

Highly Pathogenic Avian Influenza:

Recommendations for Personal Protective Equipment for Workers and Employers Working with or Around Poultry, Wild Birds, and Other Susceptible Species, including Livestock

Ministry of Health

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Table of Contents

Disclaimer	3
Section 1: Introduction	4
Purpose and Background	4
Applicability and Disclaimer	5
Definitions	6
Low-Risk Activities Requiring Routine Practices	6
Moderate-Risk Activities Requiring Additional Precautions	8
High-Risk Activities Requiring Additional Precautions	10
Recommended Equipment, Measures, and Procedures	12
Training.....	12
Policies and Procedures	13
Section 2: Personal Protective Clothing and Equipment	14
Low-Risk Activities (Routine Practices)	14
Moderate-Risk Activities (Additional Precautions)	16
High-Risk Activities (Additional Precautions)	17
Section 3: Personal Protective Equipment Descriptors	19
Hygiene Precautions.....	19
Hand Protection	20
Respiratory Protection	20
Eye Protection	21
Protective Clothing.....	22
Foot Protection	22
Fall Protection.....	22
List of Acronyms	23
Glossary of Terms	24
References	29

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Section 1: Introduction

Purpose and Background

This document has been created to provide an overview of the personal protective equipment (PPE) recommended for Ontario workers who work with or around poultry, wild birds, or other susceptible species, including livestock, and are at various degrees of risk of exposure to highly pathogenic avian influenza (HPAI). With or without HPAI, workers involved in handling animals are at risk of exposure to various potential health hazards (e.g., dust, bacteria, viruses), for which routine precautions should be taken. Notwithstanding such routine hazards, this document focuses on the reduction of risk of worker exposure to HPAI viruses that have the potential to cause significant disease in humans.

Employers under provincial jurisdiction have a duty to comply with the [Occupational Health and Safety Act](#), and under section 25(2)(h), shall take every precaution reasonable in the circumstances for the protection of a worker.¹ This includes developing policies and procedures and providing appropriate PPE and information, instruction and supervision to a worker, to protect them from the hazards of avian influenza.

Avian influenza infection in humans can potentially occur as a result of exposure to any infected animal or to an environment in which infected poultry, wild birds, livestock species or other animals are/or have been present. Direct contamination of the mucous membranes (e.g., conjunctiva [eyes], inside of nose and mouth) or inhalation of infectious particles and contact and/or consumption of contaminated foods of animal origin are possible modes or means of transmission.

To date, there has been limited transmission of HPAI to humans. Most human infections with the HPAI virus have been linked to direct interaction with infected live birds, and/or poultry depopulation activities. These practices represent the highest risk of human infection and the number of individuals performing these activities should be limited, whenever possible.

It is important to note that some wild and domestic mammalian species (e.g., cats, cattle, foxes, racoons) have been infected with HPAI (specifically A[H5N1]). While most of these mammalian cases have occurred from eating the carcasses, consuming raw milk from infected animals, or ingesting the feces of infected birds, little is known about the transmissibility of influenza from animals to humans, or the risk of human-to-human spread from those who have been infected.

The risk to human health from exposures to infected poultry, wild birds, livestock, or other animals, or to environments contaminated by infected animals with an avian influenza virus, is considered low. As of May 2024, no sustained human-to-human transmission has been reported.

To reduce the risk of HPAI virus infection, people should take additional precautions as outlined in this document when handling sick or dead poultry, wild birds, livestock or other animals, carcasses, feces, poultry litter, unpasteurized milk, or materials contaminated by birds, livestock or other animals suspected of being infected with HPAI virus. People should not prepare or consume raw or undercooked meat, or unpasteurized (raw) milk or raw milk products made with milk from infected animals.

Applicability and Disclaimer

Recommendations in this document may be applied to individuals working with or around poultry, wild birds, or livestock species in Ontario, including the handling of live or dead animals, carcasses, feces, poultry litter, milk, or materials contaminated by animals (such as feathers, bedding, surfaces or equipment), where HPAI is suspected, or in association with [HPAI disease control zones](#) in Ontario, as [defined by the Canadian Food Inspection Agency](#) (CFIA).^{2,3}

While this document covers personal protective equipment recommendations, there are a number of measures that workplaces need to consider to control risks to human health including: training, policies and procedures, cleaning/disinfection, maintenance processes, or passive/active screening during circumstances of heightened awareness (i.e., the presence of local cases).

Definitions

The appropriate hygiene practices and personal protective equipment for low-, moderate- and high-risk activities are set out in [Section 2](#). For the purposes of this document, risk activities are defined as follows:

Low-Risk Activities Requiring Routine Practices

Species	Avian	Livestock
Definition	Birds are healthy, not showing clinical signs associated with HPAI infection AND have unknown HPAI status.	Birds are healthy, not showing clinical signs associated with HPAI infection AND have known negative HPAI status.
		Livestock are healthy, not showing clinical signs associated with HPAI infection AND have unknown HPAI status AND no known exposure to animals or birds with HPAI.

Species	Avian		Livestock	
Activities	<p>Working around or involving the handling of poultry within the CFIA HPAI “Control Area”, but beyond the CFIA “Restricted Zone” (i.e., greater than 10 km from a location of known HPAI infected poultry) or their manure, carcasses (resulting for reasons other than infection with HPAI), or fomites contaminated by poultry or wild birds (e.g., surfaces, equipment).</p>	<p>Working around or involving the handling of poultry or working in close contact with poultry within a CFIA HPAI “Infected Zone” or “Restricted Zone” (i.e., less than 10 km from known HPAI infected poultry), but have been tested and declared negative for HPAI by the CFIA (i.e., have a known HPAI test-negative status), and remain free of clinical signs indicative of HPAI, or their excretions (feces), carcasses (resulting for reasons other than infection with HPAI), or materials contaminated by poultry or wild birds (e.g., surfaces, equipment).</p>	<p>Working around livestock or their secretions (milk), excretions (manure), carcasses (e.g., abattoir, deadstock), or materials contaminated by livestock (e.g., surfaces, equipment).</p>	<p>Working in close contact with livestock or their secretions (milk), excretions (manure), carcasses (e.g., abattoir, deadstock), or materials contaminated by livestock species (e.g., surfaces, equipment).</p>

Species	Avian		Livestock	
Examples	Handling animals, handling feathers, handling bedding.	Handling animals, handling feathers, handling bedding, carcass handling.	Delivering feed, bedding pens.	Handling animals, milking animals, handling unpasteurized milk, grooming animals, scraping organic material from stalls, washing pens, administering medications, assisted breeding, assisting with parturition, carcass handling/movement, veterinary procedures.

Moderate-Risk Activities Requiring Additional Precautions

Species	Avian		Livestock
Definition	Live or dead birds, showing clinical signs associated with HPAI infection AND where the HPAI infection status of the birds is unknown.	Live or dead birds, strongly suspected of having an epidemiological or ecological link with birds known to be infected with HPAI.	Live or dead livestock that have clinical illness indicative of HPAI, with or without pending test results OR live or dead livestock strongly suspected of having an epidemiological or ecological link with wild or domestic birds or animals known to be infected with HPAI.

Species	Avian		Livestock	
Activities	Working around or handling, live or dead poultry that lie within a CFIA Restricted Zone (i.e., between 3 km and 10 km of known HPAI infected birds or premises), or their excretions (feces), carcasses (e.g., abattoir), or materials contaminated by poultry.	Working around, or handling, live or dead poultry, regardless of their location, within or beyond CFIA control zones, or before, during or after CFIA control zones are declared by the CFIA, or their excretions (feces), carcasses (e.g., abattoir), or materials contaminated by poultry.	Working around livestock (live or dead) or their secretions (milk), excretions (manure), carcasses (e.g., abattoirs, deadstock), or materials contaminated by livestock species (e.g., surfaces, equipment).	Working in close contact with livestock (live or dead) or their secretions (milk), excretions (manure, feces), carcasses (e.g., abattoirs, deadstock) or materials contaminated by livestock species (e.g., surfaces, equipment).
Examples	Handling feathers, handling bedding, cleaning and disinfection of contaminated surfaces or equipment.	Handling feathers, handling bedding, cleaning and disinfection of contaminated surfaces or equipment.	Delivering feed, bedding pens.	Handling animals, milking animals, handling unpasteurized milk, grooming animals, scraping organic material from stalls, washing pens, administering medications, assisted breeding, assisting with parturition, carcass handling/movement, veterinary procedures.

High-Risk Activities Requiring Additional Precautions

Note: A veterinarian should be consulted to determine when appropriate hygiene practices and PPE equipment can be adjusted to follow moderate-risk precautions.

Species	Avian				Livestock
Definition	Live or dead birds with known HPAI infection	Live or dead poultry with known HPAI and the premise has not yet been declared cleaned and disinfected by the CFIA.	Live or dead poultry with unknown HPAI infection status but considered by the CFIA to be high-risk direct contacts of known positive HPAI poultry.	Live or dead poultry with unknown HPAI infection status and that lie within a CFIA Infected Zone (i.e., within 3km of known HPAI infected birds or premises) and have not yet been tested by the CFIA.	Live or dead livestock with known HPAI infection (with or without clinical signs),

Species	Avian	Livestock
Activities	Working around, or handling of, live or dead birds their excretions (feces), carcasses, or materials contaminated by poultry.	Working in close contact with livestock (live or dead) or their secretions (milk), excretions (manure, feces), carcasses (e.g., abattoirs, deadstock) or materials contaminated by livestock species (e.g., surfaces, equipment).
Examples	Handling feathers, handling bedding, cleaning and disinfection of contaminated surfaces and equipment in workplaces.	Handling animals, milking animals, handling unpasteurized milk, grooming animals, scraping organic material from stalls, washing pens, administering medications, assisted breeding, assisting with parturition, carcass handling/movement, veterinary procedures.

Recommended Equipment, Measures, and Procedures

The information compiled in [Section 2](#) represents currently available best practices as recommended by these organizations, current infection prevention and control practices, and current industrial hygiene practices. In situations where one or more organizations have recommended different equipment, measures, or procedures, the most protective equipment, measures, or procedures have been adopted. Recommendations contained in this document do not preclude the need to consult on a case-by-case basis with a person having appropriate knowledge, training, and experience on the selection of personal protective equipment and on the development and implementation of safe work practices and procedures.

Training

Employers should ensure that workers receive appropriate training in safe work practices and procedures used in the handling, disposal, or cleaning and disinfection of apparently healthy, ill, or dead birds, feces, feathers, bedding, feed, and contaminated surfaces, equipment, and vehicles. This includes the hazards associated with the use of cleaning and disinfecting agents, and inert gases or carbon dioxide (CO₂) that may be used to cull infected or potentially infected flocks.

Workers who wear PPE should be trained in the selection, care, use, cleaning and disinfection and storage or disposal of the PPE and in its limitations. Reusable PPE should be stored to prevent contamination and can be easily differentiated from dirty or contaminated PPE. The training should include PPE donning and doffing and personal hygiene practices (e.g., hand hygiene) following such procedures. This training should be done upon hire, or prior to wearing or using PPE for the first time and at regular intervals, and as needed during an outbreak to ensure workers are confident and comfortable with PPE use.[4,5,6,7,8,9](#)

Training in the selection, care, and use of respirators should form part of a respiratory protection program. *CAN/CSA Z94.4-18 (R2023): Selection, Use and Care of Respirators* sets out the recommendations for a respiratory protection program, including fit testing.[10](#)

Some PPE is designed to be worn by a wide range of individuals (e.g., goggles, respirators, face shields) but may still cause discomfort in some people. Respirators can add breathing resistance, interfere with communication and, in the case of full facepiece respirators, may fog up and interfere with vision. Goggles are also subject to fogging, and although anti-fogging coatings and lenses are available, they may be variably effective, especially in warm, humid weather. Since some personal protective equipment is impervious to human perspiration, it may increase the risk of heat-related illness.

Workers should be offered strategies to reduce discomfort associated with PPE and trained in the recognition and prevention of heat-related illness, and in appropriate first aid measures. A heat stress control program should be prepared to support the prevention of heat-related illness.^{7,11}

Policies and Procedures

The employer, in consultation with the worker health and safety representative or the Joint Health and Safety Committee, if any, should develop and implement health and safety policies and procedures to support the selection, care, and use of personal protective clothing and equipment.¹² These include:

- Respiratory Protection Program;
- Adverse Weather Plan;
- Biological and Chemical Safety Training Program;
- Workplace Hazardous Materials Information System (WHMIS);
- Policies and Procedures for the Selection, Care and Use of PPE; and
- Safe Work Practices and Procedures for Low-, Moderate-, and High-Risk Work.

Advice for employers on developing training programs including implementing a respiratory protection program may be obtained from the [Canadian Agricultural Safety Association](#), experienced private sector consultants, and some respirator equipment manufacturers and suppliers.

Section 2: Personal Protective Clothing and Equipment

Low-Risk Activities (Routine Practices)

Personal Protective Clothing and Equipment	
Hygiene Precautions	<p>Hand washing is recommended. Use soap and water, lathering for at least 15 seconds, then rinsing, or use of alcohol-based hand sanitizers if hands are not visibly soiled.</p> <p>Alternatively, if hands are soiled and running water is not available, a moist towelette can be used to remove visible soil, followed by application of an alcohol-based hand rub (70%-90% alcohol).</p> <p>No eating, drinking, smoking, or storing items (e.g., food, drinks, cosmetics) where there is risk of contamination.</p> <p>Clean then disinfect equipment and work surfaces before leaving the workplace where appropriate.</p> <p>Touching or washing (If needed) face only after hand hygiene has been performed</p>
Hand Protection	Routine industry precautions

Personal Protective Clothing and Equipment

Respiratory Protection	<p>Respiratory protection is not normally recommended unless there is a risk of generating significant aerosols or airborne particulate.</p> <p>NIOSH-approved fit- tested and seal- checked disposable N95 particulate respirators (or equivalent) for operations that generate dusts or aerosols.</p> <p>Higher levels of protection may be needed to address other inhalation hazards in the workplace: Although the minimum recommendation is a NIOSH-approved particulate respirator (or equivalent) for operations that generate dusts or aerosols, a powered air-purifying respirator (PAPR) may be the preferred level of protection under various conditions.</p>
Eye Protection	<p>Safety glasses and/or face shield may be recommended while handling birds.</p> <p>(See Section 3 Eye Protection for further details).</p>
Protective Clothing	<p>Separate work clothes are recommended.</p> <p>Impervious aprons may be recommended for some activities.</p> <p>(See Section 3 Protective Clothing for further details).</p>
Foot Protection	<p>Separate footwear is recommended.</p> <p>Boot covers or rubber boots may be recommended for some activities.</p> <p>(See Section 3 Foot Protection for further details).</p>
Fall Protection	<p>If a worker is exposed to a fall from height (e.g., working on ladders or elevated work platforms), reasonable precautions must be taken to protect the worker from the hazard of falling. (See Section 3 Fall Protection for further details).</p>

Moderate-Risk Activities (Additional Precautions)

Personal Protective Clothing and Equipment	
Hygiene Precautions	As per Low-Risk Activities.
Hand Protection	Disposable latex or nitrile gloves or reusable heavy duty rubber gloves that can be cleaned and then disinfected (See Section 3 Hand Protection for further details).
Respiratory Protection	NIOSH-approved disposable N95 particulate respirators (or equivalent) for operations that generate dusts or aerosols. As per Low-Risk Activities concerning PAPR and culling procedures using CO ₂ or inert gas.
Eye Protection	Properly fitted goggles are recommended to prevent contact between conjunctiva and potentially infectious airborne particulate.
Protective Clothing	Impervious coveralls with head coverings and preferably covered zippers and impervious aprons as needed.
Foot Protection	Boot covers or rubber boots that can be cleaned and then disinfected.
Fall Protection	As per Low-Risk Activities.

High-Risk Activities (Additional Precautions)

	Personal Protective Clothing and Equipment
Hygiene Precautions	<p>As per Moderate-Risk Activities.</p> <p>In addition:</p> <p>Clean then disinfect equipment, vehicles, work surfaces, clothing before leaving workplace.</p>
Hand Protection	<p>As per Moderate-Risk Activities.</p> <p>(See Section 3 Hand Protection below for further details).</p>
Respiratory Protection	<p>NIOSH-approved disposable N95 particulate respirators (or equivalent) for all high-risk activities.</p> <p>As per Moderate-Risk Activities concerning PAPR and culling procedures using CO₂ or inert gas.</p>
Eye Protection	<p>As per Moderate-Risk Activities.</p> <p>In addition:</p> <p>A full-face piece PAPR, if used, would provide eye protection and eliminate the need for goggles.</p>

	Personal Protective Clothing and Equipment
Protective Clothing	<p>As per Moderate-Risk Activities.</p> <p>In addition:</p> <p>Covered zippers and taping of wrist cuffs are recommended when working with poultry and swine.</p>
Foot Protection	<p>As per Moderate-Risk Activities</p> <p>In addition:</p> <p>Taping of ankle cuffs is recommended when working with poultry and swine.</p> <p>Taping of boot covers is recommended to eliminate tripping hazard.</p>
Fall Protection	<p>As per Moderate-Risk Activities.</p>

Section 3: Personal Protective Equipment

Descriptors

Hygiene Precautions

- Lather all surfaces of the hands vigorously with soap and warm running water for at least 15 seconds. If hands are not visibly soiled, clean with an alcohol-based hand rub (70%-90% alcohol). Apply one to two pumps of the sanitizer and follow manufacturer's recommendation for use. Both methods are effective against influenza viruses. Alternatively, if hands are visibly dirty and running water is not available, moist towelettes can be used to remove visible soil prior to applying the alcohol-based hand sanitizer.[5.13](#)
- Hand hygiene should always be done before putting on and after removal of PPE and prior to eating, drinking, or smoking. Depending on the activity risk level, hand hygiene may also be indicated during the removal of PPE, such as immediately prior to the removal of facial PPE and again after PPE removal is complete.[6](#)
- If face washing is needed due to a dusty workplace, wash/sanitize hands after removal of respirator and wash the face while avoiding contact with oral and eye mucous membranes, to prevent inhalation or ingestion of contaminated material. Sinks should be located away from contaminated areas or areas of risk.
- Cleaning with common cleaning agents such as detergents removes viruses found on contaminated surfaces. Disinfection inactivates disease-producing microorganisms and can be achieved by using a disinfectant with stated efficacy against avian influenza according to manufacturer directions for concentration and contact time. Surfaces that need to be disinfected should be cleaned with detergent and water prior to use of disinfectants.
- All contaminated equipment and surfaces should be cleaned and then disinfected as appropriate before leaving low- or moderate-risk workplaces.[5.6](#)
- All equipment, surfaces, vehicles, and clothing should be cleaned and then disinfected before leaving high-risk workplaces (including equipment worn by workers that can be cleaned and disinfected such as boots).
- Clothing and shoes used while carrying out moderate- and high-risk activities that cannot be cleaned and disinfected at the workplace should be sealed in plastic bags until they can be cleaned and disinfected or disposed of in accordance with local regulations.

- Re-usable personal protective equipment should be used in one location only. If this is not feasible, it should be cleaned, disinfected, and dried before being moved off-site.

Hand Protection

- The use of gloves does not replace the need for hand hygiene. Perform hand hygiene before donning and after doffing gloves.[6.14](#)
- Disposable latex or nitrile gloves, or heavy-duty rubber gloves that can be cleaned and then disinfected, should be worn when working in moderate- to high-risk activities, or as part of routine industry precautions for low-risk activities.
- Nitrile gloves have lower failure rates and provide better protection than vinyl gloves. Hand sanitizer should not be applied to the surface of disposable gloves.
- Disposable gloves should be removed, without touching the outer surfaces, and discarded before touching uncontaminated surfaces.
- Reusable gloves should be cleaned and then disinfected and stored in sealed containers before touching uncontaminated surfaces.
- Gloves should be inspected before and during use and discarded immediately if they are torn or visibly deteriorated. Gloves should be taped to coveralls when working in high-risk workplaces.
- Workers should be familiar with the process of safely removing gloves when tape is used and avoid touching the face while gloves are worn. Nitrile or heavy-duty gloves may not be adequate to prevent all injuries to the skin from handling animals.

Respiratory Protection

- Workers who wear respirators should be trained in the selection, care, and use of the respirator assigned to them. They should be fit-tested, and a respiratory protection program should be developed and implemented in the workplace. *CAN/CSA-Z94.4-18 (R2023): Selection, Use and Care of Respirators* sets out the recommendations for a respiratory protection program.[10](#)
- Respiratory protection should not normally be recommended in low-risk workplaces unless there is a risk of generating airborne particulates.
- Work practices should be designed to minimize the risk of generating aerosols or significant concentrations of airborne dust. A disposable NIOSH-approved N95 respirator (or equivalent) is the minimum protection recommended for activities that may generate dusts or aerosols such as washing down surfaces or removing soiled bedding or feed. Higher levels of

protection may be needed (e.g., supplied-air respirator), because of the presence of other hazards in the workplace, such as carbon dioxide or inert gases that may be used in culling operations.

- Decisions concerning personal protective clothing and equipment should be made in consultation with a person having appropriate knowledge, training, and experience, considering the risk that the work activities may produce high airborne dust concentrations or require the use of carbon dioxide or inert gases.
- A NIOSH-approved fit-tested and seal-checked disposable N95 particulate respirator (or equivalent) is recommended if there is a risk of generating aerosols or airborne particulate, regardless of the risk category. Alternatively, for greater protection in dusty environments, a hood- or helmet-style powered air-purifying respirator (PAPR) equipped with high-efficiency particulate filters or a full facepiece powered or non-powered air-purifying respirator can be used. Powered air-purifying respirators are generally better tolerated than non-powered respirators, especially during work in hot environments. This is partly because of lower breathing resistance and partly because of the cooling effect of the air blown across the face. Workers who require corrective lenses (i.e., eyeglasses) may have to be provided with facepieces equipped with spectacle hangers or equivalent devices.[5.6.9](#)
- Workers who wear tight-fitting respirators should be clean-shaven where the facepiece seals to the skin. Those who are unable to shave for religious or medical reasons, or who cannot achieve a proper seal between the respirator and the skin of the face because of scarring or other facial irregularities, must be accommodated using a hood or helmet style PAPR, if they are to continue working in exposure setting requiring the use of a respirator.
- If culling is performed using carbon dioxide or an inert gas, oxygen may be displaced, and workers may require the use of a supplied-air respirator or self-contained breathing apparatus. Employers and workers should obtain advice on the selection and use of respiratory protection from a person having appropriate knowledge, training, and experience, and have other measures in place to monitor air quality/contamination, as well as emergency procedures for acute incidents.

Eye Protection

- Safety glasses or a face shield provide protection against physical injury and restrict contact between potentially contaminated gloves and the eyes. They do not provide adequate protection in moderate- or high-risk operations where viruses may come in contact with the conjunctiva of the eyes.

- Properly-fitted non-vented goggles or a full facepiece respirator should provide adequate eye protection against airborne viral material. Directly vented goggles should not be used in high-risk workplaces. Goggles and respirator facepieces may fog up and interfere with the worker's vision. Anti-fogging lenses or coatings are available, but they may be variably effective.^{5.7.9}

Protective Clothing

- Impervious aprons are recommended for work at any time in which workers' clothes are likely to become significantly wet (e.g., cleaning and disinfecting equipment, working directly with wet birds or livestock).^{7.9}
- Disposable protective clothing may not be needed for other low-risk activities (e.g., banding apparently healthy wild birds, bird rehabilitation, or routine veterinary care), but work clothing should be washed at the end of the workday and should be changed and washed as soon as possible if it becomes heavily soiled.
- The minimum recommendation for protective clothing for moderate-risk activities is an impervious disposable coverall with a hood. Impervious disposable coveralls with covered zippers and a hood are recommended for use during high-risk activities. Gloves and boot covers should be taped to the coverall for carrying out high-risk activities with poultry and swine. Impervious aprons may be recommended, in addition to coveralls, for activities such as cleaning and disinfection of equipment and surfaces, or post-mortem examination of infected birds or livestock.

Foot Protection

- When boot covers are worn, consideration should be given to taping them to the coverall to reduce the tripping hazard.

Fall Protection

- Cleaning and disinfecting all surfaces in a workplace following a cull may involve work at heights. The employer should consult the [Occupational Health and Safety Act](#) and [Industrial Establishments regulations](#), and any applicable regulations to ensure that they are meeting the minimum requirements regarding fall protection and that workers are protected from the hazard of falling when working at height.^{1.15} Workers must also be able to wash and disinfect any fall protection equipment as per the manufacturer's instructions.

List of Acronyms

CDC	US Centers for Disease Control and Prevention
CFIA	Canadian Food Inspection Agency
CO ₂	Carbon Dioxide
CSA	Canadian Standards Association
FSA	Farm Safety Association
HC	Health Canada
H5N1	An avian influenza virus, type “A” with a subtype of H5N1
HPAI	Highly Pathogenic Avian Influenza
LPAI	Low Pathogenic Avian Influenza
OSHA	US Occupational Safety and Health Administration
N95	Not resistant to oil, 95% filter efficiency
NIOSH	US National Institute for Occupational Safety and Health
PAPR	Powered air-purifying respirator
PHAC	Public Health Agency of Canada
USDA	US Department of Agriculture

Glossary of Terms

Additional Precautions are Precautions (i.e., Contact Precautions, Droplet Precautions and Airborne Precautions) that are necessary in addition to Routine Practices for certain pathogens or clinical presentations. These precautions are based on the method of transmission (e.g., contact, droplet, airborne).

Aerosols are fine solid or liquid particles suspended in a gas (such as the air).

Air-Purifying Respirators are respirators that force contaminated air through a filtering element to remove contaminants. These respirators include: negative-pressure respirators which use mechanical filters and chemical media; and positive-pressure units such as powered air-purifying respirators (PAPRs).

Air-Supplied Respirators are respirators that provide the wearer with an alternate supply of fresh air.

Alcohol-Based Hand Sanitizers are liquids, foams or gels that can be used as an alternative to washing hands with soap and water. when hands are not visibly soiled.

Avian Influenza (AI) is a contagious viral infection caused by the influenza virus Type "A", which can affect several species of food producing birds (chickens, turkeys, quails, guinea fowl, etc.), as well as pet birds, wild birds, domestic mammals and wild mammals.

AI viruses can be classified into two categories: low pathogenic (LPAI) and highly pathogenic (HPAI) forms based on the severity of the illness caused in birds, with HPAI causing the greatest number of deaths in birds. Most AI viruses are low pathogenic and typically cause little or no clinical signs in infected birds. However, some low pathogenic viruses are capable of mutating into highly pathogenic viruses. There are many influenza subtypes, two of which include H5 and H7.

Historically, only the H5 and H7 subtypes are known to have become highly pathogenic in avian species.

The disease occurs worldwide. While all birds are thought to be susceptible to infection with avian influenza viruses, many wild bird species carry these viruses with no apparent signs of illness.

Some strains of avian influenza viruses can infect people, although transmission from birds to humans is relatively rare. Of the hundreds of strains of avian influenza A viruses, few are known to have caused human infections.

Biological and Chemical Safety Training Program is designed to ensure that workers receive enough information about biological or chemical substances that exist in their workplace to enable them to handle them safely. Worker access to toxic substances must be controlled and all toxic substances in the workplace must be clearly identified.

CFIA Control Area is a geographic area, that is legally declared by the Federal Minister of Agriculture under the [*Federal Health of Animals Act*¹⁶](#), to be subject to specific controls that are designed to contain and/or eradicate outbreaks of serious animal diseases, such as HPAI. The control area includes Infected Zone(s), Restricted Zone(s) and often an area beyond Restricted Zone(s). It may include large portions of the province to facilitate movement controls while maintaining industry integrity, and to allow additions and changes to the boundaries of Infected, Restricted or Surveillance Zones.

CFIA Infected Zone is a geographic area, within a Control Area, that contains the premises where infected birds were found. The perimeter of the infected zone can extend a minimum of 3 km beyond all known infected premises and follows, when possible, natural barriers and roadways to facilitate implementation of disease control procedures. There may be more than one infected zone in a Control Area.

CFIA Restricted Zone is a geographic area, within a Control Area, that is between 3 km and 10 km of known infected birds or premises, with boundaries that, when possible, follow natural barriers and roadways to facilitate implementation of disease control procedures.

Cleaning The physical removal of organic matter or debris from objects, usually done using water, detergent, and friction. This process removes micro-organisms primarily by mechanical action but does not destroy those remaining on the object.

Clinical Illness is where an individual animal displays all or some of the symptoms normally attributable to the disease.

Conjunctiva is a mucous membrane of the eye that covers the white part of the eye and lines the inside of the eyelids. Infectious diseases can be transmitted through the conjunctiva. Dirt or infectious agents are introduced to the eye either directly (e.g., aerosols from a dusty environment) or from touching the eyes with contaminated hands or other contaminated objects such as gloves.

Culling of animals is one of the control measures used to eradicate and prevent further spread of serious animal diseases, such as HPAI. For HPAI, it involves the destruction of poultry flocks that meet the CFIA case-definition for disease control purposes. It may also involve pre-emptive culling of birds declared to be high-risk by the CFIA.

Disinfection is a process that kills or destroys most disease-producing microorganisms, with the exception of bacterial spores.

Ecological link in this document refers to environmental links between groups of infected animals.

Epidemiological link in this document refers to animals that have confirmed contact with other animals infected with HPAI.

Face shields provide general protection to the wearer's face and front of the neck from aerosols. Face shields do not enclose the eyes and where necessary should be worn in conjunction with safety glasses or goggles.

Fit-testing ensures that the respirator wearers are using is properly fitted to their faces. Fit testing improves the effectiveness of respirators by evaluating the fit of a specific make, model and size of respirator on an individual.

Fomites: any inanimate object that, when contaminated with or exposed to infectious agents (such as pathogenic bacteria, viruses or fungi), can transfer disease to a new host.

Goggles are used to provide protection for the eyes against splashes, sprays, and aerosols. Goggles do not provide splash or spray protection to other parts of the face. Goggles must fit tightly against the face of the wearer and enclose the wearer's eyes. Prescription glasses are not a substitute for goggles. Goggles should be indirectly ventilated.

H5N1 is a subtype within a group of type "A" influenza viruses, some of which cause Low Pathogenic Avian Influenza (LPAI) disease in birds, some of which cause Highly Pathogenic Avian Influenza (HPAI) in birds. The severity of disease caused in birds does not necessarily co-relate to the severity of disease in mammals and humans. The avian strain of HPAI H5N1 influenza virus is of particular concern because it has caused high mortality in wild and farmed birds, and in some, but not all species of mammals. In humans, the avian strain of H5N1 has caused the greatest number of cases of severe disease and the greatest number of deaths of all avian strains known to have caused human infection. It is highly contagious among birds. To date, transmission from birds to people has been relatively rare and has been mostly limited to people who had direct contact with infected birds.

Hand Hygiene A process to remove or destroy microorganisms on the hands. Can be done with soap and running water or an alcohol-based hand sanitizer, provided hands are not visibly soiled.

Highly Pathogenic Avian Influenza (HPAI) see Avian Influenza above.

Hot Weather Plan is designed to prevent heat related illness in the workplace. Plans should be prepared by employers whose employees are working in hot and/or humid work environments. Plans involve modifying the work or work environment to lessen the heat-related stress that their workers experience. Some examples of measures that an employer could use as part of a hot weather plan include more frequent breaks, providing air-conditioned rest areas, cooler personal protective equipment.

Impervious Aprons or **Impervious Coveralls** prevent fluids or organic matter from reaching the wearer's clothing. The type of impervious clothing used will vary depending on the protection needed.

Industrial Hygiene Practices are practices which control chemical, physical, or biological hazards in the workplace that could cause disease or discomfort.

Inert gases are gases that are not reactive under normal circumstances. Inert gases and CO₂ may be used to cull commercial poultry flocks during an avian influenza outbreak.

Joint Health and Safety Committee is an advisory body that helps to stimulate or raise awareness of health and safety issues in the workplace, recognizes and identifies workplace risks and develops recommendations for the employer to address these risks. To achieve its goal, the committee holds regular meetings and conducts regular workplace inspections and makes written recommendations to the employer for the improvement of the health and safety of workers.

Low Pathogenic Avian Influenza (LPAI) see Avian Influenza above.

N95 Respirator is a respirator capable of filtering very small particles and some micro-organisms. N stands for "not resistant to oil" and 95 refers to the efficacy of the mask. A N95 mask removes at least 95% of the particles that are 0.3 microns in size.

Personal Hygiene Practices are practices used by individuals to prevent or reduce the risk of contracting diseases and can include hand washing and avoiding contact with contaminated surfaces.

Personal Protective Equipment (PPE) refers to specialized clothing or equipment worn by an individual for protection against different hazards including infectious materials.

Protective footwear protects the wearer from any health and safety hazards. The nature of the hazard will determine what type of protective footwear should be worn.

Respirators are devices designed to protect the wearer from inhaling harmful dusts, fumes, vapours, and/or gases. Respirators come in a wide range of types and sizes.

Respiratory Protection Programs are established in workplaces to assess workplace hazards, identify which respirators should be used, what training is provided, and to establish the roles and responsibilities for all parties involved with the use and care of the respirators.

Routine Practices: The Public Health Agency of Canada term to describe the system of infection prevention and control practices recommended in Canada to prevent and control transmission of microorganisms. These practices describe infection prevention and control strategies recommended for use at all times.

Safety glasses provide impact protection but do not provide the same level of splash or droplet protection as goggles. Safety glasses should have shatter-resistant plastic lenses. Unlike goggles, safety glasses do not fit tightly against the wearer's face.

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