



## Cleaning and disinfection process for premises declared infected with highly pathogenic avian influenza

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**Cleaning and disinfection (C&D) is performed on premises declared infected to ensure the site (including areas that animals have occupied, materials, equipment and other items identified as contaminated) do not pose a risk for the transmission of a federally reportable disease.**

### Responsibility

On premises that have been issued a *Declaration of an Infected Place* (CFIA/ACIA form 4204), cleaning and disinfection is required. The CFIA C&D Unit will conduct an assessment of the premises to determine the degree of contamination and risk of transmission of highly pathogenic avian influenza. The CFIA will develop a decontamination plan in consultation with the owner/producer and issue the owner of the premises an *Order to Clean & Disinfect* (CFIA/ACIA form 4207), reviewing with the owner the requirements of the plan.

The owner will conduct the C&D under the approval and oversight of the CFIA.

The CFIA oversees the C&D of the premises, conducting a minimum of four site visits. When cleaning and disinfection is completed to the satisfaction of the CFIA, a signed declaration is provided indicating approval of the process. The premises remains under CFIA control until a *Declaration That a Premises Has Ceased to Be an Infected Place* (CFIA/ACIA form 4205) is issued.

### Important considerations

- Under the federal Health of Animals Act and Regulations, producers are not eligible for compensation from the CFIA for the costs of C&D.
- The avian influenza virus can occasionally cause disease in humans. While human infections are rare, minimizing potential exposure to the pathogen is important. Some measures to reduce exposure and transmission include minimizing aerosolization of dust particles during C&D. In dry conditions, consideration may be given to lightly wetting down material using power washers with a low pressure spray. Producers are advised to seek guidance from their health care professional on the risks and measures to minimize disease exposure.

### Background

The avian influenza virus can be shed by infected animals in their respiratory and fecal secretions. The virus has been shown to survive for extended periods of time depending on the temperature and humidity of the environment. It can survive in cool temperatures in organic material such as manure and water dugouts.

## Process

### Cleaning & Disinfection normally involves 6 (six) steps:

While the process for C&D is similar for all infected premises, the specific requirements and needs must be tailored to address the disease risks and issues specific to each premises. In some circumstances not all six steps will be required.

### Primary Decontamination (Step 1 and 2)

#### Step 1: Removal of contaminated materials and products

This step covers the removal of contaminated materials and products not suitable for cleaning and disinfection and their proper disposal. The CFIA Disposal Unit will provide guidance on disposal of contaminated material or things that are not suitable for C&D.

- Remove contaminated materials (such as scrap lumber, pallets, cardboard boxes, etc.) that are not suitable for C&D to a location designated by the CFIA Disposal Unit. Disposal of the materials may include burning, burial or other methods as approved by the CFIA Disposal Unit.
- Remove accumulations of manure, used bedding, and other organic material for treatment and or disposal to a location **ON THE PREMISES** as directed by the CFIA Disposal and C&D Units.
- Remove equipment and materials that can be C&D to an appropriate location **ON THE PREMISES** as approved by the CFIA C&D Unit. When cleaning buildings, pens and large equipment, there may be items that can be cleaned and disinfected, yet interfere with cleaning and disinfecting of the location. For example, feeders, waterers, pitchforks, shovels, wheel barrows, buckets, bottles and other items should be cleaned and disinfected and moved to a “clean” area **ON THE PREMISES OR** moved to a location **ON THE PREMISES** and cleaned and disinfected.

#### Step 2: Dry cleaning

This step covers the dry cleaning of surfaces (using shovels, scrapers, brushes, etc.) to remove gross organic material as much as possible, including blowing or sweeping out interior spaces.

Dry cleaning is the most important step in the C&D process; it removes the largest amount of infectious (contaminated) material containing the avian influenza virus and when performed correctly, reduces the amount of work required for wet cleaning.

- Organic material **must** be removed from surfaces such as walls, floors, roosts and cages (particularly from the areas animals have occupied) as it will inactivate disinfectants and render disinfection procedures ineffective. Any equipment in those areas are subject to the same protocol (e.g. water lines, feeders, tractors, manure spreaders, etc.).
- Removal of used bedding and contaminated feed for appropriate treatment/disposal.

- Removal of manure piles and manure present on the ground for appropriate treatment and disposal.
- Removal of 2.5 cm of soil from outdoor areas that have a high volume of animal congregations such as around feeders, near water sources, ~~dust baths~~, etc) may be required.



**Notify your CFIA case officer as soon as primary decontamination (steps 1 and 2) are complete so that a site visit can be scheduled as soon as possible. Work on wet cleaning (step 3) can begin before the site visit occurs.**



**The completion of primary decontamination is key milestone. It allows post outbreak surveillance in the primary control zone to start.**

### **Step 3: Wet cleaning**

This step covers the wet cleaning of surfaces (using soaps, detergents, or products such as enzymes) to further remove gross organic material and biofilms. Use a low pressure setting if cleaning with a power washer.

- Use of soaps, detergents, or enzymatic cleaners for the removal of biofilms and small amounts of organic material if still present. Flaming or burning of surfaces for removal and inactivation of biofilms and organic material (if still present) that are not amenable to wet cleaning (e.g. wood, packed clay, etc.) or when climatic conditions (e.g. freezing temperatures) interfere with the process.

### **Step 4: Drying (post cleaning)**

This step covers the drying of surfaces (this may include the use of supplemental heat in buildings)

- Allow all surfaces to thoroughly dry as this assists in inactivating the avian influenza virus.



**Contact the CFIA for approval of the cleaning process. An inspection is required before beginning the disinfection process.**

### **Step 5: Disinfection**

This step covers the disinfection of surfaces (using a chemical disinfectant registered and approved for that purpose) or other suitable method/physical process to inactivate the agent of concern. (e.g. heat treatment through flaming or burning)

- The use of a chemical disinfectant that has been issued a drug identification number (DIN) by Health Canada and is effective against avian influenza is required. Alternatively, any other method (physical disinfection process) that provides adequate inactivation of the

pathogen can be applied to surfaces if suitable (e.g. heat / flame or exposure to sunlight [ultraviolet light] and drying).

- The disinfection of wood is difficult to achieve. For solid wood products (lumber), plywood and oriented strand board (OSB), saturating the surfaces with disinfectant is required. A wood surface that cannot be adequately disinfected may be sealed / painted as part of the decontamination process but this is not normally required. Wood may also be treated with moist or dry heat (surface burned).
- Wood that is in poor condition or is an engineered wood product such as particle board or medium density fibreboard may need to be removed.



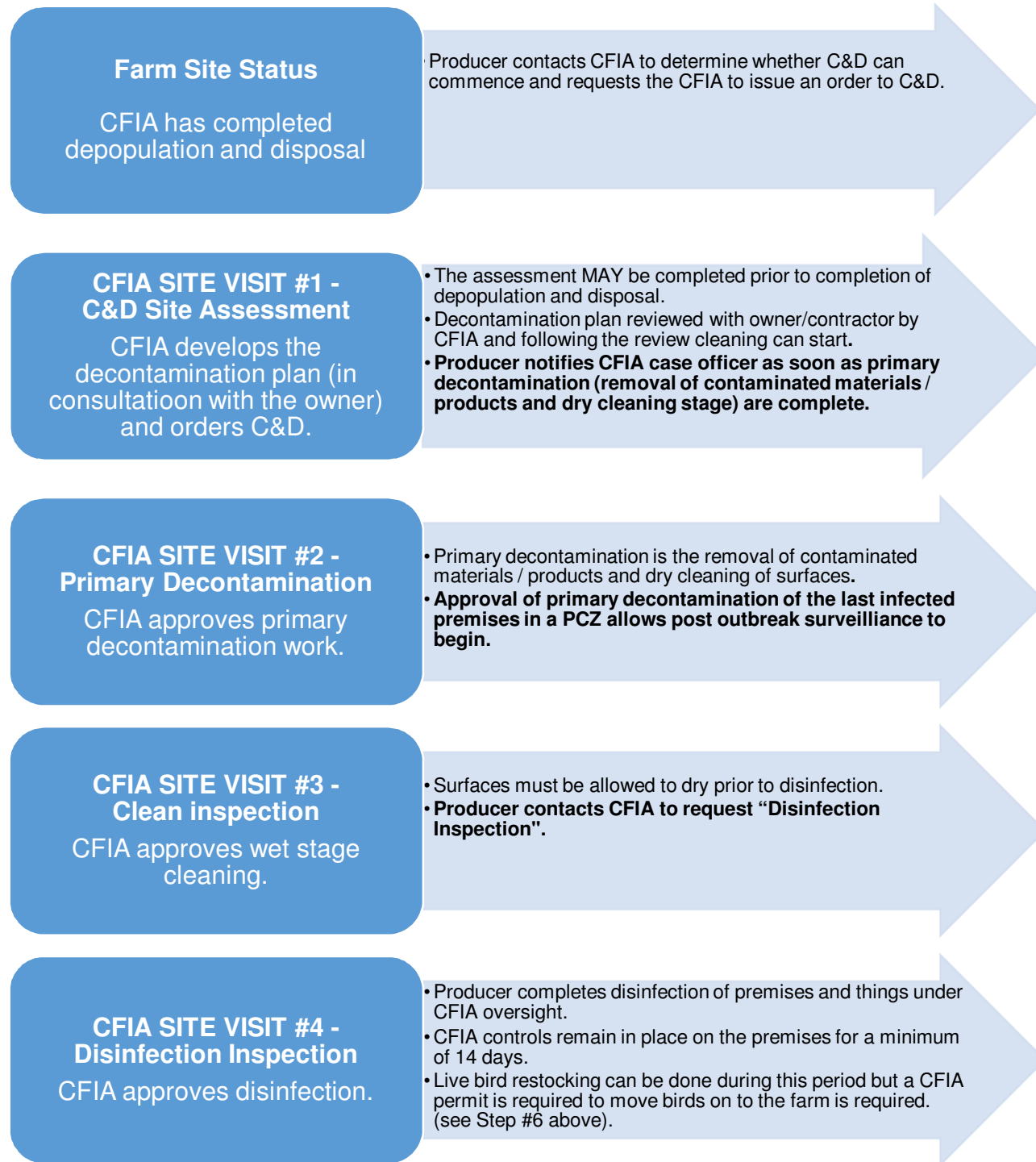
**Contact the CFIA for the supervision and approval of the disinfection process.**

### **Step 6: Drying (post disinfection)**

This step covers the drying of surfaces (this may include the use of supplemental heat on equipment or in buildings)

- Allow all surfaces to thoroughly dry as this assists in inactivating the avian influenza virus.
- Following completion of all C&D activities, CFIA controls remain in place on the premises for a minimum of 14 days. Live bird restocking can be done during this period but a CFIA permit is required to move birds on to the farm is required. A 14 day surveillance period begins on the restocked birds once they are placed. Live bird testing is required at the end of this period before the declaration of an infested place (quarantine) is removed.

## Overview of the Cleaning and Disinfection Process



### Notes:

- Appropriate use of Personal Protective Equipment is required throughout all steps of the C&D process.
- CFIA staff will be available to provide guidance on all aspects of the C&D process.
- CFIA may require additional formal inspections throughout the C&D process

## Examples of disinfectants effective against avian influenza virus:

Note: Inclusion of disinfectant products listed here does not indicate an endorsement by the CFIA. Disinfectant products vary in their ability to inactivate pathogens on different surfaces under a range of environmental conditions. The suitability and efficacy of a disinfectant will vary and producers should seek additional guidance from their veterinarian or supplier.

1. Concentrated Bleach (Sodium hypochlorite).  
Household sodium hypochlorite concentration is generally 5-6%. A dilution of 1 part of bleach and 4 parts of water (1/5 solution) should be used.
2. PREvail™ (accelerated hydrogen peroxide) manufactured by Virox.  
Follow label directions of the disinfectant. Consideration of using 1/16 dilution and 10-20 minutes contact time in cold weather.
3. NEUTRAQUAT 256 (Quaternary Ammonium Compound) manufactured by Amano Pioneer Eclipse Corporation. Follow label directions.
4. Quat-3 (Quaternary Ammonium Compound) manufactured by Wood Wyant. Follow label directions.
5. VERT2GO SABER Concentrated (Hydrogen Peroxide) manufactured by Wood Wyant. Follow label directions.
6. SANIDATE 5.0 sanitizer/disinfectant (Hydrogen Peroxide and Peracetic Acid) manufactured by Biosafe Systems Llc. Follow label directions.
7. Vesphene® Illse Phenolic Disinfectant (Phenol) manufactured by Steris Corporation. Follow label directions.

### PREvail™ (also known as Accel™) 1/16 with calcium chloride.

Contact time required: a minimum of 10 minutes under ideal conditions. During cold temperatures, increased contact time will be required. Discuss requirements with the CFIA C&D Unit.

| To make 1 litre for use at | Water**    | Calcium Chloride | Accel Prevention Concentrate 7%*** |
|----------------------------|------------|------------------|------------------------------------|
| 0 to -20°Celsius           | 800 ml (+) | 200 g            | 63 ml                              |

\*\* add CaCl<sub>2</sub> to water and mix until dissolved. The solution will warm up to ~ 40 °C. Then add the Accel and finally top up to 1 litre with more water.

\*\*\* A cloudy precipitate may form and settle out of solution. This is expected. Allow to settle and then pour into the final container for use. As well, a very slight chlorine smell may develop over time. This also is normal.

**Calcium chloride purchasing information**

| Product                        | Format | Order number                     |
|--------------------------------|--------|----------------------------------|
| Xynyth Calcium Chloride 94-97% | 50kg   | Acklands Grainger # XYN200-50049 |
| Calcium Chloride               | 3kg    | Fisher Scientific C6143          |

**Accel 1/16 with propylene glycol.** Discuss requirements with the CFIA C&D Unit.

| To make 1 litre for use at | Water  | Propylene glycol | Accel Prevention Concentrate 7% |
|----------------------------|--------|------------------|---------------------------------|
| 0 to -10°Celsius           | 637 ml | 300 ml           | 63 ml                           |
| -10 to -20°Celsius         | 537 ml | 400 ml           | 63 ml                           |

**Propylene glycol purchasing information**

| Product                           | Format | Supplier - Order number   |
|-----------------------------------|--------|---------------------------|
| Propylene Glycol                  | 18.9L  | Hall-Chem* PG300-19       |
| Prestone Plumbing/RV Antifreeze** | 4L     | Canadian Tire #63-9926-4  |
| Propylene Glycol USP/FCC          | 4 L    | Fisher Scientific - P3554 |

\* Hall-Chem is an importer/packager of PG for retail. They can arrange 3.8L production lots and bulk shipping

\*\*do not substitute other commercial antifreezes without verifying additives will not interfere with the disinfectant.