1, H3, and Either Strain, by Region

Hemagglutination Type	Percent Sites			
	North	West Central	East Central	South
H1	48.7	54.6	66.7	57.1
H3	48.7	50.0	71.4	42.9
Either	62.2	65.9	81.0	71.4

References

- 1 Webby, R.J., K. Rossow, G. Erickson, Y. Sims, and R. Webster. 2004. Multiple lineages of antigenically and genetically diverse influenza-A virus co-circulate in the United States swine population. Proceedings of the First European Influenza Conference. *Virus Res* 103(1-2):67-73.
- 2 Straw, B.E., J.J. Zimmerman, S. D'Allaire, and D.J. Taylor, D.J., eds. 2006. In: Diseases of Swine, 9th ed., Iowa State University Press, Ames, IA. p. 201-244.
- 3 Zhou, N.N., D.A. Senne, J.S. Landgraf, et al. 2007. Emergence of H3N2 reassortment influenza A viruses in North American pigs. *Vet Microbiol* 74(1-2):47-58.

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Attachment II

Health and Safety Guidance for APHIS Employees Related to Potential Exposure to Novel H1N1 2009 Virus

1. Introduction

Outbreaks of a novel H1N1 influenza virus have recently been detected in humans in the United States, Mexico, Canada, and in several countries outside North America. In this document, that virus will be referred to as the Novel H1N1 2009 Virus. The Novel H1N1 2009 Virus is a re-assortment virus containing genetic material from swine, avian, and human influenza viruses. Work is continuing to fully characterize this virus.

The symptoms of Novel H1N1 2009 Virus in people are the same as for seasonal influenza, and include fever, cough, sore throat, body aches, headache, chills and fatigue. Some people have reported diarrhea and vomiting associated with the Novel H1N1 2009 Virus. Like seasonal influenza, Novel H1N1 2009 Virus may worsen underlying chronic medical conditions.

The current Novel H1N1 2009 Virus in people is susceptible to two known commercially available antiviral drugs, oseltamivir and zanamivir. The Food and Drug Administration issued Emergency Use Authorizations for these medications which allow them to be used to combat this disease. Currently, there is no vaccine against the Novel H1N1 2009 Virus and this past year's seasonal influenza vaccine does not appear to provide protection against this strain. The Centers for Disease Control and Prevention (CDC) has initiated steps to begin the development of a vaccine against this strain, but there is no vaccine currently available.

People have, on occasion, passed seasonal flu on to pigs, and there is the suggestion that the Novel H1N1 2009 Virus was spread from a person to pigs in Canada in April 2009. Workers should be educated that there is a need to prevent the spread of the Novel H1N1 2009 Virus and other influenza viruses from people to pigs.

Swine influenza virus (SIV) is a type A influenza virus that causes a respiratory disease of pigs. An endemic H1N1 subtype of SIV has been circulating in the United States swine population since at least the 1930s, when it was first identified. This is not the same as the Novel H1N1 2009 Virus circulating among people.

Signs of influenza in pigs may include:

- Coughing (“barking”)
- Discharge from the nose
- Sneezing
- Breathing difficulties
- Going off feed
- High fevers which can result in reduced fertility or elevated abortion rates among sows.

2. General Guidance for APHIS Employees

There are everyday actions that can help prevent the spread of influenza viruses. Take these everyday steps to protect your health:

- Cover your nose and mouth with a tissue when you cough or sneeze.
- Wash your hands often with soap and water, especially after you cough or sneeze. Alcohol-based hand cleaners are also effective.
- Avoid touching your eyes, nose or mouth. Germs are spread this way.
- Avoid close contact with sick people.
- If you get sick, stay home from work or school and limit contact with others to keep from infecting them.
- Keep informed about agency-specific updates.
- If you live in areas where Novel H1N1 2009 Virus cases have been identified and become ill with influenza-like symptoms, including fever, body aches, runny nose, sore throat, nausea, or vomiting or diarrhea, contact your health care provider. Your health care provider will determine whether influenza testing or treatment is needed.

The following summarizes recommendations for protecting APHIS employees subject to potential exposure to Novel H1N1 2009 Virus. These recommendations mirror recommendations developed by the CDC, the World Health Organization, and the Occupational Safety and Health Administration for at-risk poultry workers potentially exposed to avian influenza. APHIS employees working around swine with known or suspected Novel H1N1 2009 Virus must take the following precautions:

1. APHIS employees who have been in contact with swine, their feces, respiratory secretions or potentially contaminated surfaces must wash their hands frequently. Hand hygiene also must be performed immediately after gloves are removed and must consist of washing with soap and water for at least 20 seconds or using other standard hand disinfection procedures as specified by State government, industry, or USDA outbreak-response guidelines.
2. APHIS employees working around swine with known or suspected Novel H1N1 2009 Virus must not eat, drink, or smoke while performing their duties and must use the following appropriate personal protective equipment:
 - a. Protective clothing capable of being disinfected or discarded, preferably coveralls.
 - b. Double gloves capable of being disinfected or discarded; gloves must be carefully removed and discarded or disinfected and hands should be thoroughly washed when possible or disinfected using an alcohol-based hand-cleaner or 10% bleach/water solution. Gloves should be changed if torn or otherwise damaged.
 - c. Respirators: the minimum recommendation is a disposable particulate respirator (e.g., N95, N99 or N100) used as part of a comprehensive respiratory protection program. The elements of such a program are described in 29 CFR 1910.134. At a minimum, workers will be medically cleared and fit tested for the model and size respirator they wear and be trained to fit-check the seal of the face piece to the face. An N95 or higher respirator that is fluid resistant should be considered for workers who have a high risk of exposure to

splashes or fluids. For workers performing vigorous or prolonged activities involving Novel H1N1 2009 Virus infected swine, full face hooded powered air purifying respirators should be considered, in accordance with the site specific health and safety plan and job hazard analysis developed by the site safety officer.

- d. Eye protection (e.g., goggles).
 - e. Boots or protective foot covers that can be disinfected or discarded.
3. Unvaccinated APHIS employees involved in activities with potential exposure to Novel H1N1 2009 Virus are highly encouraged to immediately receive the current season's inactivated influenza virus vaccine to reduce the possibility of dual infection with swine and human influenza A viruses and potential genetic re-assortment. Influenza vaccine recipients should be advised that the seasonal influenza vaccine does not protect against the Novel H1N1 2009 Virus or against SIV. This vaccine will be made available at no cost to the worker.
 4. APHIS employees involved in activities with potential exposure to Novel H1N1 2009 Virus are highly encouraged to receive an influenza antiviral drug daily (that is approved for use as prophylaxis), for the duration of time during which direct contact with swine, their secretions, or contact with contaminated surfaces occurs and continuing 5-7 days after the last day of potential virus exposure. Antivirals must be administered in combination with inactivated influenza vaccine (as mentioned above). The choice of antiviral drug should be based on sensitivity testing when possible. In the case of the currently circulating Novel H1N1 2009 Virus, the choice will be between zanamivir and oseltamivir. For APHIS employees, prophylactic medication will be provided through the Occupational Medical Monitoring Program managed by the Safety, Health, and Environmental Protection Branch.
 5. APHIS employees working around swine with known or suspected Novel H1N1 2009 Virus must monitor their health for the development of fever, respiratory symptoms, body aches, fatigue, headaches, and/or vomiting and diarrhea for 1 week after last exposure to swine or contaminated environmental surfaces. Individuals who become ill must seek prompt medical care and give notification prior to arrival at the health care provider's office or clinic that they may have been exposed to a Novel H1N1 2009 Virus.
 6. It is important to take measures to prevent the virus from being spread to other areas. To do this, disposable items of personal protective equipment must be discarded properly, and non-disposable items must be cleaned and disinfected according to outbreak-response guidelines.
 7. To prevent the possible risk of transmission of Novel H1N1 2009 Virus to their contacts, especially household members, ill persons must practice good respiratory and hand hygiene to lower the risk of transmission of the virus to others. For more information, visit CDC's "Cover Your Cough" website: www.cdc.gov/flu/protect/covercough.htm.
 8. Patients or health care providers who wish to report possible human cases of zoonotic transmission of Novel H1N1 2009 Virus (or SIV) must consult with their local or State Department of Health.

3. Guidance for APHIS Wildlife Biologists

1. APHIS Wildlife Biologists handling **healthy** feral swine should:
 - a. Work in a well-ventilated area if working indoors.
 - b. Work upwind of animals, to the extent practicable, to decrease the risk of inhaling aerosols such as dust, blood, and secretions when working outdoors.
 - c. Wear rubber or double latex gloves that can be disinfected or disposed of.
 - d. Wear protective eyewear or a face shield while handling animals.
 - e. Wash hands with soap and water often and disinfect work surfaces and equipment between sites. If soap and water are not available, alcohol-based hand-cleaner or 10% bleach/water solution will be used.
 - f. Not eat, drink, or smoke while handling animals.
2. APHIS Wildlife Biologists handling **sick or dead** feral swine associated with a mortality event should:
 - a. Follow the recommendations above, and, at a minimum, wear protective clothing, including coveralls, rubber boots, and latex or rubber gloves that can be disinfected or disposed of.
 - b. Minimize exposure to mucosal membranes by wearing protective eyewear (goggles) and a particulate respirator (NIOSH N95 respirator at a minimum).
 - c. Decontaminate and properly dispose of potentially infectious material including carcasses.
 - d. Not eat, drink, or smoke while handling animals.
 - e. Monitor their health for clinical signs of influenza infection, such as fever, cough or sore throat, trouble breathing, or vomiting and diarrhea, during and for one week after, their last exposure to potentially infected feral swine.
 - f. Contact their healthcare provider if they develop fever, flu-like symptoms, or vomiting and diarrhea. Inform the provider prior to arrival that they have potentially been exposed to a swine flu virus.

4. Guidance for APHIS Veterinary Laboratory Workers

This guidance is for laboratory workers who may be processing or performing diagnostic testing on clinical specimens from animals with suspected Novel H1N1 2009 Virus infection, or performing viral isolation.

Diagnostic laboratory work on clinical samples from animals that are suspected to be infected with Novel H1N1 2009 Virus should be conducted in a BSL2 laboratory. All sample manipulations should be done inside a biosafety cabinet (BSC).

Viral isolation on clinical specimens from animals that are suspected to be infected with Novel H1N1 2009 Virus should be performed in a BSL2 laboratory with BSL3 practices (enhanced BSL2 conditions).

Additional precautions include:

- Recommended Personal Protective Equipment (based on site specific risk assessment)
- Respiratory protection—fit-tested N95 respirator or higher level of protection
- Shoe covers
- Closed-front gown
- Double gloves
- Eye protection (goggles or face shields).

5. Waste

All waste disposal procedures should be followed as outlined in your facility standard laboratory operating procedures.

6. Appropriate Disinfectants for APHIS Veterinary Laboratory Workers

- 70% Ethanol
- 5% Lysol
- 10% Bleach

All personnel should self monitor for fever and any symptoms. Symptoms of Novel H1N1 2009 Virus infection include cough, sore throat, vomiting, diarrhea, headache, runny nose, and muscle aches. Any illness should be reported to your supervisor immediately.

For personnel who had unprotected exposure or a known breach in personal protective equipment to clinical material or live virus from an animal known to be infected with Novel H1N1 2009 Virus , antiviral chemoprophylaxis with zanamivir or oseltamivir for 7 days after exposure can be considered.

7. Questions

For additional information, please see: antiviral treatment and chemoprophylaxis guidance.

[Biosafety in Microbiological and Biomedical Laboratories \(BMBL\) 5th Edition Section IV Laboratory Biosafety Level Criteria](#)

Attachment III

Biosecurity Recommendations and Guidelines

The recommendations and guidelines are provided in the attached files:

- Attachment III-1. General Prevention Practices for Swine Producers
- Attachment III-2. General Prevention Practices Checklist for Swine Producers
- Attachment III-3. General Disease Prevention Practices for Farms
- Attachment III-4. Cleaning and Disinfection Protocol
- Attachment III-5. Wash Your Hands—Sign
- Attachment III-6. Policies for Visitors Contacting Animals or Entering Animal Areas—Sign
- Attachment III-7. Farm Visitor Policies—Sign
- Attachment III-8. USDA APHIS Veterinary Services, Biosecurity—General Considerations for a Highly Contagious Disease

GENERAL PREVENTION PRACTICES FOR SWINE PRODUCERS

Minimizing or preventing disease entry and spread on farms is the goal of an effective Biological Risk Management plan. To accomplish this, there are several general management practices that every farm could implement with minimal cost. If done properly, they can help prevent and control a variety of diseases. It is important to consult your veterinarian and seek his/her input while implementing disease control strategies. By working together, you will be able to identify and implement steps to “fit” your operation.

The following management recommendations address disease prevention and control without requiring you to know details about specific diseases. Simple and basic considerations include knowing what is in the area of your farm perimeter (e.g. farms, visitors, neighboring livestock and wildlife), people, vehicles, animal health protocols, recognizing and dealing with sick animals, isolation/quarantine, supply handling and cleaning and disinfection.

Farm Entrance and Perimeter

- **Limit access to your farm.**
 - The entrance to your farm is a major control point.
 - Have only one gated entrance to the animal areas on your farm to better control and monitor all visitors and vehicles arriving at your farm.
 - Lock gates to prevent unwanted human or animal entry.
- **Limit contact between your animals and others that may present a risk of disease.**
 - Minimize contact between pigs and wildlife, feral pigs, and birds.
 - Keep cats and dogs from roaming between farms.
- **Minimize visitors and traffic on your farm.**
- **Post signs at the farm entrance to inform visitors of procedures to follow on your farm. (See Appendix A)**
 - Stay off this farm unless given permission to enter.
 - Check-in with farm personnel upon arrival (direct visitors to “where” they should check-in).
 - Be accompanied by someone from the farm at all times (to ensure biosecurity measures are being followed).
 - Wear clean farm-specific clothing (coveralls, boots) while on the farm. (Be sure to guide visitors to where protective clothing is located).
 - Avoid contact with animals or animal areas unless absolutely necessary (this includes vehicles and visitors).

- **Delivery vehicles and personnel should follow your established farm biosecurity guidelines regarding parking, driving and animal contact.**
 - Inspect delivery vehicles for cleanliness prior to entering and provide a wheel well, tire and undercarriage wash station in case they are soiled.
 - Require feed deliveries to your farm be the first delivery of the day.
 - Require that all other deliveries be left at the perimeter of the farm.
 - Require delivery personnel to follow farm biosecurity procedures like all other visitors.
- **Place animal delivery and load out facilities on the perimeter of the farm.**

People and Vehicles

- **For the safety of your animals and the people who handle them, require that all individuals wash hands with soap and warm water before AND after animal contact.**

Employees

- **Employees that have contact with swine at other locations (including their own home) should use very strict biosecurity measures while on your farm.**
- **Implement strict biosecurity measures for employees coming onto the farm.**
 - Clean boots, hats and coveralls must be worn while on the farm. These should be provided by your farm.
 - Protective clothing should remain on your farm and be washed and/or disinfected before being worn again.
 - Disinfect footwear before entering AND after leaving any animal housing area.
 - Boot baths should be provided at the entrance/exit of all animal areas. The disinfectant solution should be changed at least daily or when visibly soiled.
- **Educate yourself and train your employees to recognize and report diseases.**
 - When all employees know what to look for regarding sick animals, a reporting system allows those in charge to make treatment decisions or decide if the veterinarian should be contacted.
 - Early identification of serious diseases can help minimize the risk of disease spread on your farm.
 - If unusual illness or signs are noticed, contact your veterinarian immediately.

GENERAL PREVENTION PRACTICES FOR SWINE PRODUCERS (CONT'D)



- **Maintain a written Biological Risk Management Plan and have regularly scheduled meetings to educate and update those involved.**
 - This is critical to make sure everyone is current on your operation's practices and provides the opportunity to make changes if needed.

Neighbors

- **Take steps to prevent disease spread from your neighbors' operation to yours.**
 - Do not share equipment or vehicles between farms.
 - If equipment must be shared, all manure and bedding should be removed, the equipment washed with warm water and soap, rinsed, disinfected and rinsed again before using it with animals from your farm.
 - As discussed under 'Employees', protective clothing and footwear should be farm specific. Always wear clean clothes or coveralls, gloves, hats, boots, etc. when coming in contact with animals.
 - Wash and disinfect boots, change gloves, hats, and clothes or coveralls before returning to your farm.

Visitors and Vehicles

- **Post warning signs telling visitors to only enter your farm with permission. (See Appendix A)**
- **Provide a phone number at the farm entrance for visitors to call and make an appointment.**
 - Biosecurity measures can be explained at that time and posted near the phone number for all to see.
- **All visitors should be accompanied by someone from the farm at all times.**
- **Prevent off-farm vehicles from driving onto your farm unless necessary.**
 - Require visitors and vehicles to park in designated areas at the entrance to your farm away from all animal areas.
 - Use only on-farm vehicles for transporting visitors within your operation.
 - Discuss your biosecurity protocols with delivery personnel regarding access, travel paths, etc.
- **Visitors should avoid livestock areas and be restricted from contacting or handling pigs (unless absolutely necessary).**
- **Strict biosecurity measures must also be implemented by all visitors to the farm.**
 - Clean coveralls, hats and disposable or disinfected rubber boots should be worn while on-farm in animal areas.

- Provide a well-maintained foot bath OR clean disposable boots and a receptacle near the entrance to the animal facility.
- After exiting animal areas, wash and disinfect boots OR remove them and dispose of them properly.
- When leaving your farm, visitors should remove all protective clothing and footwear provided by the farm and leave it in the designated area.

- **Facilities and equipment (pressure washers, brushes, hoses) for cleaning and disinfecting should be provided on the farm.**

Record Keeping

- **Traffic on or off your farm should be closely monitored and recorded. (See Appendix B)**
 - Maintain a log sheet to record all visitors and vehicles that enter your farm.
- **Maintain thorough and accurate records of animal movement.**
 - Document all animal movements, including the dates of introduction, where they came from and movements between separate units.
 - Each farm location must be treated as a separate unit or premises.

Animals

Animal Health

- **Review and update your vaccination and treatment protocols with your veterinarian at least once a year.**
- **Monitor and inspect animals at least daily for signs of illness.**
 - Investigate all animals with unusual signs or those unresponsive to treatment, especially those that die suddenly.
- **Clean equipment, boots and change clothing between animal groups with different health status and age group.**
- **Promptly euthanize animals that are not going to recover.**
 - Chronically infected animals can serve as an ongoing source for many disease causing organisms.
 - Properly dispose of the carcass (e.g. render, compost, bury or burn) according to local and state laws.
- **Have your veterinarian necropsy animals that die from unknown causes.**

GENERAL PREVENTION PRACTICES FOR SWINE PRODUCERS (CONT'D)



- This may help identify a potentially infectious disease before it becomes widespread on your farm.
- **Promptly remove dead animals from your operation as they can serve as a reservoir for many disease organisms.**
 - Render, compost, bury or burn dead animals in a timely manner so predators, wild birds and other animals do not spread disease.

New Introductions

- **An all in/all out policy is the best way to minimize disease introduction and allow for cleaning and disinfection of facilities.**
- **If this policy is not possible, limit the frequency and number of new introductions.**
- **Know the health status and the source of any animal(s) brought onto your farm.**
 - Obtain a complete herd health history prior to introducing new animals.
 - Request copies of vaccination and treatment records for all purchased animals.
- **Quarantine all newly acquired animals or reintroduced animals.**

Isolation and Quarantine

- **Isolation of sick animals is necessary to minimize disease exposure of others in your herd and quarantine is required to prevent exposure of your herd to new or returning animals.**
 - In addition to being removed from all other animal areas, isolation and quarantine facilities should be separate from one another.
 - Equipment (feed, treatment, restraint) should not be shared between isolation and quarantine animals.
 - If equipment must be shared, wash in warm water and soap to remove visible contamination, rinse, disinfect and rinse before removing from one location and moving it to another.
- **Immediately isolate sick animals from the herd to minimize disease spread.**
 - Prevent direct contact between isolated animals and others.
 - Prevent sharing ventilation, feed/water and equipment to minimize the risk of disease spread.
- **Use separate facilities, equipment and staff to handle isolated livestock.**
 - If this is not possible, at a minimum, handle or visit the isolated animals LAST.

- Clean and disinfect all equipment, clothing, boots, etc. that come into contact with ill and isolated animals.
- **Any animals that have recently been purchased or returned to the farm should be quarantined.**
 - New or returning animals (e.g., shows, breeding) can be infected with a disease without showing signs right away.
 - Quarantine allows time for a disease to develop in the animal, without exposing your entire herd to the disease agent.
 - Do not allow new additions and animals returning to share water, feed or facilities with your other animals.
 - Ideally animals should be quarantined at a separate location (premises).
- **Time spent in isolation and quarantine varies depending on the disease risk so this should be determined together with your veterinarian.**
 - It is a good risk management plan to test for key diseases before taking animals out of isolation or quarantine to make sure they are not carrying diseases that could be introduced into your herd.
 - Work with your veterinarian to establish what tests are appropriate for your animals.

Wildlife and Other Animals

- **Prevent contact with free roaming animals (e.g. wildlife, feral swine, cats, dogs, etc.).**
- **Control of wildlife may be difficult, but should be attempted.**
 - Keep farm access routes, parking areas, yards and storage areas clean and tidy to avoid attraction of birds or rodents.
- **Minimize bird contact and nesting in your operation.**
 - Birds are disease carriers and while it is nearly impossible to eliminate them from animal housing areas, steps should be taken to discourage their nesting and roosting.
 - Contact your local extension office or veterinarian for approved control methods in your area.
- **Maintain a rodent control program.**
 - Rodents harbor diseases that can affect pigs and can also readily contaminate feed.
 - Contact your local extension office or veterinarian for approved control methods in your area.
- **Secure all feed storage areas and clean up spilled feed to minimize access by pests.**

GENERAL PREVENTION PRACTICES FOR SWINE PRODUCERS (CONT'D)



- These steps will help minimize the number of pests by limiting available food sources.

Supply Handling

- **Always read and follow label directions for proper storage of vaccines and medications.**
 - Sunlight deactivates some vaccines and can render antibiotics worthless, causing poor protection or response to treatment when used in your animals.
 - Vaccines and medicines that need to be refrigerated are susceptible to changes in temperature and may not work if they get too warm (greater than 46°F) or too cold/frozen (less than 36°F).
 - Products that do not require refrigeration should be properly stored in a cabinet or other enclosure to restrict access by unauthorized individuals and minimize environmental exposure (e.g. sunlight and temperature extremes).
- **Monitor your supply refrigerator at least monthly to help ensure the products are adequately stored (36-46°F).**
- **Work with your veterinarian to teach proper procedures to all people who handle vaccines and medicines.**
 - Restrict access to only trained personnel.
 - Training should include proper handling and administration of these products plus when to use them.
 - Improper handling and storage can cause contamination which could cause disease.
 - Improper use of vaccines and medicines can make them ineffective and some can even be harmful to the person.
 - Prudent antibiotic use helps maintain effectiveness in treating disease.
 - Improper use of antibiotics can lead to the development of resistance and illegal residues.

- These materials prevent the chemicals in the disinfectant from contacting and killing the disease causing agents.

- **For pigs housed on dirt flooring, turn over the top layer of soil to reduce the build up of pathogens and parasites.**
- **Use the proper concentration of any disinfectant (always mix according to the product label).**
- **Always allow a disinfection solution contact time to “sit” and work.**
 - To be effective, disinfectants need time to kill the microorganisms present.
 - Refer to the product label to determine the amount of time recommended (usually at least 5 minutes).

Cleaning and Disinfection

General Recommendations

- **Wear personal protective equipment—gloves, coveralls, rubber boots (or disposable boots) and a mask when cleaning out swine housing areas.**
- **Thoroughly clean all objects to remove any visible debris (manure, dirt, bedding) before applying a disinfectant.**
 - Most disinfectants are ineffective when dirt, manure and other debris are present.

GENERAL PREVENTION PRACTICES APPENDIX A



Sample signs to post at the farm entrance.

(Available from your state livestock extension specialist or the CFSPH web site at www.cfsph.iastate.edu)



Additional signage available from private companies (Those listed below are available from Gempler's).



GENERAL PREVENTION PRACTICES CHECKLIST FOR SWINE PRODUCERS



General Precautionary Measure

Y N Do you require that all individuals wash hands with soap and warm water before AND after animal contact?

Farm Entrance and Perimeter

Y N Do you limit access to your farm?

Y N Do you have only one gated entrance to the animal areas on your farm to better control and monitor visitors and vehicles?

Y N Do you keep the gate locked when not in use?

Y N Do you limit contact between your animals and others that may present a risk of disease?

Y N Do you keep cats and dogs from roaming between farms?

Y N Do you minimize visitors and traffic on your farm?

Y N Have you posted signs at the farm entrance to inform visitors to stay off your farm unless absolutely necessary?

Y N Have you posted a visitor biosecurity sign that clearly lists specific measures to follow when on your farm?

Y N Do you require visitors to follow your farm's biosecurity procedures?

Y N Do you require visitors to check-in with farm personnel upon their arrival?

Y N Do you require delivery vehicles and personnel to follow your farm biosecurity guidelines regarding parking, driving and animal contact?

Y N Do you inspect delivery vehicles for cleanliness and restrict entry to those with visible contamination on tires, wheel wells, etc?

Y N Do you require feed deliveries to your farm be the first delivery of the day?

Y N Do you require that all deliveries be left at the perimeter of your farm?

Y N Are your animal load out and delivery facilities located at the perimeter of your farm?

GENERAL PREVENTION PRACTICES CHECKLIST FOR SWINE PRODUCERS (CONT'D)



Employees

- Y N Do you talk to your employees about the disease risks associated with owning or handling pigs outside of your operation?
- Y N Do you require that employees that have contact with swine at other locations (including their own home) use strict biosecurity measures while on your farm (e.g. provide them with clean boots and coveralls to wear)?
- Y N Have you educated yourself and trained your employees to recognize and report diseases?
- Y N Do you maintain a written Biological Risk Management Plan and have regularly scheduled meetings to educate and update those involved?

Neighbors

- Y N Do you restrict the sharing of equipment or vehicles between farms?
- Y N If equipment must be shared, do you remove all manure and bedding, wash the equipment with warm water and soap, rinse, disinfect and rinse again before using it with animals from your farm?
- Y N Do you always wear clean clothes or coveralls, gloves, hats, boots, etc. when coming in contact with animals?
- Y N After contacting your neighbors livestock, do you wash and disinfect boots, change gloves, hats, and clothes or coveralls before returning to your farm?

Visitors and Vehicles

- Y N Have you posted warning signs telling visitors to only enter your farm with permission?
- Y N Do you provide a phone number at your farm entrance for visitors to call and make an appointment?
- Y N Are all visitors accompanied by someone from the farm at all times?
- Y N Do you use only on-farm vehicles for transporting visitors within your operation?
- Y N Do you require visitors and vehicles to park in designated areas at the entrance to your farm and away from all animal areas?

GENERAL PREVENTION PRACTICES CHECKLIST FOR SWINE PRODUCERS (CONT'D)



- Y N Do you restrict visitors from animal housing areas and from contacting or handling your pigs (unless absolutely necessary)?
- Y N Do you provide clean coveralls and disposable or disinfected rubber boots and require that these items be worn by all visitors at all times while in animal areas?
- Y N Do you provide facilities and equipment (pressure washers, brushes, hoses) for cleaning and disinfecting vehicles, boots, etc?

Record Keeping

- Y N Do you maintain a log sheet to record any visitors or vehicles that come onto your farm?
- Y N Do you maintain thorough and accurate records of animal movement?
- Y N Is each farm location treated as a separate unit?

Animals- Animal Health

- Y N Do you review and update your vaccination and treatment protocols with your veterinarian at least once a year?
- Y N Do you monitor and inspect animals for signs of illness at least daily?
- Y N Do you investigate all animals with unusual signs or those unresponsive to treatment, especially those that die suddenly?
- Y N Do you clean equipment, boots, and change clothing when between animal groups with different health status and age?
- Y N Do you promptly euthanize animals that are not going to recover?
- Y N Does your veterinarian necropsy animals that die from unknown causes?
- Y N Do you promptly remove dead animals and dispose of the carcass (e.g. render, compost, bury or burn) according to local and state laws?

Animals- New Introductions

- Y N Do you follow and all in/all out policy for pig barns to minimize disease introduction and allow for cleaning and disinfection?

GENERAL PREVENTION PRACTICES CHECKLIST FOR SWINE PRODUCERS (CONT'D)



- Y N If an all in/all out policy is not possible, do you limit the frequency and number of new introductions?
- Y N Do you limit purchases to a few sources with known and trusted herd health programs?
- Y N Do you obtain a complete herd health history prior to purchasing and introducing new animals?
- Y N Do you request copies of vaccination and treatment records for all purchased animals?

Animals- Isolation and Quarantine

- Y N Are your isolation and quarantine facilities removed from all other animal areas and separate from one another?
- Y N Do you prevent the sharing of equipment (feed, treatment, restraint) between isolation and quarantine animals?
- Y N If equipment must be shared, do you wash it in warm water and soap to remove visible contamination, rinse, disinfect and rinse it again before removing it from one location and moving it to another?
- Y N Do you immediately isolate sick animals from the herd to minimize disease spread?
- Y N Do you prevent direct contact between isolated animals and others?
- Y N Do you prevent the sharing of ventilation, feed/water and equipment between isolated or quarantined animals and others?
- Y N Do you use separate facilities, equipment, and staff to handle isolated livestock?
- Y N If it is not possible to use separate facilities, equipment and staff, do you handle or visit the isolated animals LAST?
- Y N Do you clean and disinfect all equipment, clothing, boots, etc. that come into contact with ill and isolated animals?
- Y N Do you quarantine all animals that are recent purchases or those that return to your farm?
- Y N Do you prevent new additions and animals returning from sharing water, feed, facilities or bedding with your other animals?
- Y N Have you determined together with your herd veterinarian the appropriate times for animals to spend in isolation and quarantine?
- Y N Do you test for key diseases before taking animals out of isolation or quarantine?

GENERAL PREVENTION PRACTICES CHECKLIST FOR SWINE PRODUCERS (CONT'D)



Animals- Wildlife, Other

- Y N Do you prevent your animals from having contact with free roaming animals (e.g. wildlife, feral swine, cats, dogs, etc.)?
- Y N Do you keep farm access routes, parking areas, yards and storage areas clean and tidy to avoid attraction of birds or rodents?
- Y N Do you minimize bird contact and nesting in your operation?
- Y N Do you maintain a rodent control program?
- Y N Do you secure all feed storage areas and clean up spilled feed to minimize access by pests?

Supply Handling

- Y N Do you always read and follow label directions for proper storage of vaccines and medications?
- Y N Are products that do not require refrigeration properly stored in a cabinet or other enclosure to restrict access by unauthorized individuals and minimize environmental exposure?
- Y N Do you monitor your supply refrigerator at least monthly to help ensure the products are adequately stored (36-46°F)?
- Y N Have you worked with your veterinarian to teach proper procedures to all people who handle vaccines and medicines?
- Y N Do you restrict vaccine and medicine access to only trained personnel?
- Y N Does your personnel training include proper handling and administration of vaccines and medicines plus when to use them?

Cleaning and Disinfection- General Recommendations

- Y N For pigs housed on dirt flooring, do you turn over the top layer of soil to reduce the build up of pathogens and parasites?
- Y N Do you thoroughly clean all objects to remove any visible debris (manure, dirt, bedding) before applying a disinfectant?
- Y N Do you always use the proper concentration of any disinfectant and mix according to the product label?

GENERAL PREVENTION PRACTICES CHECKLIST FOR SWINE PRODUCERS (CONT'D)



Y N Do you always allow a disinfection solution contact time to “sit” and work?

Y N Do you refer to the disinfectant label to determine the amount of contact time that is recommended?

Conclusion

Total number of: **Yes responses** _____ **No responses** _____

If you have 1 or more No responses, you have identified areas for improvement on your farm. Not all questions are equal in their risk of disease transmission, so it is important to work with your veterinarian to develop a management plan addressing the biggest risks first. This will help minimize the chance of diseases entering your farm. Each farm will be unique in their ability to prevent disease transmission because management styles, herd sizes and finances vary.

General Disease Prevention Practices For Farms

This document outlines basic biosecurity measures that should be used daily on farms, as well as additional biosecurity measures to take during an animal disease emergency

Daily Prevention Practices

Two of the biggest risks for disease entry include animals and traffic (vehicles and people).

- Restrict access to your farm
 - Post signs at the farm's entrance (e.g., Do Not Enter, Authorized Personnel Only)
 - Limit access to employees or people with appointments
 - Require visitors to sign in and disclose recent contact with animals
 - Limit livestock contact with wildlife, birds, roaming cats, dogs
- Purchase animals from known sources and from a limited number of sources
- Quarantine animals new to the farm
- Isolate sick animals
- Keep detailed health records on every animal
- Train employees to inspect and report sick animals
- Report animals with unusual illness or those that are not responding to treatment

Disease Prevention by Method of Spread

To prevent diseases spread by air droplets:

- Increase distance between sick and well animals
- Maximize ventilation in barns and facilities to increase fresh air, decreased humidity, decreased odor

To prevent diseases spread by direct contact:

- Restrict access to your farm
- Limit contact between animals; isolate sick animals
- Keep environment clean and dry
- Clean and disinfect equipment, vehicles and footwear

To prevent diseases spread by food, water, or objects:

- Keep feed and water sources clean
- Properly manage and dispose of manure and bedding
- Clean and disinfect equipment

To prevent diseases spread by insects, such as mosquitoes, biting midges, flies and ticks:

- Reduce the source and habitats of these insects (e.g., remove areas of standing water, remove fecal matter from environment)
- Minimize animal exposure to these disease vectors

Prevent Disease Introduction onto Your Farm during an Animal Health Emergency

- Restrict movement of animals (Note: movement restrictions for animals, animal products, and vehicles may be issued by the State)
- Restrict access to essential personnel only
- Record all traffic and visitors to the operation
- Monitor animals frequently for signs of illness or disease; notify your veterinarian of any unusual signs or death
- Wear gloves, clean coveralls, boots at all times; Wash hands between animal groups or farms
- Disinfect vehicles, footwear and equipment frequently, especially between groups of animals
- Disinfect with an appropriate product, making sure to use the proper concentration and recommended contact time
- Vaccination or treatment of animals will be subject to approval by State or Federal animal health authorities depending on availability and the disease of concern

For More Information

Center for Food Security and Public Health (CFSPH).
Biological Risk Management for Producers.
<http://www.cfsph.iastate.edu/BRM/>



www.iowahomelandsecurity.org



www.cfsph.iastate.edu



www.iowaagriculture.gov

Cleaning and Disinfection Protocol

Remove all grossly visible debris.

The presence of gross contamination or organic material, especially feces, will inactivate most disinfectants.

Wash the area or item with water and detergent.

Thoroughly rinse the cleaned area to remove any detergent residue.

Some disinfectants may be inactivated by detergents; therefore, it is very important to rinse well after washing the area or item.

Allow the area to dry completely.

Select and apply an appropriate, effective disinfectant.

Allow the proper contact time!

This is one of the most overlooked steps!! Contact time may vary depending on the disinfectant selected, but is usually at least 10 minutes. Consult the product label.

Thoroughly rinse away any residual disinfectant and allow the area or item to dry.

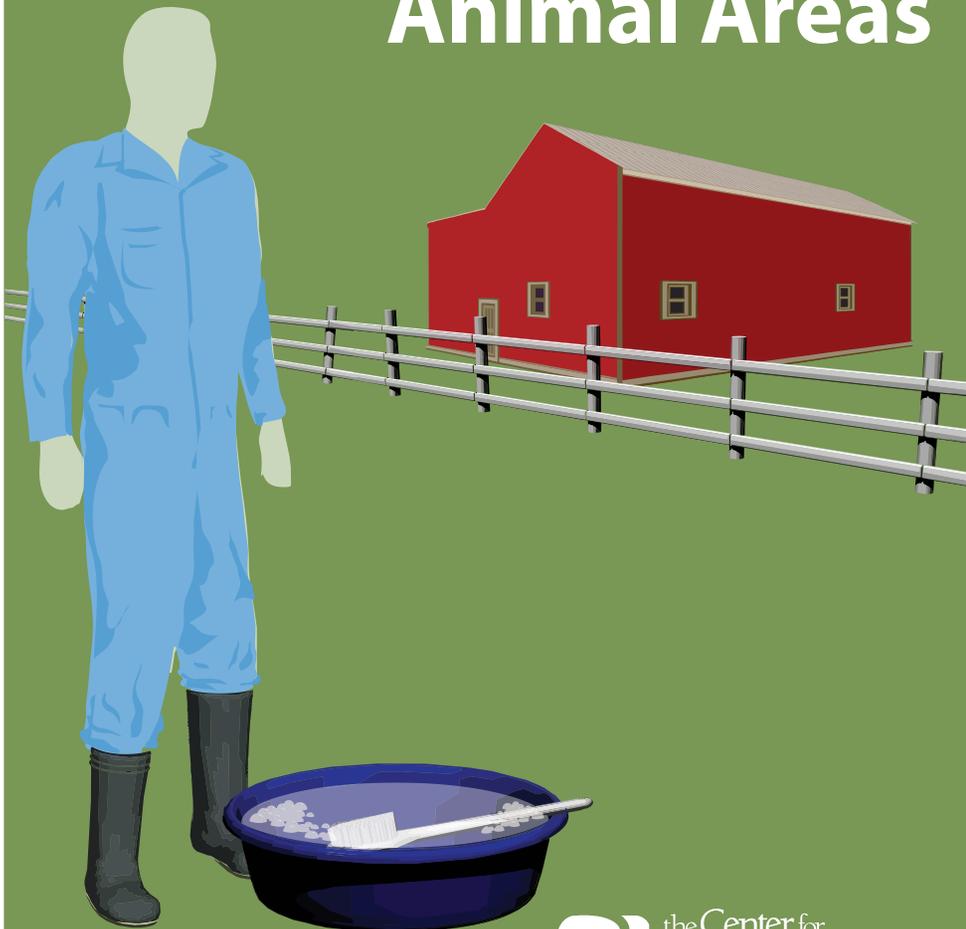


WASH YOUR HANDS

- **Wet hands and forearms with warm water**
- **Add at least 3-5 mls of soap (the size of an olive)**
- **Lather up and vigorously scrub each side of the hands beyond the wrist for 10-30 seconds, cleaning under rings and scrubbing dirty fingernails**
- **Rinse under warm water until no soap residue remains**
- **Turn off running water with a paper towel, not bare hands**
- **Dry hands with paper towel or hot air dryer**



Policies for Visitors Contacting Animals or Entering Animal Areas



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& Public Health
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- Clean coveralls, hats, and disposable or disinfected rubber boots will be provided by the farm and must be worn while in animal areas
- Boots must be clean before entering animal areas
- Wash hands with soap and warm water before AND after handling animals
- Boots must be washed and disinfected or removed and disposed of properly after exiting animal areas
 - Clean all dirt, manure, and debris off of boots BEFORE stepping into the disinfectant solution
 - Allow the disinfectant solution to have ample contact time with the boot surface
- When leaving, remove all protective outer clothing and footwear provided by the farm and leave it in the designated area
- For your own protection, wash your hands with soap and warm water before leaving the farm

FARM VISITOR POLICIES



**Comply with all
posted signs, rules,
and biosecurity regulations
on this farm.
Your cooperation
is appreciated for your
own safety and the
health of our animals.**

- Only enter this farm with permission
- Park at the entrance or in designated parking areas
- Check-in with farm personnel upon arrival and sign the visitor log
- Follow instructions provided by farm personnel at all times
- Leave deliveries in areas designated by farm personnel
- All visitors must be accompanied by farm personnel at all times
- Do not handle or contact animals unless permission is granted by farm personnel

Attachment III-8

USDA APHIS Veterinary Services

Biosecurity

General Considerations for Contagious Animal Diseases

Properly implemented biosecurity programs and procedures are imperative to reduce the risk of transmission of contagious animal diseases during the necessary movement of personnel, animals, vehicles, and equipment.

Contagious animal diseases, both endemic diseases and foreign animal diseases, can have a potential serious impact on animal health, the agricultural industry, and for some agents, public health. Accordingly, veterinarians, owners, and anyone else in contact with enterprises that have domesticated animals and other susceptible livestock should consistently use biosecurity measures to prevent or slow the spread of contagious animal diseases.

Biosecurity measures also should be a routine part of an overall animal health program. A sound biosecurity plan should be followed in daily practice. During an animal disease outbreak, adherence to a biosecurity plan becomes critical. This plan should address the movement of people, domesticated animals and other livestock, vehicles, equipment; animal handling, examination, treatment, depopulation/euthanasia, and necropsy; and disposal of animal carcasses, products, feed, water, litter, straw, hay, and other materials potentially carrying and/or directly exposed to the virus.

In disease outbreaks with zoonotic potential, appropriate personal protective equipment (PPE) should be provided to persons involved in surveillance or other activities as an additional biosecurity measure. The proper use of PPE and other personal protective measures in an animal health emergency are extremely important to the health, well-being, and effectiveness of the emergency responders.

1. Biosecurity Hazards

Identification of biosecurity hazards is a key element in preventing the introduction of contagious animal diseases onto premises. Common hazards include:

- **People, domesticated animals, other livestock, vehicles, and equipment.** All movements of domesticated animals and other livestock, vehicles, and equipment on and off the property will be controlled to reduce the risk of virus transmission. If it is necessary for persons to enter onto a premises, strict biosecurity protocols should be followed. In no case should unnecessary visits to a farm premises be allowed, especially by persons not trained to observe biosecurity measures.
- **Contaminated feed and water.** Feed should be purchased only from suppliers that have a quality assurance program in place for the safe manufacturing, storage, and delivery of their products.
- **Contact with domesticated animals and other livestock.** Exposure to contagious animal diseases can occur in many situations where infected domesticated animals and other susceptible livestock come into contact, such as shows, swap meets, auctions, and in

circumstances involving contact with wildlife and during introduction or reintroduction of domesticated animals and other livestock into a flock or herd.

2. Mitigating Biosecurity Risk

The potential impact of major risk factors for introduction of contagious animal diseases can be mitigated with appropriate biosecurity actions that include:

- Cleaning and disinfection of premises, vehicles, equipment, and materials, or disposal of contaminated materials that cannot be adequately cleaned or disinfected.
- Cleaning and disinfection of equipment before using for another purpose.
- Accounting for the recent history of all domesticated animals and other livestock at the premises of origin through accurate records.
- Accounting for the recent history of potentially contaminated equipment and animal transport vehicles that entered or left the premises, including rendering trucks that may be used to haul carcasses away from the premises.
- Provide a place for people (employees, family, salespersons, veterinarians, farriers, service technicians, meter readers, visitors, etc.) to clean up, and insist that they do so, before and after contact with domesticated animals and other livestock, their products, secretions, and excretions.
- Separation of pick-up locations for dead domesticated animals and other livestock from rearing areas. The locations should have no cross traffic with farm personnel and vehicles.
- Isolation of domesticated animals and other livestock being added or returned to flocks or herds.

2.1 Barn/Housed Domesticated Animals and Other Susceptible Livestock

Under most circumstances, confined domesticated animals and other susceptible livestock are at reduced disease risk and should remain confined if possible. Biosecurity measures should be instituted at building entrances. Prevent wild animals' entry into facilities or eliminate wild animals from the barn/house to avoid disease spread. Barns/houses should also be designed to prevent entry of rodents and ground water. Domesticated animals and other livestock should not be moved into a barn/house that has harbored infected or potentially infected domesticated animals and other livestock unless these buildings have first been thoroughly cleaned and disinfected.

2.2 Domesticated Animals and Other Susceptible Livestock Reared Outside

If domesticated animals and other susceptible livestock are reared outside of a barn/house environment, biosecurity personnel should encourage owners to reduce the risk of contagious animal disease transmission by observing the following guidelines:

- Do not permit close or direct contact between groups of domesticated animals and other susceptible livestock. Keep them separated by a distance sufficient to prevent transmission.
- Inspect susceptible species regularly for clinical signs of disease, and discuss any concerns with a veterinarian. If the presence of a foreign animal disease is suspected, the veterinarian

should report this to the State Veterinarian or USDA, APHIS, VS, Area Veterinarian in Charge.

- Make every effort to avoid moving domesticated animals and other livestock.
- Minimize visitor contact, and ensure they follow biosecurity procedures.
- When visiting multiple sites in one day, visit the most age—susceptible animal group first.
- Ensure that if travel between premises is necessary, each site is treated as a separate, biosecure unit (e.g., with observance of biosecurity and disinfection procedures for personal hygiene, clothing, footwear, vehicles, and equipment—both upon arrival and departure).

2.3 Appropriate Clothing and PPE for Contagious Animal Diseases

Careful attention to clothing is an essential element of a successful biosecurity plan.

Outerwear may be either disposable or reusable, as discussed below. The level of PPE required in an animal disease outbreak response will be situation-specific and based on OSHA, CDC, and APHIS guidance, in addition to any State and local guidance.

Disposable outerwear: It is highly recommended that all visitors and employees, regardless of their level of risk exposure or contact, be provided disposable coveralls, boots, hats, and gloves for use before entering premises and before contact with domesticated pigs and other livestock. Appropriate disposal of used PPE will be required before leaving any premises.

Reusable outerwear: If reusable (nondisposable) clothing is used, it must be machine washable. Waterproof or nylon coveralls may be purchased for use in wet, dirty conditions. Although nylon coveralls are not completely waterproof, they are less permeable than cotton and are less apt to soak through with moisture. They are also light and wind resistant and can withstand repeated machine washings well. Nylon coveralls may be damaged in automatic dryers if the heat is too high, but they air dry quickly. Reusable machine washable PPE clothing must be washed at premises prior to exiting premises. Reusable PPE, such as fitted face masks, boots, and gloves will be disinfected before removal from the premises.

2.4 A Biosecurity Plan

A good biosecurity plan is important for the eradication and control of contagious animal disease and for the routine maintenance of animal health. Biosecurity minimizes organism spread via people, domesticated animals, other livestock, vehicles, and equipment from premises to premises during disease control and eradication efforts. Biosecurity plans should include planning for unavoidable breaks in biosecurity due to the need to protect life or property such as ambulance or fire truck entry. A basic biosecurity plan for attaining these goals—both in an emergency situation and in routine practice—consists of four essential elements:

1. Biosecurity awareness for all employees. Fatigue, stress, distraction, and lack of forethought all can cause even the most conscientious individual to forget the crucial importance of biosecurity measures. Thus, it is essential that all personnel exercise the utmost thought, patience, persistence, and care in creating and carrying out a biosecurity plan—both under normal circumstances and during a disease outbreak.
2. Design and implementation of cleaning and disinfection procedures to reduce or eliminate pathogens and pathogen transmission.

3. Control of the movement of people, domesticated animals and other livestock, vehicles, and equipment.
4. Maintain a closed flock/herd to the fullest extent possible. Flock/herds that are “closed” to the introduction of new domesticated animals and other livestock (with population increase occurring only from flock or herd offspring) decrease the potential for transmission of disease agents from “outside” domesticated animals and other livestock. If a closed flock or herd are not possible, isolate newly purchased domesticated animals and other livestock, purchased from the healthiest possible sources, and isolate any returning domesticated livestock (e.g., after breeding or exhibition) from existing flock/herds for a suitable period of time. Health and vaccination status of introduced domesticated animals and other livestock should be known.

2.5 Identifying Domesticated Animals and Other Livestock

Individual identification or group identification for domesticated animals and other livestock is essential to the effective implementation of biosecurity measures. Identification:

- Enables the owner to keep track of domesticated animals and other livestock so their location and movement within the premises and movements on or off the premises can be documented accurately.
- Can be used to identify a flock/herd that had direct contact with, or exposure to a person, animal, vehicle, and/or equipment known to be infected.
- Permits tracking of individual or groups of domesticated animals and other livestock and facilitates the keeping of records on health, vaccination, pedigree, and production.
- Can be crucial in situations where trace forward or trace back epidemiology efforts are required to demonstrate non-contact to infected animals for premises and facilities that wish to maintain continuity of business or restore continuity of business as rapidly as possible.
- Learn more about animal identification at the following website
<http://animalid.aphis.usda.gov/nais/>

2.6 Keeping Records

Accurate records are essential during a disease outbreak to facilitate accurate tracing of individual or groups of domesticated animals and other livestock to determine possible source and potential spread of disease. Newly purchased domesticated animals and other livestock should be accompanied with health records that include the vaccination history. Use of the National Animal Identification System, which has a standardized numbering system that would allow one number to be used for several purposes, would be ideal. Such information can be useful during an outbreak in tracing domesticated animals and other livestock possible exposure to disease (e.g., from distributor or producer to market or processing plant). Records can also help the owner keep track of feed, other supplies, and equipment that are brought into or removed from the premises.

2.7 Protecting Domesticated Animals and Other Susceptible Livestock from Wildlife

Rodents and most other forms of vermin and wildlife are very mobile and can biologically or mechanically spread contagious animal diseases. A pest control plan and procedures is an essential element for any biosecurity plan. In many instances, a wildlife management control plan may be needed. Any wildlife management control plan must take into account local, State and Federal jurisdictions and requirements, depending upon the specific circumstances or species involved.

2.8 Isolation

Bringing domesticated animals and other livestock onto premises poses a risk for introducing contagious animal diseases into the resident population of that premises. Domesticated animals and other livestock should be purchased from flock/herds known to have high health status, and litter, bedding, and feed should be obtained from sources known to be reputable.

Ideally, newly purchased domesticated animals and livestock or those being returned to the flock/herd should be isolated for a minimum of 30 days. This can be accomplished by confining the new domesticated animals and other livestock to locations that do not permit any form of direct or indirect contact with other domesticated animals and other livestock.

The caretaker of new or returning domesticated animals and other livestock that are in isolation should, at a minimum, have separate coveralls and boots available for use while caring for these domesticated animals and other livestock. This individual should care for the isolated domesticated animals and other livestock *after* taking care of the other domesticated animals and other livestock on the premises and should not return to the main flock/herd until he or she has taken a shower and donned clean clothing and boots.

2.9 Visitor Biosecurity and Risk

Visitors can come to premises for a wide variety of reasons, from social calls to reading the electric meter, delivering feed, or vaccinating an animal. Each visit provides an opportunity for the transmission of contagious animal diseases to domesticated animals and other susceptible livestock. Biosecurity programs and procedures should address the risk of visitor traffic.

In an outbreak situation of a contagious foreign animal disease, all visitors should be considered high risk, especially within a control area or control zone. If an outbreak of a contagious foreign animal disease occurs, animal health officials typically establish a control area around infected and contact premises. As a general rule, premises inside a control area have a greater risk for exposure to the contagious agent and thus a greater necessity for implementation of rigorous biosecurity, and cleaning and disinfection measures.

3. Personal Protection and Health and Safety

Biosecurity programs and procedures help to ensure the health and safety of workers associated with contagious animal diseases. Health, safety and occupational health guidance starts with individual responsibility, but also includes specific organization policy, State and Local guidance and regulations, and OSHA, NIOSH and CDC guidance and regulations. Biosecurity programs and procedures enhance health and safety programs for animal agriculture workers.

Potential Disinfectants to Use Against Influenza A (H1N1) Virus in Farm Settings

The tables below are meant to assist persons in finding U.S. Environmental Protection Agency (EPA) registered disinfectant products that may be used against influenza A (H1N1) in farm settings. The tables are not meant to be all-inclusive lists of products registered for use against influenza A (H1N1) in farm settings. The United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) Veterinary Services (VS) anticipates that products efficacious against any influenza A virus will be effective against influenza A (H1N1) virus. In addition to the products appearing below, other registered disinfectants that are approved for use against influenza A virus may be used as long as the applicable use sites (e.g., farm premises and equipment) are on the label.

While an applicator may utilize this list to assist in finding potential registered products, it is the applicator's responsibility to ensure that the product label on the product container indicates the applicable pests and use sites. All applicable use directions on the product label must be followed.

Product labels may also be found on EPA's Pesticide Product Label System (PPLS)¹. Applicators should note that the product labels appearing on this site are the "master labels". Many products are sold for use with a product label that contains a subset of the use sites and pests found on the master label, so applicators must defer to the product label appearing on the pesticide container.

The inclusion of any product on this table does not imply endorsement of the product by USDA APHIS VS.

Table 1 is a list of products that EPA provided to the USDA APHIS VS on April 27, 2009. The products are specifically approved for use against influenza A (H1N1) virus. Each product's master label from PPLS was reviewed and pertinent information from these labels appears in the table below.

Table 2 is a list of products that were generated by EPA on July 13, 2007 ("Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants" located at: http://www.epa.gov/pesticides/factsheets/avian_flu_products.htm). The products are EPA registered for use against avian influenza virus. Avian influenza virus is an influenza A virus. Therefore, VS is recommending the use of products registered against avian influenza virus, among other products registered for use against influenza A viruses, for use against the influenza A (H1N1) virus.

Products listed in table 2 that are not also registered for use against influenza A virus or influenza A (H1N1) virus, may be used against influenza A (H1N1) as permitted by FIFRA section 2(ee)(2)². VS anticipates that products efficacious against avian influenza virus, will be effective against influenza A (H1N1) virus. FIFRA section 2(ee)(2) allows applicators to use products registered for use against avian influenza and not influenza A virus, provided that the applicable use sites appear on the label and the applicator follows all applicable label use directions and safety precautions.

¹ To access the most recently approved product labels, see EPA's Pesticide Product Label System (PPLS) site at: <http://oaspub.epa.gov/pestlabl/ppls.home>. The pesticide product's EPA registration number is used to access the product label in PPLS. The numbers appearing before the dash in the EPA registration number are referred to as the company number. Type the company number in the first box appearing on the PPLS web site. The numbers appearing after the dash are referred to as the product number. Type the product number in the second box appearing on the PPLS web site. Press "search." A list of EPA-approved labels will appear in chronological order, with the most recent label appearing first. Click on the most recent date to obtain the most recent label.

² FIFRA section 2(ee)(2): "TO USE ANY REGISTERED PESTICIDE IN A MANNER INCONSISTENT WITH ITS LABELING.— The term 'to use any registered pesticide in a manner inconsistent with its labeling' means to use any registered pesticide in a manner not permitted by the labeling, except that the term shall not include ... (2) applying a pesticide against any target pest not specified on the labeling if the application is to the crop, animal, or site specified on the labeling, unless the Administrator has required that the labeling specifically state that the pesticide may be used only for the pests specified on the labeling after the Administrator has determined that the use of the pesticide against other pests would cause an unreasonable adverse effect on the environment, ..."

Table 1: Products approved for use against influenza A (H1N1) virus

EPA REG. NO.	PRODUCT NAME	MANUFACTURER & CONTACT INFO	ACTIVE INGREDIENT(S)	PEST AND USE SITES LISTED ON PRODUCT LABEL
1677-129	Oxonia Active	Ecolab, Inc. 370 North Wabasha Street St. Paul, MN 55102 615-293-2233	Hydrogen peroxide Peroxyacetic acid	Influenza A (H1N1) in/on farms, livestock quarters, and industrial facilities (according to EPA's June 30, 2008, stamped approved product label)
1677-158	Vortexx	Ecolab, Inc. 370 North Wabasha Street St. Paul, MN 55102 615-293-2233	Hydrogen peroxide Peroxyacetic acid Octanoic acid	Influenza A (H1N1) in/on farms and livestock quarters (according to EPA's February 4, 2005, stamped approved product label)
1677-203	OxySept LDI	Ecolab, Inc. 370 North Wabasha Street St. Paul, MN 55102 615-293-2233	Hydrogen peroxide Peroxyacetic acid	Influenza A (H1N1) in/on farms and livestock quarters (according to EPA's February 21, 2006, stamped approved product label)
1677-209	KX-6178	Ecolab, Inc. 370 North Wabasha Street St. Paul, MN 55102 615-293-2233	Hydrogen peroxide Octaneperoxoic acid Octanoic acid	Influenza A (H1N1) in/on shoe baths and industrial facilities (according to EPA's May 14, 2007, stamped approved product label)
10324-134	Maquat 256-1010N	Mason Chemical Company 721 West Algonquin Road Arlington heights, IL 60005 847-290-1621 1-800-362-1855	Didecyl dimethyl ammonium chloride	Influenza A Beijing (H1N1) strain in/on swine premises and equipment, vehicles, and shoe baths (according to EPA's May 10, 2004, stamped approved product label)
10324-147	Maquat 64-1010N	Mason Chemical Company 721 West Algonquin Road Arlington Heights, IL 60005 847-290-1621 1-800-362-1855	Didecyl dimethyl ammonium chloride	Influenza A Beijing (H1N1) strain in/on swine premises and equipment, vehicles, and shoe baths (according to EPA's February 21, 2006, stamped approved product label)
65402-1	VigorOx Liquid Sanitizer and Disinfectant	FMC Corporation 1735 Market Street Philadelphia, PA 19103 215-299-6000 1-800-527-2519	Hydrogen peroxide Peroxyacetic acid	Influenza A (H1N1) in/on livestock premises, livestock equipment, animal housing facilities, livestock quarters, and trucks (according to EPA's April 2, 2008, stamped approved product label)

Table 2: Products approved for use against avian influenza virus, an influenza A virus, that may be used under FIFRA Section 2(ee)(2) against influenza A virus

EPA REG. NO.	PRODUCT NAME	MANUFACTURER (SEE MANUFACTURER CONTACT INFO IN FOLLOWING TABLE)	ACTIVE INGREDIENT(S)	PEST AND USE SITES AS LISTED IN NPIRS
106-72	Maxima 128	Brulin & Company, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza type A/Mich virus in/on institutional premises and equipment.
106-73	Maxima 256	Brulin & Company, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza type A/Mich virus in/on institutional premises and equipment
106-79	Broadspec 256	Brulin & Company, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza type A/Mich virus in/on commercial and institutional premises and equipment
106-81	Maxima RTU	Brulin & Company, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza type A/Mich virus in/on animal cages, animal feeding/watering equipment, and animal transportation vehicles
134-65	DC & R Disinfectant	Hess & Clark, Inc.	Alkyl dimethyl benzyl ammonium chloride Formaldehyde 2-(Hydroxymethyl)-2-nitro-1,3-propanediol	Avian influenza virus in/on livestock premises, livestock feeding equipment, livestock watering equipment, livestock equipment, livestock transportation vehicles, animal cages, animal living quarters, animal feeding/watering equipment, animal equipment, farm buildings, and shoe baths
211-25	Pheno Cen Germicidal Detergent	Central Solutions, Inc.	o-Phenylphenol, potassium salt , p-tert-Amylphenol, potassium salt, and Potassium 2-benzyl-4-chlorophenate	Avian influenza virus in/on livestock pens, livestock manure, livestock equipment, animal quarters, animal feeding/watering equipment, farm equipment, and shoe baths
211-32	Pheno-Cen Spray Disinfectant/Deodorant	Central Solutions, Inc.	o-Phenylphenol Ethyl alcohol	Avian influenza virus in/on commercial premises, institutional premises, commercial equipment, and institutional equipment
211-50	Q5.5-5.5NPB-2.5HW	Central Solutions, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on livestock premises, livestock feeding equipment, livestock watering equipment, livestock equipment, livestock transportation vehicles, animal waste materials, and shoe baths
211-62	Low ph Phenolic 256	Central Solutions, Inc.	o-Phenylphenol 2-Benzyl-4-chlorophenol	Avian influenza virus in/on livestock premises, livestock feeding equipment, livestock watering equipment, livestock equipment, animal feeding/watering equipment, animal equipment, animal transportation vehicles, and shoe baths
303-91	HI-Tor Plus Germicidal Detergent	Huntington Professional Products	Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride	Avian influenza type A/Mich in/on animal cages, animal living quarters, animal feeding/watering equipment, and animal equipment
464-689	Ucarsan Sanitizer 420	The Dow Chemical Company	Glutaral	Avian influenza virus in/on livestock premises, livestock equipment, and animal living quarters
464-696	Ucarsan Sanitizer 4128	The Dow Chemical Company	Glutaral	Avian influenza virus in/on animal living quarters, animal feeding/watering equipment, farm premises, farm equipment, and trucks
464-700	Ucarcide 14 Antimicrobial	The Dow Chemical Company	Alkyl dimethyl benzyl ammonium chloride Glutaral	Avian influenza virus in/on livestock premises, livestock equipment, animal quarters, animal equipment, and farm equipment

Table 2: Products approved for use against avian influenza virus, an influenza A virus, that may be used under FIFRA Section 2(ee)(2) against influenza A virus

EPA REG. NO.	PRODUCT NAME	MANUFACTURER (SEE MANUFACTURER CONTACT INFO IN FOLLOWING TABLE)	ACTIVE INGREDIENT(S)	PEST AND USE SITES AS LISTED IN NPIRS
464-702	Ucarcide 42 Antimicrobial	The Dow Chemical Company	Alkyl dimethyl benzyl ammonium chloride Glutaral	Avian influenza virus in/on livestock premises, livestock equipment, animal quarters, animal equipment, animal transportation vehicles, and trucks
464-715 ³	Ucarsan 442 Sanitizer	The Dow Chemical Company	Alkyl dimethyl benzyl ammonium chloride Glutaral	Avian influenza virus in/on livestock premises, livestock feeding and watering equipment, animal living quarters, and animal feeding and watering equipment
464-716 ⁴	Ucarsan 414 Sanitizer	The Dow Chemical Company	Alkyl dimethyl benzyl ammonium chloride Glutaraldehyde	Avian influenza virus in/on livestock premises, livestock feeding and watering equipment, animal living quarters, animal feeding and watering equipment
777-72	Biosol	Reckitt Benckiser, Inc.	Alkyl dimethyl benzyl ammonium sacchaarinate Ethyl alcohol	Avian influenza virus in/on livestock quarters, and animal quarters
1043-91	LpH Master Product	Steris Corporation	o-Phenylphenol 4-tert-Amylphenol	Avian influenza virus in/on livestock premises, animal feeding equipment, and animal equipment
1677-129	Oxonia Active	Ecolab, Inc.	Hydrogen peroxide Peroxyacetic acid	Influenza virus type A (H3N2), influenza A (H1N1), and influenza A (H10N7) in/on livestock barns, livestock premises, animal quarters, animal cages, and agricultural premises
1677-158	Vortexx	Ecolab, Inc.	Hydrogen peroxide Peroxyacetic acid Octanic acid	Influenza virus type A (H3N2), influenza A (H1N1), and influenza A (H10N7) on livestock equipment
1677-203	OxySept LDI	Ecolab, Inc.	Hydrogen peroxide Peroxyacetic acid	Avian influenza virus A in/on livestock barns, livestock feeding equipment, livestock watering equipment, livestock equipment, animal cages, animal living quarters, animal feeding/watering equipment, and animal equipment
1839-86	BTC 2125 M 10% Solution	Stepan Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin virus in/on animal living quarters, animal living quarters, animal feeding/watering equipment, animal transportation vehicles, agricultural premises, farm premises, agricultural equipment, shoe baths, transportation vehicles, trucks, transportation vehicles, human clothing, and human footwear
1839-95	NP 4.5 (D&F) Detergent/Disinfectant	Stepan Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus A in/on livestock premises, livestock feeding and watering equipment, animal living quarters, animal feeding/watering quarters, animal transportation vehicles, and shoe baths
1839-154	Scented 10% BTC 2125M Disinfectant	Stepan Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus A in animal living quarters
1839-155	BTC 2125 M 20% Solution	Stepan Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on animal living quarters, agricultural premises, agricultural equipment, farm equipment, and shoe bath
1839-173	7.5% BTC 885 Disinfectant/Sanitizer	Stepan Company	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza A/Turkey/Wisconsin virus in/on livestock quarters, livestock premises, livestock feeding equipment, livestock watering equipment, livestock transportation vehicles, animal living quarters, animal feeding/watering equipment, and shoe baths

³ While EPA's list indicates product is approved for use against AIV, the NPIRS indicates product registration has been cancelled.

⁴ While EPA's list indicates product is approved for use against AIV, the NPIRS indicates product registration has been cancelled.

Table 2: Products approved for use against avian influenza virus, an influenza A virus, that may be used under FIFRA Section 2(ee)(2) against influenza A virus

EPA REG. NO.	PRODUCT NAME	MANUFACTURER (SEE MANUFACTURER CONTACT INFO IN FOLLOWING TABLE)	ACTIVE INGREDIENT(S)	PEST AND USE SITES AS LISTED IN NPIRS
3838-36 ⁵	Quat 44	Essential Industries, Inc.	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus A/Turkey/Wisconsin in/on animal feeding and watering equipment, animal equipment, animal transportation vehicles, shoe baths, automobiles, human face gear, and human headgear
3838-37 ⁶	Quat Rinse	Essential Industries, Inc.	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus A/Turkey/Wisconsin on institutional premises
3862-177	Tek-Trol Disinfectant Cleaner Concentrate	ABC Compounding Company	o-Phenylphenol 2-Benzyl-4-chlorophenol 4-tert-Amylphenol	Avian influenza virus in/on livestock premises, animal feeding and watering equipment, animal equipment, and animal transportation vehicles
5813-1	Clorox	The Clorox Company	Sodium hypochlorite	Avian influenza virus A in/on animal feed equipment, livestock barns, livestock stables, livestock feeding equipment, livestock equipment, animal equipment, farm equipment, farm premises, agricultural equipment, farm equipment, barns, animal drinking water, agricultural (noncrop areas), automobiles, and transportation vehicles
6659-3	Spray Nine	Spray Nine Corporation	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus A in/on commercial premises, institutional premises, commercial equipment, and institutional equipment
6836-70	Bardac® 205M-7.5B	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus livestock premises, livestock equipment, animal living quarters, animal transportation vehicles, shoe baths, and trucks
6836-71	Lonza Formulation Y-59	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on industrial and institutional premises and equipment
6836-75	Lonza Formulation S-21	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Influenza virus A (Brazil) in./on animal feeding and watering equipment, shoe baths, trucks, and automobiles
6836-77	Lonza Formulation S-18	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Influenza virus A (Brazil) in./on animal feeding and watering equipment, animal equipment, farm premises, automobiles, human face gear, human footwear, and human headgear
6836-78	Lonza Formulation R-82	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Influenza virus A (Brazil) in/on livestock barns, livestock premises, livestock feeding and watering equipment, livestock equipment, livestock transportation vehicles, animal cages, animal living quarters, animal feeding and watering equipment, animal equipment, animal transportation vehicles, farm premises, farm equipment, shoe baths, trucks, automobiles, and transportation vehicles
6836-136	Lonza Formulation S-18F	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on animal quarters, animal feeding/watering equipment, animal equipment, shoe baths, and transportation vehicles

⁵ While EPA's list indicates product is approved for use against AIV, the NPIRS indicates product registration has been cancelled.

⁶ While EPA's list indicates product is approved for use against AIV, the NPIRS indicates product registration has been cancelled.

Table 2: Products approved for use against avian influenza virus, an influenza A virus, that may be used under FIFRA Section 2(ee)(2) against influenza A virus

EPA REG. NO.	PRODUCT NAME	MANUFACTURER (SEE MANUFACTURER CONTACT INFO IN FOLLOWING TABLE)	ACTIVE INGREDIENT(S)	PEST AND USE SITES AS LISTED IN NPIRS
6836-139	Lonza Formulation R-82F	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on animal quarters, animal feeding/watering equipment, farm premises, agricultural equipment, shoe baths, and transportation vehicles
6836-140	Lonza Formulation S-21F	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on livestock premises, livestock feeding and watering equipment, livestock equipment, animal living quarters, animal feeding/watering equipment, animal equipment, animal transportation vehicles, agricultural premises, farm premises, farm equipment, shoe baths, trucks, and truck (trailers)
6836-152	Lonza Formulation DC-103	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on livestock premises, animal living quarters, animal feeding/watering equipment, animal equipment, animal transportation vehicles, farm premises, and shoe bath
6836-233	Bardac 205M-50	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus and avian influenza A/Turkey/Wisconsin virus in/on animal living quarters, animal feeding/watering equipment, animal equipment, farm premises, farm equipment, and shoe baths
6836-252	Phenocide 256	Lonza, Inc.	o-Phenylphenol 2-Benzyl-4-chlorophenol	Avian influenza virus in/on livestock barns, livestock equipment, livestock transportation vehicles, animal living quarters, animal feeding and watering equipment, animal equipment, hatcheries, and agricultural premises
6836-253	Phenocide 128	Lonza, Inc.	o-Phenylphenol 2-Benzyl-4-chlorophenol	Avian influenza virus in/on livestock barns, livestock premises, livestock equipment, livestock transportation vehicles, animal living quarters, animal feeding and watering equipment, animal equipment, farm premises, agricultural buildings, shoe baths, and trucks
6836-266	Bardac 205M-10	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus and avian influenza A/Turkey/Wisconsin in/on livestock premises, livestock feeding and watering equipment, animal feeding and watering equipment, animal equipment, shoe baths, and trucks
6836-277	Bardac 205M-1.30	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on livestock premises, livestock feeding equipment, livestock watering equipment, livestock equipment, animal living quarters, animal feeding/watering equipment, animal equipment, shoe baths, trailers (empty), and trucks
6836-278	Bardac 205M-14.08	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on livestock premises, livestock feeding equipment, livestock watering equipment, animal feeding and watering equipment, animal equipment, shoe baths, and trucks
6836-302	Bardac 205M-2.6	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on livestock premises, livestock feeding equipment, livestock watering equipment, livestock equipment, shoe baths, and transportation vehicles
6836-303	Bardac 205M-5.2	Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on livestock feeding equipment, livestock watering equipment, livestock equipment, animal living quarters, animal feeding and watering equipment, animal equipment, shoe baths, and commercial transportation vehicles

Table 2: Products approved for use against avian influenza virus, an influenza A virus, that may be used under FIFRA Section 2(ee)(2) against influenza A virus

EPA REG. NO.	PRODUCT NAME	MANUFACTURER (SEE MANUFACTURER CONTACT INFO IN FOLLOWING TABLE)	ACTIVE INGREDIENT(S)	PEST AND USE SITES AS LISTED IN NPIRS
10324-56	Maquat 256	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus A and avian influenza A/Turkey/Wisconsin virus in/on livestock premises, livestock feeding equipment, livestock watering equipment, livestock equipment, livestock transportation vehicles, animal quarters, animal cages, animal feeding and watering equipment, animal equipment, animal transportation vehicles, farm premises, shoe baths, trucks, automobiles, and human face gear
10324-58	Maquat 128	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on livestock quarters, livestock feeding equipment, livestock watering equipment, livestock equipment, livestock transportation vehicles, animal quarters, animal cages, animal feeding and watering equipment, animal equipment, animal transportation vehicles, agricultural premises, farm premises, agricultural equipment, and shoe baths
10324-59	Maquat 64	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus A and avian influenza A/Turkey/Wisconsin in/on livestock quarters, livestock premises, livestock feeding equipment, livestock watering equipment, livestock equipment, livestock transportation vehicles, animal cages, animal living quarters, animal feeding and watering equipment, animal equipment, animal transportation vehicles, and shoe baths
10324-63	Maquat 10	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on animal cages, animal living quarters, animal feeding and watering equipment, animal equipment, animal transportation vehicles, farm premises, shoe baths, humans, and air treatment
10324-67	Maquat MQ651-AS	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Diocetyl dimethyl ammonium chloride	Avian influenza virus A in/on livestock premises, livestock feeding equipment, livestock watering equipment, animal cages, animal feeding and watering equipment, and animal equipment
10324-72	Maquat 615-HD	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Diocetyl dimethyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on livestock premises, livestock equipment, animal feeding and watering equipment, animal equipment, animal transportation vehicles, agricultural equipment, shoe baths, trucks, automobiles, transportation vehicles, shoe baths, and human face gear, and human headgear
10324-80	Maquat 5.5-M	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Diocetyl dimethyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on livestock premises, livestock equipment, animal transportation vehicles, trucks, automobiles, and shoe baths
10324-81	Maquat 7.5-M	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Diocetyl dimethyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on livestock, livestock premises, livestock barns, livestock feeding equipment, livestock watering equipment, animal living quarters, animal feeding and watering equipment, agricultural premises, shoe baths, and transportation vehicles
10324-85	Maquat 86-M	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Diocetyl dimethyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on animal feed equipment, livestock quarters, livestock premises, animal cages, animal living quarters, animal feeding and watering equipment, animal equipment, animal transportation vehicles, shoe baths, trucks, automobiles, human face gear, and human headgear

Table 2: Products approved for use against avian influenza virus, an influenza A virus, that may be used under FIFRA Section 2(ee)(2) against influenza A virus

EPA REG. NO.	PRODUCT NAME	MANUFACTURER (SEE MANUFACTURER CONTACT INFO IN FOLLOWING TABLE)	ACTIVE INGREDIENT(S)	PEST AND USE SITES AS LISTED IN NPIRS
10324-94	Maquat 20-M	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus A and avian influenza A/Turkey/Wisconsin virus in/on livestock premises, and transportation vehicles
10324-96	Maquat 50DS	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin virus in/on livestock premises, livestock watering and feeding equipment, animal cages, animal living quarters, animal feeding and watering equipment, animal equipment, animal transportation vehicles, agricultural premises, and shoe baths
10324-99	Maquat 10-PD	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin virus in/on livestock premises, livestock feeding and equipment, livestock equipment, farm equipment, and shoe baths
10324-115	Maquat 750-M	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus, avian influenza virus A, and avian influenza virus A/Turkey/Wisconsin in/on livestock premises, livestock feeding and watering equipment, animal feeding and watering equipment, animal equipment, animal transportation vehicles, farm premises, agricultural equipment, shoe baths, trucks, and automobiles
10324-117	Maquat 710-M	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus A and avian influenza virus A/Turkey/Wisconsin in/on livestock premises, livestock equipment, livestock transportation vehicles, animal cages, animal feeding and watering equipment, farm premises, agricultural buildings, agricultural equipment, shoe baths, trucks, and automobiles
10324-118	Maquat 256 EBC	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus A in/on trucks, and automobiles
10324-119	Maquat 128 EBC	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus A in/on animal living quarters, animal feeding and watering equipment, animal equipment, animal transportation vehicles, and shoe baths
10324-120	Maquat 64 EBC	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on animal living quarters, animal feeding and watering equipment, animal equipment, animal transportation vehicles, and shoe baths
10324-131	Maquat A	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus A/Turkey/Wisconsin in/on livestock premises, livestock feeding and watering equipment, animal cages, animal living quarters, animal feeding and watering equipment, animal equipment, shoe baths, trucks, and automobiles
10324-141	Maquat 256-NHQ	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride	Avian influenza virus A in/on livestock premises, livestock feeding and watering equipment, livestock equipment, livestock transportation vehicles, animal quarters, animal cages, animal feeding and watering equipment, animal equipment, animal transportation vehicles, shoe baths, automobiles, and human face gear
10324-142	Maquat MQ2525M-14	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus A and avian influenza virus A/Turkey/Wisconsin in/on livestock premises, animal cages, animal living quarters, animal feeding and watering equipment, animal equipment, animal transportation vehicles, agricultural premises, farm premises, shoe baths, trucks, and transportation vehicles

Table 2: Products approved for use against avian influenza virus, an influenza A virus, that may be used under FIFRA Section 2(ee)(2) against influenza A virus

EPA REG. NO.	PRODUCT NAME	MANUFACTURER (SEE MANUFACTURER CONTACT INFO IN FOLLOWING TABLE)	ACTIVE INGREDIENT(S)	PEST AND USE SITES AS LISTED IN NPIRS
10324-143	Maquat 10-B	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on animal quarters, animal living quarters, animal equipment, agricultural equipment, shoe baths, trailers (empty), trucks (empty), automobiles, and transportation vehicles
10324-145	Maquat FP	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on livestock quarters, livestock premises, livestock feeding and watering equipment, livestock equipment, animal quarters, animal feeding and watering equipment, animal equipment, animal transportation vehicles, and shoe baths
10324-164	Maquat 256 PD	Mason Chemical Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin and avian influenza virus A in/on livestock quarters, livestock premises, livestock feeding and watering equipment, livestock equipment, livestock transportation vehicles, animal quarters, animal cages, animal feeding and watering equipment, animal equipment, animal transportation vehicles, farm premises, shoe baths, trailers (empty), automobiles, and shoe baths
11600-4	Sanox II	Conklin Co., Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on animal quarters, animal equipment, animal transportation vehicles, farm premises, and shoe baths
47371-6	Formulation HS-652Q	H&S Chemical Division c/o Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride	Avian influenza virus in/on commercial and institutional premises
47371-36	HS-867Q	H&S Chemical Division c/o Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride	Avian influenza virus in/on animal feeding and watering equipment and farm premises
47371-37	HS-267Q Germicidal Cleaner and Deodorant	H&S Chemical Division c/o Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride	Avian influenza virus in institutional premises
47371-141	Formulation HH-652 Q	H&S Chemical Division c/o Lonza, Inc.	Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride	Avian influenza type A/Mich in/on commercial and institutional premises and commercial and institutional equipment
56392-7	Dispatch Hospital Cleaner with Bleach	Caltech Industries	Sodium hypochlorite	<i>While NPIRS does not indicate the product is registered against Avian influenza, the Nov 21, 2007 EPA stamped approved label indicates the product is approved for use against avian influenza A virus in/on animal equipment, cages, and animal housing</i>
56392-8	Dispatch Hospital Cleaner Disinfectant Towels with Bleach	Caltech Industries	Sodium hypochlorite	<i>While EPA indicates the product is approved for use against avian influenza, NPIRS and the Nov 21, 2007, product label indicate the product use sites relate only to hospitals.</i>
61178-1	D-125	Microgen, Inc.	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on livestock premises, animal living quarters, and animal feeding and watering equipment
61178-2	Public Places	Microgen, Inc.	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on commercial and institutional premises
61178-4	Public Places Novelette	Microgen, Inc.	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on commercial and institutional premises and equipment
61178-5	CCX-151	Microgen, Inc.	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A/Turkey/Wisconsin in/on c livestock premises and livestock equipment

Table 2: Products approved for use against avian influenza virus, an influenza A virus, that may be used under FIFRA Section 2(ee)(2) against influenza A virus

EPA REG. NO.	PRODUCT NAME	MANUFACTURER (SEE MANUFACTURER CONTACT INFO IN FOLLOWING TABLE)	ACTIVE INGREDIENT(S)	PEST AND USE SITES AS LISTED IN NPIRS
61178-6	D-128	Microgen, Inc.	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza A//Turkey/Wisconsin in/on livestock premises, livestock feeding and watering equipment, livestock equipment, and livestock transportation vehicles
63761-8	Sterilex Ultra Disinfectant Cleaner Solution 1	Sterilex Corporation	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride Hydrogen peroxide	<i>While NPIRS does not indicate the product is registered against Avian influenza, the Oct 7, 2007 EPA stamped approved label indicates the product is approved for use against avian influenza virus in/on animal quarters, farm premises, and farm equipment</i>
66171-1	Advantage 256 Cleaner Disinfectant Deodorant	Preserve International	o-Phenylphenol 2-Benzyl-4-chlorophenol 4-tert-Amylphenol	Avian influenza virus in/on animal living quarters, animal feeding and watering equipment, animal equipment, and animal transportation vehicles
66171-6	Dyne-O-Might	Preserve International	Iodine	<i>While NPIRS does not indicate the product is registered against Avian influenza, the July 31, 2007 EPA stamped approved label indicates the product is approved for use against avian influenza virus in/on at least shoe baths. All other use sites are not legible.</i>
66171-7	Synergize	Preserve International	Alkyl dimethyl benzyl ammonium chloride Glutaral	<i>While NPIRS does not indicate the product is registered against Avian influenza, the Feb. 7, 2007 EPA stamped approved label indicates the product is approved for use against avian influenza virus in/on animal housing facilities and equipment, farm premises, farm vehicles, and shoe washes</i>
66243-1	Odo-Ban Ready-To-Use	Clean Control Corporation	Alkyl dimethyl benzyl ammonium chloride	Avian influenza virus in/on farm premises and trucks
66243-2	Odo-Ban	Clean Control Corporation	Alkyl dimethyl benzyl ammonium chloride	Avian influenza virus in/on farm premises and trucks
66243-3	Quik Control	Clean Control Corporation	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza A/Turkey/Wisconsin virus in/on livestock premises, livestock equipment, livestock transportation vehicles, animal cages, animal feeding and watering equipment, agricultural buildings, agricultural equipment, shoe baths, trucks, and automobiles
67619-8	CPPC Ultra Bleach 2	Clorox Professional Products Company	Sodium hypochlorite	Influenza A2 in/on livestock premises, livestock feeding and watering, livestock equipment, livestock transportation vehicles, animal drinking water, and automobiles
67619-9	PJW-622	Clorox Professional Products Company	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Influenza A2 in/on animal cages, automobiles and industrial and commercial premises
67619-13	CPPC Storm	Clorox Professional Products Company	Sodium hypochlorite	Influenza virus type A (Hong Kong) in/on livestock quarters, livestock feeding and watering equipment, livestock equipment, animal quarters, animal feeding and watering equipment, animal equipment, and transportation vehicles
70060-19	Aseptrol S10-Tabs	Engelhard Corporation	Sodium chlorite Sodium dichloroisocyanurate dihydrate	<i>While NPIRS does not indicate the product is specifically registered against Avian influenza, the Oct 22, 2007 EPA stamped approved label indicates the product is approved for use against avian influenza A (H3N2) virus in/on animal rooms, animal rearing facilities, cages, crates, instruments, and utensils</i>
70144-1	Opticide-3	Micro-Scientific Industries	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Influenza A2 (Hong Kong) on commercial premises

Table 2: Products approved for use against avian influenza virus, an influenza A virus, that may be used under FIFRA Section 2(ee)(2) against influenza A virus

EPA REG. NO.	PRODUCT NAME	MANUFACTURER (SEE MANUFACTURER CONTACT INFO IN FOLLOWING TABLE)	ACTIVE INGREDIENT(S)	PEST AND USE SITES AS LISTED IN NPIRS
70144-2	Opticide-3 Wipes	Micro-Scientific Industries	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride Isopropanol	Avian influenza virus A in/on animal cages, animal equipment, and animal transportation vehicles
70263-6 ⁷	Microban QGC	Microban Systems, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on livestock premises, livestock equipment, animal feeding and watering equipment, animal equipment, and shoe baths
70263-8 ⁸	Microban Professional Strength Multi-Purpose Antibacterial Cleaner	Microban Systems, Inc.	Alkyl dimethyl benzyl ammonium chloride Octyl decyl dimethyl ammonium chloride Didecyl dimethyl ammonium chloride Dioctyl dimethyl ammonium chloride	Avian influenza virus in/on livestock premises, livestock feeding and watering equipment, livestock equipment, livestock transportation vehicles, animal cages, animal living quarters, animal feeding and watering equipment, animal equipment, animal transportation vehicles, shoe baths, automobiles, and transportation vehicles
70627-2	Disinfectant DC 100	JohnsonDiversey, Inc.	Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethylbenzyl ammonium chloride	Avian influenza virus in/on commercial equipment and premises
70627-6	Phenolic Disinfectant HG	JohnsonDiversey, Inc.	o-Phenylphenol 2-Benzyl-4-chlorophenol	Avian influenza virus and avian influenza type A/Michigan virus in/on livestock premises, livestock equipment, animal transportation vehicles, agricultural premises, farm premises, shoe baths, and barns
70627-10	Johnson's Forward Cleaner	JohnsonDiversey, Inc.	Alkyl dimethyl benzyl ammonium chloride	Influenza A2 (Hong Kong) in/on livestock premises, livestock feeding and watering equipment, animal cages, and animal feeding and watering equipment
70627-15	Johnson's Blue Chip Germicidal Cleaner for Hospitals	JohnsonDiversey, Inc.	Alkyl dimethyl benzyl ammonium chloride	Avian influenza virus in/on livestock premises, livestock feeding and watering equipment, animal living quarters, and animal feeding and watering equipment
70627-21	Virex II/128	JohnsonDiversey, Inc.	Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride	Avian influenza virus in/on livestock premises, livestock equipment, animal cages, animal living quarters, and animal equipment
70627-22	Virex II Ready-To-Use	JohnsonDiversey, Inc.	Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride	Avian influenza virus on commercial premises
70627-23	Virex II 64	JohnsonDiversey, Inc.	Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride	Avian influenza virus on commercial premises
70627-24	Virex II/256	JohnsonDiversey, Inc.	Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride	Avian influenza virus in/on livestock premises, livestock equipment, animal cages, and animal equipment
71355-1	Virocide	CID Lines, NV/SA	Alkyl dimethyl benzyl ammonium chloride Didecyl dimethyl ammonium chloride Glutaral	<i>While NPIRS does not indicate the product is specifically registered against Avian influenza, the April 7, 2005 EPA stamped approved label indicates the product is approved for use against Avian influenza (Turkey/Wisconsin/66 strain-H9N2) virus in/on farm, animal housing facilities and equipment, and trucks and other vehicles</i>

⁷ While EPA's list indicates product is approved for use against AIV, the NPIRS indicates this product registration has been transferred to EPA Registration Number 70385-6, Prorestore Products, 4660 Elizabeth Street, Coraopolis, PA 15108.

⁸ While EPA's list indicates product is approved for use against AIV, the NPIRS indicates this product registration has been transferred to EPA Registration Number 70385-8, Prorestore Products, 4660 Elizabeth Street, Coraopolis, PA 15108.

Table 2: Products approved for use against avian influenza virus, an influenza A virus, that may be used under FIFRA Section 2(ee)(2) against influenza A virus

EPA REG. NO.	PRODUCT NAME	MANUFACTURER (SEE MANUFACTURER CONTACT INFO IN FOLLOWING TABLE)	ACTIVE INGREDIENT(S)	PEST AND USE SITES AS LISTED IN NPIRS
71654-6	Virkon S	E.I. du Pont de Nemours & Company	Sodium chloride Potassium peroxymonosulfate	Avian influenza virus in/on animal feeding equipment, livestock barns, livestock equipment, animal quarters, animal feeding and watering equipment, animal equipment, agricultural premises, agricultural equipment, transportation vehicles, and human footwear
71654-7	Virkon	E.I. du Pont de Nemours & Company	Phenol Peroxyacetic acid	Influenza virus A in/on trucks, automobiles, and commercial and industrial premises and equipment
71847-2	Klor-Kleen	Medentech Ltd.	Sodium dichloro-s-triazinetrione	Avian influenza virus in/on animal quarters and animal living quarters
74331-2	DisinFx	SteriFx Inc.	Citric acid Hydrochlorine acid Phosphoric acid	<i>While NPIRS does not indicate the product is specifically registered against Avian influenza, the May 3, 2007 EPA stamped approved label indicates the product is approved for use against Avian influenza A (H3N2) virus in/on transfer trucks, farm premises, and vehicles.</i>
74559-1	Accel TB	Virox Technologies	Hydrogen peroxide	Influenza virus type A (Hong Kong) in/on livestock quarters, livestock feeding and watering equipment, livestock equipment, animal quarters, animal cages, animal feeding and watering equipment, and animal equipment
81073-1	Peridox	Clean Earth Technologies, LLC	Hydrogen peroxide Peroxyacetic acid	Avian influenza virus A in/on livestock quarters, agricultural premises, trucks, and automobiles

MANUFACTURER NAME AND CONTACT INFORMATION

ABC Compounding Co., Inc.
PO Box 16247
Atlanta, GA 30321

Bulin & Company, Inc
PO Box 270
Indianapolis IN 46206

Caltech Industries
Suite C
4520 E. Ashman Road
Midland, MI 48642-8911
800-234-7700

Central Solutions, Inc.
401 Funston Road
Kansas City, KS 66115

CID Lines, NV/SA
Waterpoortstraat
8900 Ieper
Belgium
(32) 057 21 7877

Clean Control Corporation
P.O. Box 7444
Warner Robins, GA 31095
800-841-3904
478-922-5340

Clean Earth Technologies, LLC
13378 Lakefront Drive
Earth City, MO 63045-1513
314-222-4640

Clorox Professional Products Co.
c/o PS&RC
Pleasanton, CA 94566

Conklin Co., Inc.
551 valley Park Drive
Shakopee, MN 55379

E.I. du Pont de Nemours & Company
P.O. Box 80402
Wilmington, DE 19880

Ecolab, Inc.
370 North Wabasha Street
St. Paul, MN 55102

Engelhard Corporation
Division of BASF
25 Middlesex Turnpike
Iselin, NJ 08830
800-631-9505
732-205-5000

MANUFACTURER NAME AND CONTACT INFORMATION

Essential Industries, Inc.
P.O. Box 12
Merton, WI 53056-0012
800-593-1021
262-539-1122

H&S Chemical Division
c/o Lonza, Inc.
90 Boroline Road
Allendale, NJ 07401
800-365-8324
201-316-3200

Hess & Clark Inc.
110 Hopkins Drive
Randolph, WI 53956

Huntington Professional Products
A Service of Ecolab, Inc.
370 North Wabasha Street
St. Paul, MN 55102
800-332-6522

JohnsonDiversey, Inc.
8310 16th Street
Sturtevant, WI 53177
800-851-7145
262-631-4001

Lonza, Inc.
90 Boroline Road
Allendale, NJ 07401
800-365-8324
201-316-3200

Mason Chemical Company
721 W. Algonquin Road
Arlington Heights, IL 60005
800-362-1855
847-290-1621

Medentech Ltd.
Whitemill Industrial Estate
Clonard Road
Wexford, Ireland
353-53-916-0040

Microban Systems, Inc.
1135 Braddock Avenue
Braddock, PA 15104
800-332-6037
412-264-8370

Microgen Inc.
33 Clinton Road, Suite 102
West Caldwell, NJ 07006
800-420-7522
973-575-9025

Micro-Scientific Industries
1225 Carnegie Street, Suite 104B
Rolling Meadows, IL 60008

Preserve International
P.O. Box 10527
Zepher Cove, NV 89448
800-995-1607
209-664-1607

Reckitt Benckiser, Inc.
399 Interpace Parkway
Parsippany, NJ 27054

Spray Nine Corporation
P.O. Box 290
Johnstown, NY 12095
800-477-7299

Stepan Company
22 W. Frontage Road
Northfield, IL 60093
800-745-7837
847-446-7500

Sterifx Inc.
1431 Dalzell Street
Shreveport, LA 71103
318-425-2515

Sterilex Corporation
11409 Cronhill Drive, Suite L
Owings Mill, MD 21117
800-511-1659

Steris Corporation
7501 Page Avenue
St. Louis, MO 63133
800-444-9009
Option 4 or Ext. 25064
314-290-4600

The Clorox Co.
P.O. Box 493
Pleasanton, CA 94566

The Dow Chemical Company
1803 Building
Midland, MI 48674

Virox Technologies
2815 Bristol Circle, Unit 4
Oakville, ON, L6H 6XH
800-387-7579