

Avian Influenza

Personal Protective Equipment (PPE) Guidelines

Avian Influenza Outbreak

The USDA Animal and Plant Health Inspection Service confirmed another highly pathogenic avian influenza (HPAI) case in a wild bird in South Carolina in January 2022. By the start of April, the HPAI reached Midwest flocks. Visit the [USDA website](#) for up-to-date information and [here](#) for updates on confirmed flock infections by the USDA. The [CDC](#) is also keeping updates on viral detection in wild birds, poultry, and humans.

The virus is spread through contact with fecal droppings, saliva and nasal discharges of infected birds. The Centers for Disease Control and Prevention (CDC) has [stated](#) that “risk to the general public’s health from current H5N1 bird flu viruses is low, however some people may have job-related or recreational exposures to birds that put them at higher risk of infection.” Anyone exposed to infected poultry should wear personal protective equipment (PPE). **Anyone anticipating contact with wild birds or infected domestic birds or affected operations should consult the [USDA](#) and [CDC](#) websites. Sick birds or unusual bird deaths should be reported to State/Federal officials either through the state veterinarian or through USDA’s toll-free number at 1-866-536-7593.**

Information provided is intended as general guidelines for exposures.

Respiratory Exposures

Working in affected poultry facilities involves exposures to dust, toxic gases and disinfecting chemicals, in addition to avian influenza virus. It is important to select respiratory protection for all of these exposures.

Avian influenza and particulates (dusts) Appropriate protection for avian influenza and dusts is a NIOSH-approved particulate filtering respirator. Wear a particulate filtering respirator with an N95 or P100 filter or filter cartridge when working in poultry barns and when working with infected poultry and virus-contaminated materials or environments. Disposable 2-strap filtering face piece respirator masks (figure 1), half masks (figure 2) or full facepiece respirators with P100 filters.

Hazardous gases and vapors are commonly found in poultry buildings. **Ammonia** levels may be high during manure and litter removal, building clean-out, and composting of carcasses and litter. Respiratory protection should include ammonia or multi gas cartridges approved for ammonia (shown in figures 3 and 4).

Cleaning and disinfecting compounds contain ingredients that can be harmful to breathe. These may include aldehydes, ammonia compounds, acids, alcohols and other ingredients. Read and follow product label guidelines regarding selection of the appropriate gas cartridges. Particulate filters should be used with these cartridges (shown in figures 3 and 4).

CAUTION: Effective ventilation and use of respirators with multi gas cartridges and P100 filters are recommended when any of these gases and dusts may be present. A particulate filtering respirator with only an N95 or P100 filter or cartridge is effective for dust and viruses, but it does not protect against hazardous gases.

WARNING: Use cleaning and disinfecting products only as directed. Some cleaning or disinfecting compounds may react with ammonia in litter to produce hazardous gases. Mixing cleaning or disinfecting products together can produce toxic gases. Consult the product label or manufacturer for additional information.



Important Respirator Use Information

- Consult a health care provider before wearing a respirator if you have a history of heart or lung disease.
- Respirators reduce exposure to airborne contaminants, but do not completely eliminate the risk of exposure, infection, illness, or death. Use respirators in accordance with manufacturer instructions.
- Information on respirator programs is available at [Small Entity Compliance Guide for the Respiratory Protection Standard](#).
- Improperly fitted respirators do not provide the intended protection. Respirators should be fit tested when possible. A user seal check (fit check) should be performed each time a respirator is worn. Link to [fit check video](#) and link to [written guidance](#).
- Maintain a clean-shaven face to obtain the best fit and protection. A powered air purifying respirator (PAPR) with loose fitting face piece, hood or helmet can be worn by individuals with facial hair.
- See your health care provider for diagnosis and treatment if you experience respiratory symptoms (examples: shortness of breath, wheezing, cough, chest tightness) during or after working with poultry.
- For more information on respirator use in poultry facilities click - [Respiratory Health on Poultry Farms](#).

Availability of Personal Protective Equipment

Many stores and online vendors sell PPE. Prior to purchase, ensure that respirators are NIOSH approved and the correct type of PPE is used for the specific exposure. Further information can be found on the [AgriSafe](#) and the [Ag Health & Safety Alliance](#) webpages. An online search for “PPE Safety Solutions” will list vendors of NIOSH-approved respirators and other PPE.

PPE - Monitoring Bird Health

PPE should be worn when working in poultry facilities and while monitoring for avian influenza.

Gloves: disposable nitrile or neoprene gloves that can be disinfected

Respirators: minimum respiratory protection is a NIOSH-approved N95 disposable particulate respirator

Foot protection: disposable coverings or boots that can be disinfected

Protective clothing: disposable coveralls or coveralls that can be disinfected



N95 FFR respirator

PPE - Depopulation, Removal and Composting

These tasks may involve increased exposure to ammonia, resulting in the need for increased respiratory and eye protection.

Gloves: disposable nitrile or neoprene gloves that can be disinfected

Respirators: half mask or full facepiece respirator with P100 filters and ammonia or multi gas cartridges (see page 1 for information on hazardous gases)

Eye protection: unvented or indirect vent goggles, or full facepiece respirator

Foot protection: disposable coverings or boots that can be disinfected

Protective clothing: disposable coveralls or coveralls that can be disinfected



Full facepiece respirator with cartridges and filters

PPE - Cleaning and Disinfecting

These tasks involve exposure to chemicals. Check product label for recommendations.

Gloves: disposable nitrile or neoprene gloves that can be disinfected

Respirators: half mask or full facepiece respirator with P100 filters and multi gas cartridges are appropriate for many disinfectants, but check the label

Eye protection: unvented or indirect vent goggles, or full facepiece respirator

Foot protection: disposable coverings or boots that can be disinfected

Protective clothing: disposable coveralls or coveralls that can be disinfected



Half mask respirator with cartridges and filters; Indirect vented goggles

ATTENTION

Proper removal of PPE and good personal hygiene reduce the potential of exposure to the avian influenza virus.

<http://www.cdc.gov/flu/avianflu/h5/worker-protection-ppe.htm#1>

Use of full body PPE can increase risk for heat-related illness. Understand the signs, symptoms, and prevention strategies.

<http://www.cdc.gov/niosh/topics/heatstress/>

Instructional Videos

Respirator fit testing instruction:

- <https://www.cdc.gov/niosh/npptl/hospresptoolkit/fittesting.html>
- <https://aghealthandsafety.com/common-respirator-types-used-in-agriculture/>

Choosing a Respirator:

- <https://youtu.be/ObXy5GKpeko>

Caring for your Respirator:

- <https://youtu.be/V3GK4ru96vg>
- <https://youtu.be/yBJoHlUg45I>

Avian Influenza Informational Resources

USDA: www.usda.gov/

CDC: www.cdc.gov/flu/avianflu/index.htm

APHIS: <https://www.aphis.usda.gov/aphis/home/>

NIOSH: www.cdc.gov/niosh/topics/avianflu/

NASD: <http://hasdonline.org/document/197/d000146/respiratory-health-on-the-poultry-farm.html>



AgriSafe Network



Central States Center for
Agricultural Health and Safety



Great Plans Center for
Agricultural Health



Upper Midwest Agricultural Safety
and Health Center