

In-House Composting

PPE for Avian Influenza

If a print dialog does not automatically appear, you may select [print this lesson](#).

Introduction

[index](#) | [page 1 of 14](#)

[APHIS Directive 6800.1 \(APHISDirective6800_1.pdf\)](#) and the [APHIS Health and Safety Plan \(HASP\) Template](#) for additional guidance.

PPE includes a variety of devices and garments including goggles, face shields, safety glasses, coveralls, gloves, earplugs, respirators, hard hats, safety shoes and rubber boots. The specific type of PPE selected depends on the site specific hazards, and will be identified in the site specific health and safety plan.

This topic covers health risks associated with in-house composting and the PPE required to minimize those risks.



In-house Composting and Health Risks

ppe0010 | [page 2 of 14](#)

The AI virus is found in feces and respiratory secretions of infected poultry, in contaminated soil and dust from poultry houses, and on contaminated farm equipment, feed, cages and clothing.

During in-house composting operations, the virus may be aerosolized and inhaled into the lungs or contact mucus membranes.

Although transmission of the AI virus to humans is rare, it can be fatal. Therefore, the use of adequate personal protective equipment is essential.



Prerequisites for Performing AI-infected Carcass Disposal Duties

ppe0030 | page 3 of 14

Personnel who may participate on the carcass disposal team should be medically cleared, fit-tested, and trained in the use of PPE in order to minimize the risk of contracting the disease.

- Medical clearance involves evaluation by a provider to ensure the employee is physically suited to work in an AI-infected environment.
- Fit testing is the process of assuring the assigned respirator provides an adequate seal to the user's face.
- Training on the proper use of the respirator will occur at the time of fit testing. Training will include

Donning

Putting on protective equipment

, sealing,

Doffing

Removing protective equipment

, and maintenance of the assigned respirator.

APHIS employees should contact their supervisor for the appropriate forms, fit testing, and training.

Other Health Recommendations

ppe0035 | page 4 of 14

Although the seasonal influenza vaccine does not protect against the AI virus, personnel are encouraged to receive the current season's vaccine to prevent the potential genetic reassortment of avian influenza virus with the human seasonal influenza virus. Additionally, personnel working with highly pathogenic avian influenza (HPAI) are highly encouraged to take an influenza antiviral drug daily for the duration of time they have direct contact with poultry, their secretions, or contaminated surfaces. Personnel should continue to take the drug for 7 days after the last day of potential virus exposure.

Workers must monitor their health for the development of fever, respiratory symptoms, and/or conjunctivitis (eye infections) for 1 week after their last exposure to HPAI virus-infected or exposed poultry, or to potentially contaminated environmental surfaces.

Personal Protective Equipment

ppe0038 | page 5 of 14

To reduce the risk of exposure to AI when performing in-house composting operations, it is important that you wear the proper PPE. PPE should include:

- Coveralls
- Respirators
- Boots or shoe covers
- Gloves
- Eye protection
- Head protection

Decontamination trailers may be located at the exit from the contaminated area, or workers may be transported from the carcass disposal site to the decontamination location where they will remove contaminated clothing, shower and don clean clothing prior to leaving the premises.



Personal Protective Equipment: Coveralls

ppe0040 | page 6 of 14

Coveralls must be selected based on the nature of the work to be performed and must either be disposable or suitable for disinfection by spraying with disinfectant solution.

If cleaning and disinfection are tasks that will be involved, the outer garments must be more durable and less permeable. For those activities, TyChem (or equivalent) coveralls and boot covers are effective. For all other activities, Tyvek (or equivalent) coveralls and boot covers can be used.



Personal Protective Equipment: Respirators

ppe0050 | page 7 of 14

Respirator: APHIS carcass disposal team members must use an N-95 or higher protection disposable particulate respirator that has been fit-tested and meets respiratory requirements defined by OSHA in 29 CFR 1910.

The following represent some of the respirators used by APHIS that satisfy both OSHA and the National Institute for Occupational Safety and Health (NIOSH) requirements:

- 3M 8210, N-95
- 3M 8270, N-95
- 3M 8511, N-95
- Moldex 2700, N-95
- Survivair full-face respirators, 4000 series
- MSA Millennium full-faced respirators
- MSA Advantage 3000 full-faced respirators



Personal Protective Equipment: Foot Protection

Foot protection should include:

- Disposable shoe covers, or
- Polyurethane boots that can be disinfected or discarded



For HPAI-infected operations, secure coverall legs over the boots with duct (or similar) tape.



Personal Protective Equipment: Head, Eye, and Hand Protection

ppe0070 | page 9 of 14

Hand protection: Gloves capable of being disinfected or disposed.

- Nitrile disposable gloves can be used to avoid the issue of latex allergy. Nitrile provides protection against a wide variety of solvents, harsh chemicals, fats and petroleum products and also provides excellent resistance to cuts, snags, punctures and abrasions.
- Cotton inner gloves may be used to absorb perspiration
- Gloves must be changed if

Damaged Gloves

Hands must be washed each time gloves are removed or changed.

Eye protection: Non-vented eye goggles, or at a minimum, indirectly vented with anti-fog coating.

Head protection:

- Hard hat (when working with or around heavy equipment)
- Disposable head cover such as a hair bonnet

Note: Chem-tape or equivalent may be used to secure sleeves over gloves and coverall legs inside of rubber boots.



Disposal and Disinfection of Equipment

ppe0080 | page 10 of 14

Following exposure to AI it is important that you properly dispose or clean and disinfect PPE. This includes:

- Removing and placing all disposable equipment in designated disposal containers. Disposable PPE should be removed without touching contaminated outer surfaces. Remove gloves last. Pull them inside out and dispose in proper containers.
- Cleaning and disinfecting reusable equipment PPE with authorized cleaning and disinfecting agents. Return reusable PPE to storage where approved cleaning and disinfecting agents can be obtained.
 - Cleaning is the physical removal of organic material (i.e., manure, blood, feed, and carcasses). It is important to remove these organic materials before the disinfection process begins because disease agents are often protected in these materials, enabling the disease to survive the disinfection process.
 - Disinfection is the killing of disease agents by direct exposure to chemical or physical agents.



If decontamination trailers are used, containers will be provided for contaminated reusable clothing as well as for contaminated disposable items.



Personal Hygiene

ppe0090 | page 11 of 14

Personal hygiene procedures must be followed to ensure the AI virus is not contracted by workers and it is not transported from the infected site.❖❖

- No clothing worn in the poultry house can be worn home.
 - Shoes do not have to be discarded if they are inside boots that are disinfected or covered by disposable shoe covers that remain intact.
- Avoid facial contact. Don't touch mucous membranes with gloves or before disinfecting hands.
- Leave gloves on while removing other protective clothing. Remove gloves last by turning them inside out and wash hands immediately.
- Immediately enter the decon trailer.❖
- Remove shoes and clothing and leave on dirty side of❖decon trailer.❖
- Shower with warm water and soap - including hair.❖❖
- Put on clean clothes and❖shoes.❖❖



All APHIS employees participating in the composting operation must shower at the end of the work shift.



Knowledge Review

ppe0100 | page 12 of 14

The following Knowledge Review is a multiple choice question. Only one answer is correct; select the best answer and feedback will immediately appear.

Which of the following is **not** an example of a good selection of Personal Protective Equipment for use in an avian influenza outbreak?

- B. Goggles
- A. Tennis shoes
- C. Respirators
- D. Coveralls

Knowledge Review

ppe0110 | [page 13 of 14](#)

The following Knowledge Review allows for multiple correct answers. Select all of the answers that are correct, then select the **Check Answer** button and feedback will appear.

Which of the following are health and safety prerequisites for working with AI-infected materials.

Medically cleared

CPR certified

Fit tested to ensure the respirator provides a good seal

Trained in the use of PPE

Knowledge Review

ppe0120 | [page 14 of 14](#)

The following Knowledge Review is a multiple choice question. Only one answer is correct; select the best answer and feedback will immediately appear.

Which of the following is a potential human health risk when working with AI-infected carcasses?

The virus may be transported on clothing to other poultry farms

The virus may be contracted by direct skin contact with an infected bird or farm equipment

The virus may become aerosolized and inhaled by workers

