

# Avian Influenza

## Personal Protective Equipment (PPE) Guidelines

### Avian Influenza Outbreak

The USDA Animal and Plant Health Inspection Service (APHIS) reported that between December 2014 and June 2015 the avian influenza (HPAI) H5 outbreak affected over 47 million birds in the US. The virus is spread through contact with fecal droppings, saliva and nasal discharges of infected birds. More information on avian influenza can be found on the [USDA website](#). The Centers for Disease Control and Prevention (CDC) has stated that "Although these viruses are not known to have caused disease in humans, their appearance might increase the likelihood of human infection in the United States." Anyone exposed to infected poultry should wear personal protective equipment (PPE). **Anyone anticipating contact with infected 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 an N95 or P100 respirator 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 (figures 2 and 3) or full face respirators are appropriate (figure 4).

**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 (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 pre-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 pre-filters are recommended when any of these gases may be present. A disposable N95 respirator 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 testing video](#).
- 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 the PPE is approved by NIOSH and is the correct type for the specific exposure. Further information can be found on the AgriSafe Network website [www.agrisafe.org](http://www.agrisafe.org). 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 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 face mask respirator with P100 pre-filters and ammonia or multi gas cartridges (see page 1 for information on hazardous gases)

**Eye protection:** unvented or indirect vent goggles, or full face respirator

**Foot protection:** disposable coverings or boots that can be disinfected

**Protective clothing:** disposable coveralls or coveralls that can be disinfected



Full face respirator with cartridges and pre-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 face respirator with P100 pre-filters and multi gas cartridges are appropriate for many disinfectants, but check the label

**Eye protection:** unvented or indirect vent goggles, or full face 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 pre-filters  
Indirect vent 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:**

[http://solutions.3m.com/wps/portal/3M/en\\_US/3M-PPE-Safety-Solutions/Personal-Protective-Equipment/safety-management/safety-training/respiratory-protection/respirator-fit-testing/](http://solutions.3m.com/wps/portal/3M/en_US/3M-PPE-Safety-Solutions/Personal-Protective-Equipment/safety-management/safety-training/respiratory-protection/respirator-fit-testing/)

**Choosing a Respirator:**

<https://www.youtube.com/watch?v=ObXy5GKpeko>

**Caring for your Respirator:**

<https://www.youtube.com/watch?v=yBjoHlug45I>

## Avian Influenza Informational Resources

**USDA:** [www.usda.gov/](http://www.usda.gov/)

**CDC:** [www.cdc.gov/flu/avianflu/index.htm](http://www.cdc.gov/flu/avianflu/index.htm)

**APHIS:** [www.aphis.usda.gov/wps/portal/aphis/home/](http://www.aphis.usda.gov/wps/portal/aphis/home/)

**NIOSH:** [www.cdc.gov/niosh/topics/avianflu/](http://www.cdc.gov/niosh/topics/avianflu/)

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



AgriSafe Network  
[www.agrisafe.org](http://www.agrisafe.org)



Central States Center for Agricultural Safety and Health  
[www.unmc.edu/publichealth/cscash/](http://www.unmc.edu/publichealth/cscash/)



Great Plains Center for Agricultural Health  
[www.public-health.uiowa.edu/gpcah/](http://www.public-health.uiowa.edu/gpcah/)



Upper Midwest Agricultural Safety and Health Center  
[www.umash.umn.edu/](http://www.umash.umn.edu/)