# Poultry Disease Emergency Response Resource Manual

*Prince Edward Island*
*Poultry Emergency Response Advisory Team*

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Photo Credit:

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# Poultry Emergency Response Plan
## *Acronyms*

| | |
|---|---|
| AAFC | Agriculture and Agri-Food Canada |
| AE | Avian Encephalomyelitis |
| AI | Avian Influenza |
| AI-NL | Avian Influenza Network Laboratory |
| AVC | Atlantic Veterinary College |
| AVC-DS | AVC - Diagnostic Services |
| C&D | Cleaning & Disinfection |
| CFA | Canadian Federation of Agriculture |
| CFC | Chicken Farmers of Canada |
| CFPEI | Chicken Farmers of Prince Edward Island |
| CFIA | Canadian Food Inspection Agency |
| $CO_2$ | Carbon Dioxide |
| CWS | Canadian Wildlife Service |
| DVH | Duck Virus Hepatitis |
| EFC | Egg Farmers of Canada |
| EFP | Environmental Farm Plan |
| ELISA | Enzyme-Linked Immunosorbent Assay |
| EPPEI | Egg Producers of Prince Edward Island |
| FAD | Foreign Animal Disease |
| FADES | FAD Emergency Support |
| HACCP | Hazard Analysis Critical Control Point |

| | |
|---|---|
| HPAI | Highly Pathogenic Avian Influenza |
| ILT | Infectious Laryngotracheitis |
| JEOC | Joint Emergency Operations Centre |
| LPAI | Low Pathogenic Avian Influenza |
| NCFAD | National Centre of Foreign Animal Disease |
| WOAH | World Organisation of Animal Health |
| PEIDA | Prince Edward Island Department of Agriculture and Land |
| PEIDEECA | Prince Edward Island Department of Environment, Energy and Climate Action |
| PEIEMO | Prince Edward Island Emergency Measures Organization |
| PEIPPFA | Prince Edward Island Purebred Poultry Fanciers Association |
| PEIVMA | Prince Edward Island Veterinary Medical Association |
| PEIFA | Prince Edward Island Federation of Agriculture |
| PEITMC | Prince Edward Island Turkey Management Club |
| PERAT | Poultry Emergency Response Advisory Team |
| PIC | Poultry Industry Council |
| PIT | Poultry Information Team |
| PSC | Public Safety Canada |
| TRT | Turkey Viral Rhinotracheitis |
| VTEC | Verotoxigenic Escherichia Coli |

# Introduction

The agriculture industry in Prince Edward Island is a major contributor to the economy of both the province and the country. An outbreak of foreign animal disease (***FAD***) would have widespread impact on Island agriculture, tourism, wildlife, and other sectors resulting in significant losses if such an outbreak was not dealt with in an effective and timely manner.

In the current system, a planned emergency disease response to a FAD is initiated by the Canadian Food Inspection Agency (***CFIA***), after confirmation of a reportable disease as listed in the *Reportable Diseases Regulations*[1] under section 2(2) of the Canadian *Health of Animals Act*[2]. Since confirmation may take as long as 14 days, there exists a gray zone during which time the disease could spread in the absence of active control measures. Industry personnel traveling to and from farms could spread the disease, unaware that a disease break has occurred. In PEI, this situation could result in the spread of the contagion throughout the province in a very short period of time.

This document outlines a **Poultry Disease Emergency Response Plan** that could be enacted immediately following identification of a suspected disease. A poultry working group consisting of industry and government representatives has used the Ontario Poultry Industry Council's plan as a model and modified and updated it to be consistent with the PEI poultry industry. This working group would like to acknowledge the Ontario Poultry Industry Council for permission to use their plan.

This document is intended to be a living document and to be updated and further revised as new information and science becomes available. The disease response plan is divided into three stages:

**Stage I - Suspicion of a Foreign Animal Disease**
**Stage II - Positive Presumptive Diagnosis of Disease, and**
**Stage III - Confirmed Diagnosis of a Foreign Animal Disease.**

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1 *Reportable Diseases Regulations* http://laws-lois.justice.gc.ca/eng/regulations/SOR-91-2/
2 *Health of Animals Act* http://laws-lois.justice.gc.ca/eng/acts/H-3.3/

# Section 1: Disease Response Plan

## Stage I - Suspicion of a Foreign Animal Disease

A FAD is a transmissible disease which is not present in Canada which may have significant implications to human and animal health as well as the Canadian economy. If a FAD such as High Pathogenic Avian Influenza (**HPAI**) is suspected in a flock due to marked increase in mortality and/or presence of clinical signs *(see Section 2 for examples of clinical signs)*, the following actions must be taken:

### Actions Taken by Producer

- Consult your veterinarian immediately. Provide a complete description of the problem including time of onset, duration and whether things are getting worse or resolving over time. Offer your suspicions as to what the problem might be.

- If the presence of a FAD like HPAI is highly suspected, contact the CFIA and the provincial veterinarian. During normal business hours, contact the CFIA through the local office by telephoning **902-566-7290.** After normal business hours, contact the CFIA directly by telephoning **1-506-381-7683**

- Contact your Board or Association (*Appendix I*).

| | | |
|---|---|---|
| **Chicken** | Janet Hilliard-Murphy | 902-218-1872<br>902-838-4108 |
| **Eggs** | Michael Cummiskey<br>Gerard MacDonald | 902-892-8401<br>780-902-5625 |
| **Bird Fanciers** | Leif Taylor | 902-887-3320 |
| **Turkey** | Harvey Larkin | 902-964-2839 |

- Enhance biosecurity measures (Section 6), which includes self-quarantine
  - i) Ensure that a visitor log is in place.
  - ii) Service unaffected barns first or dedicate a specific employee to the affected barn(s).
  - iii) Inform ALL family members and employees of the situation. Request confidentiality until diagnosis is confirmed.
  - iv) Suspend all unnecessary traffic. Immediately restrict on and off-farm access by locking gates and requiring phone ahead arrangements for deliveries/pick-ups.
  - v) If a delivery is required, service personnel are to use heightened biosecurity (Section 7).
  - vi) Reschedule vaccinations, when possible, until after the farm has been cleared of suspected disease status.
  - vii) If you are required to leave the farm, change your clothing and footwear; use exit protocol as per your situation (Sections 7-9).
  - viii) Restrict the movement of equipment and personnel from farm to farm.

- Start your own on-farm investigation.
  - i) Gather all relevant documents, including health records and copies of production and mortality records.
  - ii) Review and list the on-farm traffic, visitors, and bird movement during the previous 21 days.

## Actions Taken by Flock, Local or/CFIA Veterinarian

- Visit the farm and inspect the flock as soon as possible.

  i) Gather pertinent information by interviewing the flock owner including:

  - Clinical signs
  - Status of other flocks on farm
  - Other farms in area
  - Recent visitations
  - Recent feed deliveries
  - Vaccination and medication history
  - Movement of animals, products, equipment, and personnel onto and off of the farm in the past 21 days

  ii) If a private veterinarian suspects highly pathogenic avian influenza (HPAI), the provincial veterinarian and CFIA must be notified immediately.

  - If a private veterinarian suspects AI but not HPAI and submits samples to an AI network laboratory (AI-NL), the private veterinarian should notify the CFIA when the samples are submitted.
  - If non-negative results, indicating the presence of influenza A virus, are obtained by the AI-NL laboratory, the lab must notify the CFIA, according to the agreed communication plan for AI-NL laboratories.
  - Once notified by a laboratory, a private veterinarian, or a producer concerning the suspicion of NAI, a CFIA field diagnostic team begins an investigation.
  - If notified by the AI-NL laboratory or another laboratory, the District Vet or designate will arrange to forward the sample material to the National Centre for Foreign Animal Disease (NCFAD) for confirmatory testing.
  - The CFIA field diagnostic team contacts the private veterinarian of the investigated poultry farm to obtain the health history of the

flock(s) on the farm. If a private veterinarian is not involved, the producer should be contacted.

- The District Vet initiates the communication plan and follows the CFIA reporting procedures

iii) Conduct rapid ELISA test for Avian Influenza (**AI**) if appropriate.

iv) Collect samples from birds which are showing clinical signs of AI, and are dying, or have died within the past 12 hours:

- Tissue (including brain, trachea, lung, heart, kidney, spleen, liver, intestine with caecal tonsils, and bursa fabricus)
- Blood
- Tracheal and cloacal swabs

v) Send samples to the appropriate lab.

**If CFIA has not yet been part of the investigation, at this point, the local vet must immediately inform the CFIA (local office 902-566-7290 or 1-506-381-7683). If the index case is a non-commercial flock, CFIA will inform the PEI Department of Agriculture and Land (PEIDA) who will in turn notify the commercial boards/associations.**

## Stage II - Positive Presumptive Diagnosis of Disease

A positive presumptive diagnosis can be declared under one of the following two situations:

1. In the absence of any management or environmental problem, a high and sudden increase in mortality with:
    a. Clinical signs compatible with FAD, or
    b. History of significant contact with a confirmed infected premises

and/or

2. A positive result on a screening test for AI or other FAD.

**If initial diagnoses suggest the presence of a serious disease, the following actions are to be taken:**

### Action Taken by Atlantic Veterinary College Diagnostic Services (AVC-DS)

In the case of a FAD *(see Section 2 for information on FADs*):

- Report suspicious preliminary diagnostic results of AI - H5/H7 to CFIA, the PEIDA, the producer, and the producer's veterinarian.

### Action Taken by Producer

- If a commercial flock, contact the board.

## Action Taken by the PEIDA

- Notify the Poultry Emergency Response Advisory Group (*Appendix I*) and convene a meeting within 24 hours.

## Action Taken by the CFIA

- Contact the producer and/or private veterinarian and provincial veterinarian to discuss the case.

- Begin epidemiology and tracing including completion of the comprehensive Avian Disease Premises Investigation Questionnaire (ADPIQ) (*Appendix II*).

- Collect samples.

- Declare an infected place on index farm *(this may extend to neighboring farms in high density areas; infected zones may be enforced if there is a declaration of disease, i.e. Stage III*). This is to facilitate biocontainment and movement control.

- Commence orders/oversight of eradication activities determined on a case-by-case basis but may include:

    - Evaluation and risk assessment
    - Depopulation of flock
    - Disposal
    - Cleaning and disinfection of the premises

## Stage III - Confirmed Diagnosis of a FAD

Upon confirmation of an FAD by the NC-FAD in Winnipeg, the federal Minister of Agriculture would make an official declaration of disease under section 27 of the federal *Health of Animals Act*[3]. A Control Area regulating the movement of persons, animals, things, and conveyances into, out of and within the areas established. Actions to be taken are as follows:

### Action Taken by the CFIA

- Notify the producer and the PEIDA of the test results.

- Continue emergency response logistics:
  - Activate Emergency Response Teams.
  - Activate/expand Operations Centres.
  - Activate/expand Incident Command Post(s).

- Full implementation of the Foreign Animal Disease Emergency Support (***FADES***) plan (*federal/provincial agreement that provides a framework for provincial and municipal support of the federal disease control efforts*).

- Establish internal/external communications.

3 *Health of Animals Act* http://laws-lois.justice.gc.ca/eng/acts/H-3.3/

## Action Taken by the PEIDA

- Notify the Poultry Boards/Associations of the result.
- Notify and activate Poultry Emergency Response Advisory Team (**PERAT**) members of the result (*Appendix III*).
- Establish internal/external communications.

## Federal Minister of Agriculture Signs and Issues a Declaration of Infection

The Minister may:

- Define a control area, including zones.
- Define movement controls within and/or between defined zones *(Section 4*)
- Order the establishment of Cleaning and Disinfection (**C&D)** stations at strategic locations.
- Order depopulation and oversee disposal as follows:
    - Depopulation of all susceptible birds is to be undertaken using World Organisation for Animal Health (**WOAH**) approved method (*Section 11*)
    - Disposal method to be approved by CFIA in co-operation with Provincial Environment
- Order C&D of premises
- Monitor recovery for 21 days post last positive case.

- Remove quarantine when outbreak is declared over.

## Action Taken by PERAT

- Activate the full PERAT team and establish the Joint Emergency Operations Centre (**JEOC**)

- Schedule meetings

- Communication (*two-way*) with the lead authorities and with associated boards/associations

## Summary of Notification for Stages I, II and III

### Stage I - Notification

If a Veterinarian (Private or CFIA) suspects* a FAD on a:

1/ Commercial flock

- CFIA notifies PEIDA
- Producer notifies the Board, family members/employees and any service providers

2/ Non-commercial flock

- If CFIA visits the operation, CFIA notifies PEIDA
- PEIDA notifies the Poultry Boards and Associations

*Suspects refers to the presence of clinical signs and is not based on a presumptive diagnostic test

### Stage II - Notification

If the screening test for FAD at AVC-DS is positive or if the CFIA Vet concludes that the signs are compatible with a FAD:

1/ Commercial flock

- AVC-DS notifies CFIA, and the producer's veterinarian
- CFIA or flock veterinarian notifies producer
- CFIA notifies PEIDA
- Producer notifies the Board and the feed company
- Board notifies other poultry Boards/Associations
- PEIDA notifies Poultry Disease Advisory Group (Appendix I) and convenes a meeting within 24 hours

2/ Non-commercial flock

- AVC-DS notifies CFIA, and the flock veterinarian
- CFIA notifies producer and PEIDA
- PEIDA notifies the Poultry Boards and Associations (and other stakeholders, i.e., feed companies)
- PEIDA notifies Poultry Disease Advisory Group and convenes a meeting within 24 hours

**Stage III - Notification**

If the test is confirmed positive by the NC-FAD in Winnipeg:

- CFIA (local) notifies the producer and PEIDA
- PEIDA notifies the Poultry Boards/Associations (Appendix I) and activates the PERAT (see Appendix III)
- Boards/Associations notify associated stakeholders.

# Section 2: Description of Significant Poultry Diseases

**Reportable Diseases**

Notifiable Avian Influenza (HPAI, and low pathogenic H5 and H7 AI), Fowl Typhoid, Newcastle Disease, and Pullorum Disease are listed in the *Reportable Diseases Regulations*[4] under section 2(2) of the Canadian *Health of Animals Act*[5]. **Any suspect or confirmed case of these reportable diseases MUST be immediately reported to the CFIA.** The CFIA will take action to eradicate and control these diseases once the diagnosis has been confirmed. Compensation is paid by CFIA for birds that are ordered destroyed as a result of a FAD.

**Immediately Notifiable Diseases** (*have trade implications*)

Avian Chlamydiosis (C. psittaci), Avian Encephalomyelitis, Avian Infectious Laryngotracheitis, Duck Virus Hepatitis, Egg Drop Syndrome, Equine Encephalomyelitis Viral Infection (Western and Eastern), Fowl Cholera (*Avian pasteurellosis*), Goose Parvovirus Infection (Derzsy's Disease), and Turkey Viral Rhinotracheitis are listed as Immediately Notifiable Diseases in the *Reportable Diseases Regulations* (ibid) under section 2(2) of the Canadian *Health of Animals Act* (ibid). **Any veterinary laboratory that detects any of these diseases is obliged to IMMEDIATELY notify the CFIA and provide full disclosure of the details of the outbreak.**

**Canada is obliged to report ALL federally reportable and Immediately Notifiable Diseases to the WOAH.**

4 *Reportable Diseases Regulations* http://laws-lois.justice.gc.ca/eng/regulations/SOR-91-2/
5 *Health of Animals Act* http://laws-lois.justice.gc.ca/eng/acts/H-3.3/

## Reportable Diseases

### Notifiable Avian Influenza (HPAI, and low pathogenic H5 and H7 AI)

AI is a viral disease that can affect the respiratory, enteric (digestive) or nervous system of many kinds of poultry and other birds. Clinical signs of AI are variable and depend on factors such as strain of the virus, the pathogenicity (disease-producing capability) of the virus, host species, age, sex, environmental conditions (poor environmental conditions worsen the disease) and presence of concurrent infections.

Clinical signs of HPAI in chickens and turkeys depend on the organs and tissues affected by the virus. Please note that not all clinical signs are seen in every bird.

**Clinical signs of HPAI may include:**

- Sudden increase in mortality (death rate) up to 100%, without any prior clinical signs
- Severe drop in egg production - production may completely stop within six days; eggs frequently lack shells
- Severe depression flock is very quiet and inactive; feathers are ruffled
- Severe decrease in feed consumption
- Water consumption can be severely increased (birds with a fever may be very thirsty) or decreased (birds may feel too sick to drink)
- Watery diarrhea may be bright green or white
- Swollen combs and wattles, swelling around the eyes; combs may develop blisters and dark spots (sometimes at the tips)
- Red patches (hemorrhages) may occur on legs between feet and hocks
- Respiratory signs are less common, but can include coughing and sneezing
- Nervous signs such as tremors of head and neck, inability to stand and paralysis can occur in individual birds

**Clinical signs of Low Pathogenic Avian Influenza (*LPAI*) in chickens and turkeys may include:**

- Drop in egg production; this can be very dramatic in turkeys and can be associated with decreased eggshell quality
- Huddling, depression, decreased activity, decreased feed and water consumption (these signs can occur with most diseases, not just AI)
- Mild to severe respiratory disease, such as coughing, sneezing, noisy breathing, and discharge from the eyes and sinuses
- Swollen sinuses (in turkeys)
- Diarrhea, swelling of the head and face, and/or nervous disorders may also occur

Wild birds, especially waterfowl, usually do not get sick when infected with AI virus, even with highly pathogenic strains, yet may continue to shed the virus for long periods of time and can be infected with more than one strain of the virus.

## Sources of AI Virus

All avian (*bird*) species are susceptible to infection by the AI virus. However, most shorebirds, gulls, geese, terns, etc. and especially wild ducks are considered to be crucial to the spread of the virus. Wild ducks carry the virus without any signs of illness and are considered the major reservoir for AI infections in domestic poultry. Live bird markets have historically been an important source of AI virus. Co-mingling of birds from different sources, fecal material of crates and vehicles and purchase of birds with unknown AI status all contribute to the chance that the virus will be carried to the home farm.

## Spread Between Birds

Contact with infected fecal material is the most important mode of bird-to-bird transmission. Birds commonly shed virus for seven to 14 days after infection, but

shedding has been documented for up to four weeks after infection. Wild ducks often introduce the virus through fecal contamination into domestic flocks raised outdoors. Within a poultry barn, transfer of the virus between birds can also occur via airborne secretions.

## Spread Between Premises

AI virus can survive in manure for up to 105 days, especially in high moisture and low temperature conditions. Mechanical transmission by anything that can walk, crawl, or fly from farm to farm **can and will occur**.

Vectors are agents of disease spread. Rodents, insects including flies, and wild birds like sparrows, can act as vectors for AI by carrying the virus on their bodies from place to place.

AI virus can also be found on the outer and inner surfaces of eggshells. Eggs are a potential AI vector, which is why eggs identified by the CFIA as being infected with highly pathogenic AI virus are pasteurized to inactivate the virus.

Airborne transmission of virus from farm to farm probably does not occur under usual circumstances. **The spread of AI between poultry premises almost always follows the movement of infected wild birds or contaminated people (farm personnel, egg collectors, chicken catchers, etc.) and equipment.**

## Fowl Typhoid (Salmonella Gallinarum Infection)

Fowl typhoid (*Salmonella gallinarum infection*) primarily causes disease in chickens and turkeys, but ducks, pheasants, guinea fowl, peafowl, grouse, and quail can also be affected. In chicks and poults, most of the clinical features of fowl typhoid are similar to pullorum disease; however, this disease is most likely to affect adult chicken.

**Clinical features of fowl typhoid (*Salmonella gallinarum* infection) may include:**

- Depression
- Loss of appetite
- Somnolence (birds look sleepy)
- Droopy wings
- Huddling
- Dehydration and thirst
- Ruffled feathers
- Weakness
- Yellow or green diarrhea with pasting of the vent feathers
- Blindness
- Swelling of the joints
- Birds that survive may be underweight and poorly feathered and may not mature into productive adults.

## Newcastle Disease

Newcastle disease is a devastating viral disease of chickens, other poultry, pigeons, pet birds and wild birds, especially waterfowl such as cormorants and gulls. The disease can vary tremendously depending upon the strain of the virus and the species of bird affected. Clinical disease caused by highly pathogenic (*velotropic*) strains of Newcastle disease can be almost identical to that caused by AI.

**Clinical features of Newcastle disease may include:**

- A marked drop in egg production; eggs that are laid may be soft-shelled, roughened or deformed
- Sudden high mortality (death losses) without prior indication of illness (so sudden that owner may suspect poisoning) - losses may be 10 to 15% in first 24 hours; mortality often begins within 24 to 48 hours of the drop in egg production
- Swelling (edema) of the head, especially around the eyes, often after birds have been sick for two or three days; this edema usually does not involve the comb and wattle to the extent of HPAI
- Dark ring sometimes forms around the eye, probably due to poor blood circulation in the swollen tissue; this black eye appearance is especially visible in white chickens
- Conjunctivitis (inflammation of the eye) may occur
- Greenish to dark diarrhea, sometimes of violent severity, especially beginning two to three days after onset of illness; diarrhea is less likely to occur with strains that cause severe neurologic disease
- Respiratory distress; difficulty breathing; nasal discharge

**Neurological disturbances are more likely to occur with some strains of Newcastle disease and may include:**

- Drooping wings
- Muscular tremors
- Problems with balance and locomotion (ataxia)
- Circling
- Paralysis of legs and wings
- Twisting of the head and neck (*torticollis*)
- Opisthotonos (head is stretched upward and backward)
- Neurologic signs may be seen with greater frequency in chickens that are still alive two or three weeks after infection
- Birds that survive 12 to 14 days generally do not die but may display permanent paralysis and other neurologic signs, and the reproductive system may be permanently impaired, so that egg production does not return to previous levels.
- Signs of disease in vaccinated chickens tend to be much less severe

## Pullorum Disease (*Salmonella Pullorum* Infection)

Pullorum disease is an infectious, egg-transmitted disease of poultry caused by the bacteria *Salmonella pullorum*. Pullorum disease is highly fatal to young chicks or poults, but mature birds are more resistant. Most acute outbreaks occur in birds that are under three weeks of age. Death may occur soon after hatching without any observable signs. Mortality may approach 90% and survivors are usually stunted and unthrifty.

**Clinical features of pullorum disease (*Salmonella pullorum* Infection) in young birds may include:**

- Presence of a white diarrhea with a pasted-down appearance around the vent
- Droopiness, birds may appear sleepy or weak
- Ruffled feathers
- Chilled appearance; birds huddling near a source of heat
- Labored breathing
- Decreased appetite
- Shrill chirping

Adult birds infected with *Salmonella pullorum* usually have no signs of disease but may sometimes appear unthrifty. Infected hens may or may not be productive layers. The eggs of infected birds may have reduced hatchability.

## Immediately Notifiable Diseases

### Avian Encephalomyelitis

Avian Encephalomyelitis (**AE**) is a viral disease of young chickens, turkeys, pheasants, and quail. Affected birds are usually from one to three weeks of age but may be as old as seven weeks.

**Clinical features of AE mainly affect the nervous system and include:**

- Ataxia (problems with balance and locomotion) with lack of coordination of muscles
- Tendency to sit and walk on hocks and shanks, or refuse to move
- Loss of control over speed and gait when moving, often fall on sides
- Paralysis and prostration
- Weakened cry
- Tremors of the head and neck, accentuated when birds are held or stressed
- Dull expression
- Variable degrees of morbidity (up to 60%) and mortality, the deaths related to inability to feed and drink

**Recovered birds often:**

- Fail to grow or produce eggs normally
- Have cataracts (cloudy lenses in the eyes) and impaired vision

Infected adult birds often show no sign of disease except for a significant drop in egg production (from up to 5 to 10%) that lasts up to two weeks.

## Avian Chlamydiosis (*C. psittaci*)

Avian chlamydiosis (*C. psittaci*) is an infectious bacterial disease that can affect poultry, many caged, wild, and migratory birds, and humans. Some infected birds may be unapparent carriers that show almost no evidence of disease but can pass the infection on to birds and humans. Parrots, parakeets, and pigeons are frequently infected.

In poultry, occasional outbreaks occur in turkeys, whereas chickens are very rarely affected. The respiratory and digestive tracts are most commonly affected, but the disease can spread to affect most parts of the body.

**Clinical features of Avian Chlamydiosis (C. psittaci) vary with the species and age of the bird, and the strain of the bacteria, and may include:**

**Mild Outbreak:**

- Few, if any, signs so disease may go unrecognized
- Mild respiratory signs or diarrhea
- Loss of appetite in some birds
- Loose, green droppings in some birds
- Mild drop in egg production

**Pathogenic Outbreak:**
(in turkeys, ducks, geese, and pigeons)

- Depression
- Weakness, lethargy
- Hyperthermia (fever)
- Loss of appetite
- Loss of weight

- Discharges from the nostrils and eyes, may be watery to thick
- Respiratory distress
- Yellowish-green diarrhea, often gelatinous or watery
- Decreased egg production (may be up to 65% drop or greater)
- Morbidity of up to 50 to 80%, mortality up to 10 to 30%
- Unbalanced gait, trembling and/or transient paralysis in ducks, geese and pigeons
- Conjunctivitis (affecting one or both eyes) and sinusitis in pigeons

**The biggest risk to humans is handling and processing infected turkey flocks at abattoirs and exposure to infected pet birds.**

## Duck Virus Hepatitis

Duck Virus Hepatitis (**DVH**) occurs primarily in commercially raised Peking ducklings. It is a rapidly spreading viral infection of young ducklings characterized by large number of deaths. Three different viruses are known to cause DVH.

**Clinical features of DVH may include:**

- Almost all birds will be sick
- Rapid spread of disease
- Affected ducklings lag behind flock
- Squat with eyes partially closed
- Fall on their side, kick spasmodically and die
- Death rate from this disease is age and virus dependent, and can range from 10% to 95% with the youngest birds being most affected
- Affected ducklings die within one to two hours of becoming sick

## Egg Drop Syndrome

Egg drop syndrome (Adenovirus) (*EDS76*) is an infectious disease of laying hens caused by a virus characterized by loss of colour in pigmented eggs and failure to achieve production targets, or by production of thin-shelled or shell-less eggs in otherwise healthy birds.

**There are no reliable clinical features of egg drop syndrome other than effects on the ovary and oviduct which may include:**

- Loss of colour in pigmented eggs
- Thin-shelled eggs
- Shell-less eggs

## Equine Encephalomyelitis Viral Infection (Western and Eastern)

Equine encephalitis viral infection (Western and Eastern) is an acute disease of pheasants, chukar partridges, turkeys, ducks, pigeons, or wild birds. Chickens can be infected naturally but seldom show clinical signs. Most outbreaks in captive game birds and poultry occur in birds less than six months of age. Outbreaks usually occur during the mosquito season. Most outbreaks reported have been in the United States, usually in the Atlantic coastal states or in the upper Midwest.

Many infected wild birds and poultry flocks show little or no clinical signs. Infected poultry flocks (especially captive game birds) show marked signs of the disease.

**Clinical features of equine encephalitis viral infection may include:**

- Paralysis
- Inability to stand or hold up the neck
- Circling
- Tremors
- Illness and Death can be very high

## Fowl Cholera (Avian pasteurellosis)

Fowl cholera (*Avian pasteurellosis*) is caused by the bacterium *Pasteurella multocida* and can affect chickens, turkeys, geese, ducks, and many species of wild and captive birds. Outbreaks are most likely to occur in birds that are stressed by poor sanitation, crowding, parasitism, malnutrition, and other diseases.

Fowl cholera may cause acute (sudden onset of short duration) disease or chronic (prolonged duration) disease, and usually strikes birds older than six weeks.

**Clinical features of birds affected by acute fowl cholera (Avian pasteurellosis) may include:**

- Sudden unexpected death or sudden onset of profound illness in birds that were previously healthy
- Mortality often increases very rapidly may be very high, especially in waterfowl (captive and wild)

**Sick birds that do not die as a result of acute disease may demonstrate:**

- Loss of appetite
- Depression, listlessness
- Shivering and huddling
- Dark colour to comb and wattles
- Loud breathing noises
- Discharge of mucus from nostrils and mouth
- Diarrhea, ranging from white and watery, to green and mucoid, to blood-stained
- Feathers surrounding the vent, eyes and beak may become matted with secretion
- Tendency to hide under equipment

- May terminally exhibit convulsions, uncoordinated fluttering, stiffness and rapid breathing

**Birds with chronic disease (especially chickens) may demonstrate:**

- Weight loss
- Abdominal distention
- Lameness, joint enlargement, swollen foot pads
- Swollen infraorbital sinuses (between eyes and nostrils)
- Swollen wattles (sometimes only one)
- Swollen throat
- Twisting of the head and neck (*torticollis*)

## Goose Parvovirus Infection (Derzsy's Disease)

Goose parvovirus Infection (Derzsy's Disease) is a disease caused by a virus. It is also known as Goose Hepatitis. Mortality in a flock can vary 7 – 100%.

**Clinical features of goose parvovirus infection (Derzsy's Disease) may include:**

- Listless, reluctant to move
- Retarded growth
- Incomplete feathering of neck and back

## Infectious Laryngotracheitis

Infectious laryngotracheitis (**ILT**) is a viral disease that mainly affects chickens but can also affect pheasants and peafowl. Clinical signs of the disease vary according to factors such as strain and pathogenicity of the virus, as well as environmental conditions in the barn. In addition, clinical signs are predominantly those of mild to severe respiratory disease.

**Clinical features of ILT may include:**

- Difficulty breathing (*dyspnea*), gasping for breath, loud breathing noises, breathing with the head and neck stretched out
- Coughing, sometimes with the production of blood and mucus
- Head shaking (to expel mucus and blood from airways)
- Blood-staining on beak, face and feathers
- Nasal discharge

**Strains with High Pathogenicity**

Highly pathogenic strains of ILT can cause high morbidity (number of sick birds) and mortality (number of dead birds). The mortality is usually about 10 to 20% but may be as high as 50 to 70%. Disease may persist in the affected flock for two to six weeks.

**In addition to the respiratory signs, flocks affected by highly pathogenic strains may also demonstrate:**

- Decreased food consumption
- Increased or decreased water consumption
- Decreased egg production
- Birds huddled; less active; fluffed up feathers (typical sick birds)
- Conjunctivitis (red, watery eyes)

### Strains With Low Pathogenicity

Strains of ILT with low pathogenicity are becoming increasingly common.

**Flocks affected by strains with low pathogenicity may demonstrate:**

- Conjunctivitis (inflammation of the eyes), watery eyes (lacrimation)
- Persistent nasal discharge
- Swollen infraorbital sinuses (located between eye and nostril)
- Lowered egg production
- General unthriftiness
- Low mortality

## Turkey Viral Rhinotracheitis

Turkey Viral Rhinotracheitis (**TRT**) (swollen head disease in chickens) is an infectious respiratory disease of turkeys and chickens, characterized by coughing, swollen sinuses and nasal discharge and lowered feed and water consumption.

Clinical signs of the disease are extremely variable and depend on age, gender, other infections, and environmental factors.

**Clinical features of TRT may include:**

- Listlessness
- Huddling
- Coughing
- Sneezing
- Swollen sinuses
- Nasal discharge
- Stained shoulder feathers
- Death rates can range from 0 to 80%

## Section 3: Disease Incident and Alert Definitions

Regardless of the nature or severity of an incident that affects the poultry industry, the priorities of the industry members will be:

- Human health and food safety
- Control of disease spread
- Accurate and timely diagnosis
- Animal welfare
- Viability of the poultry industry
- Trade issues

Because we are dealing with a live product, environmental emergencies (power outages, ice storms, floods, nuclear accidents, etc.) can ultimately result in mortality and situations that encourage disease conditions and or contamination issues. For this reason, even environmental emergencies are treated in this document as disease response.

There are four different incident levels in this plan. Each incident level requires a different level of biosecurity and co-ordination. The four incident levels are as follows:

Level 1 Green/Normal Biosecurity Operations

Level 2 Yellow Alert/Enhanced Biosecurity (during Presumptive stage)

Level 3 Red Alert/Emergency (during Positive stage)

Level 4 Post Emergency Recovery (Yellow Alert/Enhanced Biosecurity or Red Alert/Emergency in effect)

## Level 1 Green/Normal Biosecurity Operations

In **Level 1** the risk of a disease of importance or environmental emergency is not seen to be elevated.

Standard biosecurity, sanitation and communication protocols are in effect (industry minimums).

There is passive surveillance for disease conditions (observation and testing where appropriate) in place.

ALL suspicious cases are to be investigated immediately to ensure any outbreak of disease is detected early.

## Level 2 Yellow Alert/ Enhance Biosecurity

In **Level 2** there is a high suspicion of a disease of importance (presumptive stage) or an environmental emergency on a particular property or within the immediate vicinity.

There has been no official provincial or federal declaration of disease or emergency situation, but the risk of a spreading impact is significantly elevated.

There is an increased level of awareness. Sanitation and communication protocols are in effect for that property and immediate area, as triggered by the owner/veterinarian/company involved.

The incident may be recognized by the industry boards as having potential to escalate and the boards may declare an Industry Yellow Alert/ Enhanced Biosecurity situation for a defined area surrounding the site(s).

## Level 3 Red Alert/Emergency

In **Level 3** there has been an official declaration from Provincial or Federal authorities of definitive diagnosis of a disease of importance or after an event which is determined to be an environmental emergency.

There is declared to be a serious threat to human health, bird health or the viability of the industry.

Depending on the type and severity of the emergency, the government body charged will take responsibility and dictate the plan of action.

The industry will co-operate and institute red alert procedures in biosecurity/sanitation and communication. i.e. avoidance, rerouting, supply management, licensing, trade implications, etc. with regards to the declared zone.

In the case of a reportable disease as listed in the *Reportable Diseases Regulations*[6] under Section 2(2) of the Canadian *Health of Animals Act*[7], the CFIA takes the lead and declares a quarantine area and control zone.

Within the zone the Red Alert/ Emergency procedures are under full control and supervision of CFIA, outside the zone a minimum of Yellow Alert/Enhanced Biosecurity procedures are in force.

6 *Reportable Diseases Regulations* http://laws-lois.justice.gc.ca/eng/regulations/SOR-91-2/
7 *Health of Animals Act* http://laws-lois.justice.gc.ca/eng/acts/H-3.3/

## Level 4 Post Emergency Recovery/ Yellow or Red Alert

This is the period after an emergency where the risk of spreading impact of the event is still elevated.

This is the period where confirmation of eradication or assurance of product quality is to be achieved.

A minimum of Yellow Alert/Enhanced Biosecurity, sanitation and communication protocols must be maintained.

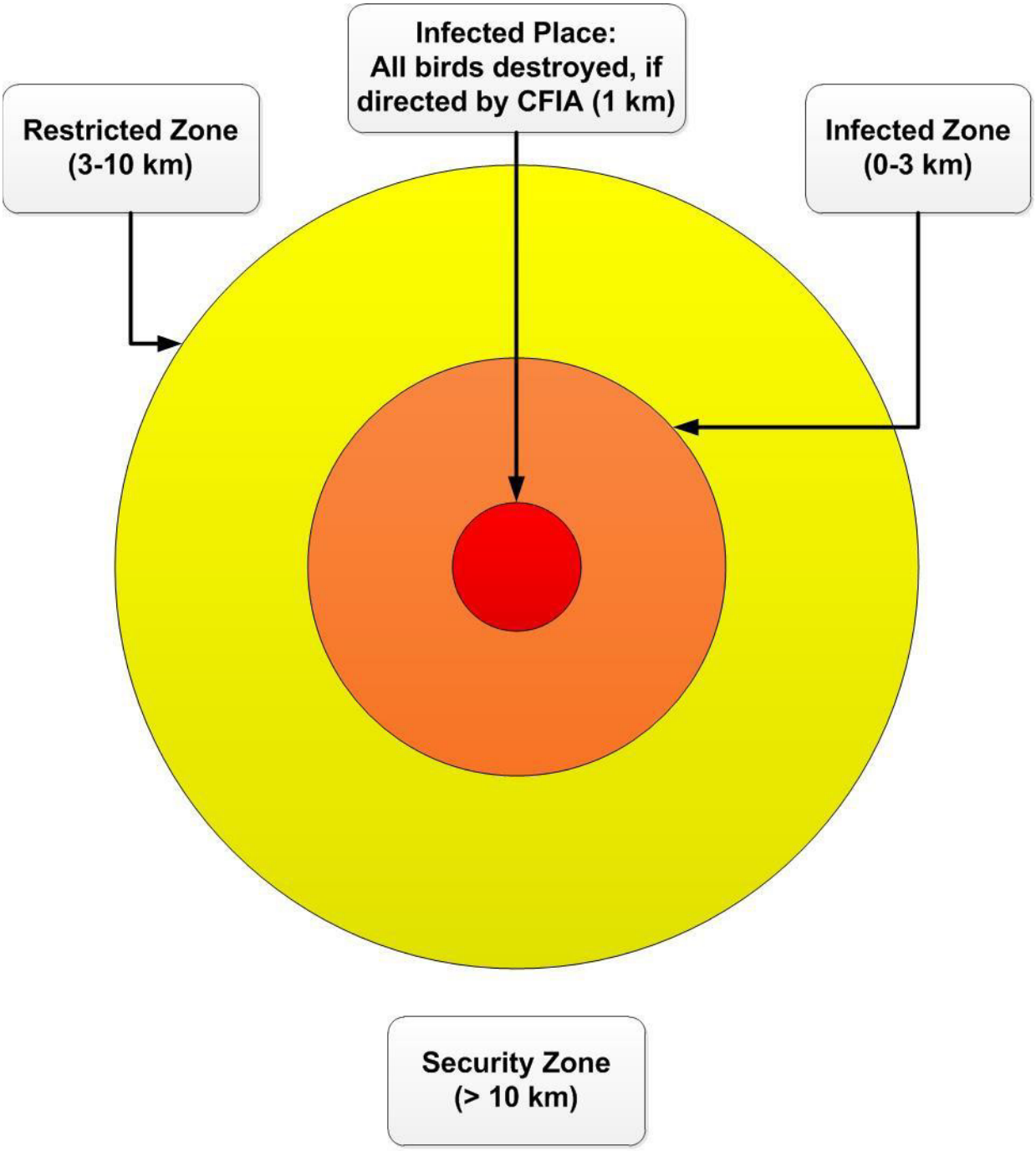
There may be additional licensure, serological surveillance and traceability requirements imposed.

# Section 4: Control Area and Movement Controls

For a Foreign Animal Disease (*FAD*), the Control Area and movement controls are monitored and enforced by the CFIA and for a provincially named disease by PEIDA. As these controls will be specific to the disease situation, *this section is intended as a guide of what might happen in a real outbreak*. A Declared Infected Place will have specific movement controls in place. An Infected Zone will be determined within 3km (*AI*) of any Declared Infected Place. A Restricted Zone (*10km*) may or may not be established depending on the virulence of the infectious organism. The Infected Zone together with the Restricted Zone and Security Zone are collectively referred to as the Primary Control Zone (Figure 1). If a Primary Control Zone is declared, strict movement controls will be invoked for the Infected Zone, the Restricted Zone, and the Security Zone. In order to facilitate the eradication program, the Zones will be determined considering natural barriers and roadways.

Prior to the declaration of a Primary Control Zone, the CFIA will liaise with provincial and regional industry representatives to impose a Voluntary Cease Movement. The declaration of a Control Zone prescribes the initial restriction of movement and other imposed conditions on places, risk goods, conveyances, and risk activities. This will be referred to as a Poultry Standstill, the purpose of which is to minimize the risk of significant disease spread. It is anticipated that the Control Area will be restricted to a province or part of a province.

## Figure 1. Foreign Animal Diseases Zones




All zones are collectively under the Control Area

## Declared Infected Place

A Declared Infected Place may be an infected premises, exposed premises, control premises or simply premises in close proximity to infected premises.

## Movement Controls

a. **All animals - including avian species**

- Prohibited from moving on or off premises except under license from CFIA. Licensure may include pre-movement surveillance testing.

b. **Poultry products, eggs, and byproducts**

- Prohibited from moving on or off premises except under license from CFIA.

c. **Feed**

- Movement of feed out of infected premises is prohibited, if considered as a potential source of pathogen.
- Contaminated feed (or feed suspect for contamination) will be destroyed, preferably on site.
- Feed may be delivered to infected premises under license, subject to strict quarantine and decontamination procedures on entry/exit from poultry premises.
- Feed mills that are epidemiologically linked (contaminated) will be considered separate infected premises. Appropriate quarantine and movement controls will apply before and after declaration.

d. **Litter**

- Prohibited from moving on or off premises except under license from CFIA.

e. **Equipment and Vehicles**

- May only be removed from infected premises after thorough C&D. Protocols will be provided.

f. **Pets**

- Dogs, cats, and other non-susceptible potential spreaders should be confined.

g. **Fertile Eggs**

- Movement off premises is prohibited. Eggs should be destroyed on site.

h. **Personnel**

- Personnel may leave the premises using their personal vehicle after decontamination of the vehicle. Clothes, footwear, and any materials should be left on the infected premises. If these items need to be removed from the infected premises, they **MUST** be decontaminated (strict biosecurity).

## Infected Zone Within 3km of Any Declared Infected Place

The Infected Zone involves a 3km radius from any declared infected premises. More than one Infected Zone might be determined. This zone around the infected premises is subject to intense disease/ movement controls.

Limits of the infected zone(s) can be established as appropriate (the WOAH minimum is three km).

The Infected Zone does NOT need to be circular but can have an irregular perimeter to follow natural barriers and roadways - provided that the boundary is at least the designated distance from any infected premises.

Prior to ministerial declaration of a Control Area, pre-movement surveillance testing and movement under license of poultry, poultry products may occur.

**After ministerial declaration of a Control area, ALL conditions described for the infected premises will apply to ALL premises in the infected zone.**

## Movement Controls

a. **Avian Species**

- NO susceptible species will be allowed to move onto or from any premises within the Infected Zone without a license.

- ONLY poultry from premises with no epidemiological links to known infected places or high-risk premises can be moved, under license, for slaughter at an approved site within the infected zone. These flocks will be inspected prior to movement and pre-movement surveillance testing will be performed.

b. **Products and By-Products**

- Prohibited from moving in or out of Infected Zone except under license.

c. **Feed**

- Movement of feed out of the Infected Zone is prohibited, if considered a potential source of pathogen.

- Contaminated feed (or suspected) will be destroyed, preferably on site.

- Feed may be delivered to suspect premises under license, subject to strict disease control and decontamination procedures on entry/exit from poultry premises.

- Feed mills that are epidemiologically linked (contaminated) will be considered separate infected premises. Appropriate disease and movement controls will apply.

d. **Vehicles**

- Vehicles used to transport poultry or poultry products within the Infected Zone MUST undergo thorough C&D at an approved station prior to leaving zone.

e. **Livestock**

- Livestock other than poultry are also included in movement restrictions but may move under license to slaughter at an inspected abattoir. Issuance of license will be contingent on procedures used to prevent the spread of disease.

f. **Poultry Markets etc.**

- Live bird markets, sales, fairs, zoos, and other poultry concentrations will be closed.

- If birds within these concentrations are known to be infected, they will be

ordered destroyed.

g. **Personnel**

- Poultry veterinarians and other industry personnel working in the Infected Zone should NOT visit poultry premises in any other zone.
- Strict biosecurity protocols MUST be followed before and after any visits within the infected zone.
- Owners of premises within the control area are responsible for compliance with movement restrictions, biosecurity, and C&D protocols. The CFIA will issue a notice of biosecurity requirements which apply to the entire control area.

h. **Hatcheries**

- MUST receive eggs only under license from premises known to be free of infection.
- Should be NO direct or indirect contact with infected premises.
- Chicks can be distributed ONLY within the Infected Zone under license.
- Chicks from the hatchery MUST be kept by producer for a minimum of 21 days.

i. **Litter**

- Movement of litter from infected premises, or out of the infected zone, is prohibited, except under license.

j. **Table Eggs**

- Eggs from non-infected premises within the Infected Zone may move under license.
- Movement of eggs out of the Infected Zone for further processing may be permitted under license subject to strict sanitation procedures.

k. **Preservation of Genetic Stock**

- Preservation procedures of valuable genetic stocks of turkey, chickens and exotic pets and birds may be considered by CFIA. These preservation procedures would be at the owner=s expense.

l. **Processing Plants**

- Plants within the Infected Zone can receive poultry for slaughter under license.

- Licensed transportation of poultry to slaughter MUST follow CFIA approved routes.

- NO employee should have contact with poultry outside working hours at the plant.

- Strict C&D protocols need to be in place for ALL personnel leaving the plant.

- Waste products for further processing can be moved under license in a closed, leak-proof vehicle following approved routes.

## Restricted Zone Within 10km of Any Declared Infected Place

The Restricted Zone is defined as an area that surrounds the infected zone, being 10km from any infected place (based on WOAH standards).

The distribution of susceptible species, natural barriers, traffic routes and processing plants are important factors that should be considered in determining boundaries.

## Movement Controls

a. **Avian Species**

- Movement of avian species is under license within the restricted zone.
- Poultry can move under license to a processing plant inside/outside this zone.

b. **Vehicles**

- Vehicles used to handle or transport poultry MUST undergo thorough C&D under supervision or satisfaction of CFIA.
- Vehicles used to handle or transport poultry must follow CFIA approved routes.

c. **Hatcheries**

- Hatcheries may operate in the restricted zone.
- Hatcheries MUST receive hatching eggs from premises known to be free from infection.
- Eggs MUST be sanitized on the farm and moved ONLY in sanitized trays, dollies, or new containers.

- Hatching eggs may be ordered from outside the Restricted Zone from flocks participating in a dead bird surveillance program.

- Good record keeping is **essential**.

d. **Processing Plants**

- Processing plants may receive birds under license from within the restricted zone.

- Birds from outside Restricted Zone can be slaughtered at a plant within the restricted zone.

- Vehicles used to transport poultry from outside the Restricted Zone MUST undergo C&D prior to leaving zone and follow CFIA approved routes.

- Processing plants need appropriate protocols for ALL personnel and equipment leaving the plant.

e. **Table Eggs**

- Eggs may be moved within the Restricted Zone without restriction.

- Movement of eggs outside this zone is permitted under license and sanitization as directed by the CFIA.

f. **Feed**

- Movement of feed out of the Restricted Zone is prohibited except under license.

g. **Veterinarians**

- Poultry veterinarians within this zone **MUST strictly follow** biosecurity protocols.

## Security Zone (between Restricted Zone and Control Area border)

A Security Zone is a zone within the control area being between the boundaries of the Restricted Zone and the outer boundaries of the Control Area.

## Movement Controls

a. **Avian Species**

- Movement of birds within the Security Zone is under license.
- Movement under license of birds into the security zone.
- Producers MUST keep records of ALL bird movements.

b. **Hatching Eggs**

- Movement is under license without restriction into or within the security zone.
- There MUST be NO movement of eggs outside of the control area.

c. **Processing Plants**

- Movement is under license without restriction into or within security zone.

d. **Table Eggs**

- Movement is under license without restriction into or within security zone.
- Movement is under license with restrictions out of control area.

# Section 5: Human Health Precautions/Considerations

Public health and/or occupational health officials should be involved in the response to avian disease emergencies, or at the very least MUST be consulted, to help minimize the risk to human health and prevent zoonotic disease *(*i.e., diseases that can be transmitted between animals and humans*)*. **Basic biosecurity precautions should be followed** to ensure that persons involved in emergency response or routine work with poultry minimize their risk of exposure to pathogens *(*disease-producing agents*)*. Feces and urates *(*i.e., droppings*)*; secretions from the beak, nostrils, and eyes; other body fluids, body parts and aerosols from birds **can ALL carry pathogens that could pose a risk to human health**.

## Minimizing Exposure

Exposure to MOST avian pathogens can be prevented by wearing waterproof gloves, protective clothing, and waterproof footwear. These items should be removed after working with birds or being in barns where birds are housed or have been held. Contaminated clothing should be washed with soap and hot water, and footwear should be cleaned and disinfected with an appropriate disinfectant.

## Eating, Drinking, Handling Food and Smoking

Persons should preferably shower and wash their hands thoroughly with soap and hot water, or at the very least apply an alcohol gel disinfectant to their hands before eating, drinking, handling/preparing food, or smoking. This will help to minimize the risk of acquiring bacterial infections such as Salmonella or Campylobacter, and viral pathogens such as Avian Influenza virus.

Persons should REFRAIN from eating, chewing gum, drinking, or smoking while working with birds or in barns where birds are being housed or have been held.

## Viral Diseases That Affect Birds and Humans

For viral diseases that can affect both birds and humans (e.g., Newcastle disease, AI) and that can be transmitted by contact with mucous membranes, protective eye wear, face masks, and possibly full protective biohazard suits may be REQUIRED. Some bacterial diseases (e.g., Chlamydiosis or Psittacosis) may also mandate similar protection.

Good quality protective masks and eyewear may also be required in barns where ammonia levels are high or where other noxious odours (e.g., from decomposing dead birds) are present.

## Carbon Dioxide

If carbon dioxide ($CO_2$) is used to depopulate entire flocks while they are in the barn, care MUST be taken to follow safety precautions, and to fully air out the barn after the depopulation is depleted before any personnel are allowed to enter the barn. **Carbon dioxide CAN BE FATAL for humans** as well as birds. Carbon dioxide should NEVER be used by people who are in a small, enclosed space.

## Emotions/Fatigue

Emotional support may be required for persons involved in the mass depopulation of birds, and for the owners of flocks suffering high losses or requiring mass depopulation. Fatigue may put emergency responders at greater risk of making judgment errors and being exposed to potential pathogens.

## Poultry Diseases and Disease Agents That May Pose a Risk for Humans

A list of some of significant poultry diseases and common poultry disease agents that may pose a risk for human health follows below:

- **Avian Influenza**

  The effect of AI varies with the strain of the virus and may range from no effects; to mild respiratory disease with conjunctivitis; to severe life-threatening disease; to death.

- **Newcastle Disease**

  Newcastle Disease may cause conjunctivitis.

- **Chlamydiosis (*Psittacosis*)**

  Chlamydiosis (*Psittacosis*) may cause flu-like illness with fever, headache, and malaise; pneumonia; nosebleed; enlarged liver; meningitis; inflammation of the heart and heart valves; abortion; and death.

- **Salmonella, Campylobacter**

  Salmonella, Campylobacter may cause abdominal pain, diarrhea, and nausea, sometimes with fever, headache, and flu-like symptoms; may spread into blood.

- **Verotoxigenic *Escherichia coli* (VTEC)**

  Blood and/or kidney disorders may result from VTEC infections.

# Section 6: Biosecurity Measures

## Production Facilities

### Recommendations to Prevent the Spread and/or Introduction of AI

Based on current understanding of AI virus sources and transmission, the following recommendations have been designed to prevent the spread of Avian Influenza between poultry premises, as well as to prevent the introduction of new AI infections to susceptible birds. While AI is referenced directly throughout much of this Section, the biosecurity recommendations presented apply to MOST other infectious diseases. We have outlined these recommendations based on the three key principles of Biosecurity: **isolation, traffic control** and **sanitation**. Recommended actions for Green/Normal Biosecurity Operations, Yellow Alert/ Enhanced Biosecurity conditions and Red Alert/ Emergency conditions are provided (see Section 3 for definitions).

#### *Green/Normal Biosecurity Operations*

When working under Green/Normal Biosecurity Operations, producers should consistently follow biosecurity procedures found in their on-farm food safety program.

1. Standard biosecurity, sanitation and communication protocols are in effect (industry minimums).

2. Passive surveillance for disease conditions (observation and testing where appropriate) is in place.

3. ALL suspicious cases are to be investigated IMMEDIATELY to ensure any outbreak of disease is detected early.

In the event of a confirmed AI outbreak, the CFIA will impose isolation, traffic control and sanitation protocols appropriate for your situation. Prior to confirmation of an infection, follow these guidelines. Your veterinarian can help you incorporate them into a biosecurity plan specific to your operation.

Further information on the National Avian On-Farm Biosecurity Standard may be reviewed on the CFIA website at ***http://www.inspection.gc.ca/animals/terrestrial-animals/biosecurity/standards-and-principles/eng/1344707905203/1344707981478***. Information on biosecurity is also posted on the Poultry Industry Council's website at ***https://emergency.poultryindustrycouncil.ca/emergency-planning/disease-outbreak-and-biosecurity/disease-outbreak-and-biosecurity-an-introduction***.

### *Yellow Alert/Enhanced Biosecurity*

Prior to confirmation of an infection, follow these guidelines. Your veterinarian can help you incorporate them into a biosecurity plan specific to your operation. In the event of a confirmed FAD outbreak, the CFIA will impose isolation, traffic control and sanitation protocols appropriate for your situation.

A. **Isolation -** refers to the confinement of animals within a controlled environment that excludes vectors of disease. A barn keeps your birds in and keeps other animals out. **Mechanical transmission of virus by anything that can walk, crawl, or fly from farm to farm should be presumed.**

    1. Shower and change your clothes before entering poultry facilities.

2. Keep a pair of boots in each barn that are worn ONLY in that barn. Every time you enter, put the boots on. Leave them in the barn every time you exit. Clean and disinfect the boots between flocks.

3. Clean out vegetation around poultry barns and pens to remove shelter and food for possible carriers.

4. Institute a vector control program for insect, mammalian, and avian vectors. These vectors are important because they can mechanically carry infected feces from one barn, pen, or premises to another.

5. Improve barriers to prevent the access of wild birds to poultry barns.

6. Institute an insect control program. Flies of several species are important in the transfer of AI virus.

7. Rodents have been implicated in the transfer of AI virus. Rodent control and preventing their traffic between barns are essential.

8. Prevent the accumulation of standing water. This is a great attraction to migrating waterfowl and shorebirds, both of which have been implicated in AI outbreaks.

   ALL birds can transmit AI virus mechanically, but waterfowl and shorebirds, including gulls, are IMPORTANT because they can bring the virus into a previously uninfected flock and begin an infection that rapidly spreads.

9. Limit sources of food and water for wild birds. Clean up spills when they happen.

10. It is HIGHLY RECOMMENDED that you educate your employees about the dangers of live bird markets and advise them not to raise their own poultry or other birds such as parrots, budgies, parakeets etc. for any purpose. Also advise employees NOT to visit live bird markets or other poultry premises when they might also have contact with your flock.

11. Avoid dead wild birds. Any found on your premises MUST be treated as though they are highly infectious. Handle them with gloves, place them in a plastic bag, seal it and dispose properly, preferably by incineration.

B. **Traffic Control -** includes the traffic onto your farm, the traffic patterns within the farm and leaving your farm.

1. The spread of AI follows the movement of people and traffic.

2. Be a good neighbor. If you suspect AI or any other poultry disease of importance, initiate a self-imposed quarantine.

3. Keep **logbooks** of visitors to your facilities. Visitation logs can provide useful information for tracing a disease outbreak.

4. Keep human farm-to-farm traffic to a minimum. Conduct business by phone when possible.

5. Find out where someone has been before inviting them onto your premises, including contact with other birds. Inspect visitors for evidence of cleanliness.

6. Make NO UNNECESSARY VISITS to other farms.

7. DO NOT let truck drivers, repairmen, or delivery personnel step out onto your facility without clean or new protective foot covering and clean coveralls**. It is best to provide plastic boots and coveralls for this purpose.** Shoes and clothes are an excellent vehicle for the transmission of many pathogens (including AI).

8. If your company has several farms, establish zones to PREVENT one person from traveling to ALL farms.

9. Require employees and crews to wear freshly laundered clothing or clothing supplied at the farm each day. DO NOT ALLOW people employed at other poultry operations on your premises.

10. Infected carcasses can be a significant source of AI Virus. Dispose of dead birds **as soon as possible**, according to Provincial Environment guidelines and regulations.

C. **Sanitation -** addresses the disinfection of materials, people and equipment entering the farm and the cleanliness of the personnel on the farm. Either consult your veterinarian or refer to the list on page 6-7 to select the best product for your usage needs.

**Organic material greatly increases the resistance of AI viruses to disinfection.**

The specifics of cleaning and disinfecting any facility will depend on many factors that differ among farms. It is not possible to address each individual concern. However, these are some guidelines that generally address cleaning and disinfection and some facts that should be considered when developing a strategy for barn cleaning and disinfection. **In all situations, it is highly**

**recommended that your veterinarian be consulted to help develop and implement any plans.**

1. Influenza virus is sensitive to most disinfectants, but organic material MUST be removed before disinfection can be effective.

2. AI virus can also be inactivated by heat, such as that produced during composting. There are examples of heating barns to 90°F/32.2°C or higher to inactivate the virus.

3. Prevent the spread of AI virus on equipment. Make sure that service personnel vehicles are NOT CONTAMINATED with litter or feces. Wash and disinfect the tires and wheel wells of all vehicles coming onto your premises. Alternatively, vehicles can be parked outside the farm perimeter. Service personnel can then don plastic booties and walk on to the farm. Upon leaving, the booties can be tossed in a receptacle provided at the farm exit.

4. Wash and disinfect manure clean-out equipment taken from farm to farm.

5. Enclose ALL dead birds to be taken to the laboratory in plastic bags. Confine live birds being submitted to the laboratory in boxes that will not return to your farm. Disinfect any vehicles returning from the laboratory including the floor mats. DO NOT let personnel who have been to the laboratory return to your facility without a shower and a change of clothes.

6. DO NOT allow vehicles in areas grossly contaminated with manure.

7. Wash and disinfect ALL egg trays, carts, and racks. Remove all feathers, feces, and egg material.

8. AI virus can be transmitted at egg breaking facilities and poultry processing plants. Equipment MUST be cleaned and disinfected at these facilities to prevent the spread of virus to producers bringing their eggs or poultry to the plant.

## Disinfectants

The influenza virus is sensitive to almost any disinfectant. However, it is very difficult to inactivate the virus if it is in organic material, such as feces.

Common disinfectants:

| Active ingredient | Concentration | Contact time |
|---|---|---|
| Oxidizing agents: Peroxigen (Virkon) | 1 % | 10 minutes |
| Oxidizing agents: Sodium Hypochlorite | 10,000 ppm (1 %) | 10 minutes |
| Synthetic phenols: Ortho phenylphenol | 1200 ppm | 10 minutes |
| Alcohols | 70 % ethanol | 10 minutes |

Disinfectants and other methods that will kill Avian Influenza Virus:

1. VIROCID
2. Virkon S
3. One-Stroke Environ
4. Formaldehyde
5. Bleach
6. Ammonia
7. Acids (i.e., Vinegar)
8. Heating to 90°F/32.2°C for 3 hours, 100°F/37.8°C for 30 min.
9. Drying
10. Iodine containing solutions
11. Almost any detergent will inactivate AI virus **if the contact time is long enough**. Consult manufacturer's recommendations.

## Equipment to Use in this and Other Biosecurity Programs

1. Portable high-pressure sprayers can be purchased from hardware stores. These sprayers are useful in washing and disinfecting equipment and poultry barns.

2. Hand-held sprayers can be purchased from hardware stores. These items are helpful for spraying disinfectants on the floor mats of cars, disinfecting wheel wells, etc. In addition, the same type of sprayer can be used to distribute insecticides in a vector control program.

3. Disposable coveralls, boots, and caps can be purchased from several places. These items are useful to provide for visitors.

4. Other materials important in a biosecurity program including signs, gates, pylons, and other indications of barriers can be purchased for minimal cost.

## *Red Alert/Emergency*

In the event of a confirmed FAD outbreak, the CFIA will impose isolation, traffic control and sanitation protocols appropriate for your situation.

## Technical Service Personnel

Communication, preparation, and planning steps **are critical to effective biosecurity measures** when visiting farms. Technical service personnel are encouraged to call producers in advance to book the farm visit.

Technical service personnel are defined as poultry veterinarians, government extension staff, salesmen, repair/maintenance, and other service personnel to the farm.

The measures outlined below are Yellow Alert/Enhanced Biosecurity measures that should be taken in the case of a suspected disease outbreak and should not preclude or replace normal biosecurity measures (i.e., On-Farm Food Safety plan).

1. **Prepare Vehicle**

   **Vehicle Equipment**

   a) Divide the vehicle into CLEAN (such as passenger area, interior of clean equipment box) and DIRTY compartments (such as trunk of car/truck bed, dirty equipment box). **Never enter the clean compartment with soiled footwear and/or soiled clothing.**

   b) Rubber (washable) floor mats should be placed for each person in the vehicle.

   c) Use a rubber or heavy plastic liner to cover the whole trunk or truck box. Remove it for cleaning and disinfection.

   d) Place large plastic containers on the liner as equipment carriers. Designate as CLEAN or DIRTY.

e) Fill a pump-up sprayer with appropriate disinfectant solution (such as a quaternary ammonia or phenol for tires and footwear).

**Personal Biosecurity Kit**

a) Disposable boots of heavy plastic (**at least 3 mil**).

b) Washable coveralls that can be easily cleaned and disinfected and/or disposable coveralls (reinforced paper).

c) Disposable head coverings, dusk masks, disposable gloves.

d) Polyethylene bags to store used coveralls and contaminated articles.

e) Hand disinfectant and cleaner, paper towels.

f) A smaller spray or squeeze container filled with disinfectant solution can be used for cleaning small equipment.

g) Winter parkas should generally NOT be used over coveralls at any time around barn areas. Use warm, non-bulky layers under coveralls.

**Equipment Kit**

a) Load required testing equipment in a plastic, non-permeable toolbox that can be easily cleaned and disinfected. **Use separate compartment or a separate box for soiled tools.**

b) Samples for submission should be SEALED in plastic bags.

c) Use a plastic clipboard or folder (cleanable) for records.

2. **Know Your Client's Biosecurity Expectations and Respect Them**

- Current biosecurity procedures (could include shower in, company clothing requirement, no previous poultry visits 24 hr.)

- Who should be present for the farm visit.

- History of disease and of current problem if any.

- If possible, visit youngest to oldest, healthiest to sickest.

- Keep a personal daily log of ALL visits for possible trace-back purposes.

## Farm Entry Procedures

1. **Entering Laneway**
   a. Drive slowly (**less than 15 km/hr**) to avoid tires throwing debris into wheel-wells.

   b. Avoid large puddles, heavy mud, and obvious manure whenever possible. Inform the owner if these problems are present.

   c. Park a MINIMUM of 100 feet from the barn, in a designated area if present, away from heavy traffic areas and ventilation exhausts.

   d. Yellow Alert/Enhanced Biosecurity - park a MINIMUM of 200 feet from the barn.

   e. Yellow Alert/Enhanced Biosecurity - spray tires and undercarriage with disinfectant at road PRIOR to entering laneway.

   f. Keep vehicle windows CLOSED to prevent insects from entering.

2. **Preparing to Enter Barn**
   a. Put on CLEAN coveralls, disposable boots, (hairnet and mask also recommended) beside the vehicle. If ball caps are worn, there MUST be a clean one for each barn. A supply of CLEAN coveralls, etc. is kept in the CLEAN part of the vehicle.

   b. The use of double plastic boots is RECOMMENDED if spending longer time in barn.

c. Take ONLY the required equipment and recording necessities into barn using cleanable toolbox.

d. Inform producer of arrival.

e. Sign and date the logbook.

f. Yellow Alert/Enhanced Biosecurity - disposable gloves, hairnet and mask are ALL required. A second pair of disposable boots is put on just prior to entering the barn. **If suspicious history, a second pair of disposable coveralls is put on prior to entering barn.**

## Farm Exit Procedures

1. Wash hands well, if facilities exist, PRIOR to exiting barn.

2. Dispose of gloves, hairnet, mask, second pair outer boots/ outer coveralls (if worn) at barn door.

3. Return to vehicle area.

4. Disinfect exterior of test kits, equipment and clipboard with spray disinfectant and wipe with paper towel (and hands if not already washed). Pump hand wash units should be considered as part of the biosecurity kit.

5. If equipment is satisfactorily cleaned, it can be returned to the CLEAN area of the vehicle. If not, it is placed in designated plastic carriers in the DIRTY compartment.

6. Test samples (vials, box pads, bird samples) are potentially contaminated and MUST be properly packaged in clean outer plastic bags and stored/carried in the

DIRTY compartment.

7. Remove and dispose of plastic boots. If possible, leave ALL disposable contaminated materials at the farm. Otherwise, seal them in a clean plastic bag and store in the DIRTY compartment.

8. Remove soiled coveralls WITHOUT contaminating street clothing, and seal in a heavy-duty polyethylene bag or plastic carrier in the DIRTY compartment.

9. If in Yellow Alert/Enhanced Biosecurity, using spray canister, disinfect wheels, wheel wells and street footwear. Clean and disinfect the outside of the canister before returning to DIRTY area.

10. Clean and disinfect hands using hand wash sanitizer **before** entering vehicle. Do NOT cross contaminate by handling DIRTY material again.

11. Depart premises. In most cases, driving for **5 km at minimum 40 km/hr** produces enough heat in the tires from friction to inactivate most pathogens.

12. If a suspect farm for economically significant disease, wash vehicle, shower **before** visiting next farm. In case of serious or exotic diseases, a waiting period of at least 72 hours MUST be imposed before having further contact with live poultry or poultry premises.

## Return to Base and Sample Submission

1. Submit ALL samples to the lab **as soon as possible**. Leave inside the clean outer plastic bags. **Do NOT reopen.**
2. Fill out the entire submission form with identification of farm, sample, full history, and tests requested. Sanitize hands and footwear **prior** to returning to vehicle

from lab.

3. Empty DIRTY compartment completely at least once daily. **Immediately dispose of ALL garbage**, preferably in exterior container. Carry DIRTY laundry inside in the closed plastic bag or container.

4. Thoroughly clean and sanitize ALL equipment used, DIRTY carry containers inside and out, and plastic base they sit on prior to returning them to vehicle.

5. Laundry facilities should allow easy sanitization and have separate area for receiving DIRTY laundry, **(handle as contaminated product**), followed by area for washer, area for dryer (CLEAN) and separate clean storage area.

6. For washing biosecurity garments, hot water, strong detergent, bleach, and high dryer temperatures are recommended.

## Vehicle Washing

1. Vehicle MUST be completely washed including interior cleaning, **once weekly as a minimum**.

2. The exterior of the vehicle should be washed **daily** if farm visits are done.

3. For routine vehicle washing, a commercial carwash is acceptable (drive through or pressure wand). Hose washing with pails/brushes at home in an area with NO poultry activity is also acceptable.

4. If in a Yellow Alert/Enhanced Biosecurity scenario, the vehicle exterior MUST be washed **between each farm visit**. The interior MUST be cleaned **daily**. If using a pressure washer, wear coveralls/ boots during cleaning and remove/sanitize

them before entering vehicle.

5. **Sequence is important -** go from top to bottom, outside to inside**.**

6. Half-ton truck cargo area should be considered vehicle exterior.

### *EXTERIOR (at least weekly or daily as required)*

1. Use water **at pressure** (ideally from a pressure washer) to rinse the exterior of the vehicle, including wheel wells, wheels, and exposed chassis, to remove ALL visible organic material.

2. Wash ALL areas with detergent suitable for vehicles, **ideally using hot water** (60-77°C, 140-171°F) and pressure application if available (400-500 psi).

3. Using water **at pressure** rinse ALL external areas (can be cold water). Inspect to be sure NO organic material/debris remains.

4. In Yellow Alert/Enhanced Biosecurity, disinfect ALL vehicle surface areas with appropriate approved disinfectant (such as quaternary ammonia or phenol) using hand sprayer or proportion sprayer.

### *INTERIOR (at least weekly or daily in alert situation)*

1. Remove and dispose of ALL garbage. Remove loose objects and clean/sanitize containers before returning them to the cleaned vehicle. Clean/sanitize DIRTY containers inside and out.

2. Remove, wash, and sanitize floor mats and trunk liner.
3. Vacuum interior of vehicle including seats, floors, and trunk.

4. Clean panels, windows, steering wheel, floor pedals with detergent and disinfectant.

5. **Inspect entire vehicle and associated objects** for adequate cleaning. Re-clean any deficient areas.

6. Return containers, mats etc. to their appropriate spots.

7. In Yellow Alert/Enhanced Biosecurity situation: Mist interior of vehicle with Lysol Spray.

8. Clean up cleaning area. **Disinfect footwear and hands before entering the vehicle.**

### *Suitable Disinfectants/Sanitizers*

Some of the more common ones are identified below. There are many more. **Note: If there is a degreaser in the formula, the product may be hard on vehicle paint.**

- **Quaternary Ammonia**

  dilution 1:128 (1oz/gal) to 2:128 (2 oz/ gal)

  Trade names: Ascend, Swish Food Service 1000 or 2000, Coverage 256, Enviro-Solutions

  *General purpose neutral disinfectant.*

- **Phenols**

  dilution 1:128 (1oz/gal) to 2:128 (2 oz/ gal)

  Trade names: One-Stroke Environ, LpH Ag

- **Hand Disinfectants**

  Trade names: Cida-Rinse, Bacti-stat, Purell hand sanitizer.

  **Note: Virkon is very effective as a sanitizer, but very corrosive and hard on all metal surfaces.**

- **Steam** (for Influenza)

## Specific Measures for Yellow Alert/Enhanced Biosecurity

1. Spray tires and undercarriage with disinfectant at the road **prior** to entering laneway.

2. Park a MINIMUM of 200 feet from barn.

3. Disposable gloves, hairnet and mask are ALL required. A second pair of disposable boots is put on just **prior** to entering the barn. A second pair of disposable coveralls is put on **prior** to entering barn.

4. At the farm entrance **before exiting**, use a sprayer to disinfect wheels, wheel wells, and street footwear. Clean and disinfect the outside of the sprayer before returning it to the DIRTY area.

5. The vehicle exterior MUST be washed **between each farm visit**. The interior MUST be cleaned **daily**. If using pressure washer, wear coveralls/boots during cleaning and remove/ sanitize them before entering vehicle. In case of serious or exotic diseases, a waiting period of **at least 72 hours** may be imposed before having further contact with live poultry or poultry premises.

6. Disinfect ALL vehicle surface areas with approved disinfectant (quaternary ammonia or phenol) using a hand sprayer or proportion sprayer.

7. Mist interior of vehicle with Lysol Spray or approved product.

## Specific Measures for Red Alert/Emergency

**As a minimum, all the above procedures apply.** In the event of a confirmed AI outbreak, the CFIA will impose additional biosecurity, traffic control, and sanitation protocols appropriate for the situation.

## Operating Procedures for Catching, Cleaning and Disinfecting Crews (Broiler Operations)

The following biosecurity measures are expected to be used by catching and other crews **prior to entering and after leaving any poultry farm** during Green/Normal Biosecurity Operations, Yellow Alert/Enhanced Biosecurity, and Red Alert/Emergency situations. Due to the specific circumstances under which these crews work on a daily basis, these suggestions are expected to be practical and reasonable. It is common that broiler-catching crews visit more than one farm on any given day. Therefore, certain steps should be considered before and after each visit.

### A. General Considerations

#### *Catching Crews*

1. Catching crews should NOT own poultry or other birds.

2. Catching crews should AVOID visiting locations that have backyard poultry and/or swine. **This would include family members or friends.** In situations where visits have been made, a full change of clothes and a shower is REQUIRED before going to work.

3. Catching crews should AVOID visiting other poultry and/or swine facilities. In situations where visits have been made, a full change of clothes and a shower is REQUIRED before going to work.

4. Catching crews should NOT enter any poultry farm sites before changing into clean clothes and footwear.

### *Catching Crew Supervisor*

1. The catching crew supervisor will ADVISE the crew of the number of clothing and footwear changes that will be required for the work period **(one clothing and footwear set per farm visit**).

2. The catching crew supervisor will PRE-CHECK the crew to ensure that each member has the necessary clean clothing and footwear.

3. The catching crew supervisor MUST be aware and advise the crew that the farm manager/owner has the right to inspect ALL vehicles, equipment, footwear, and clothing and may, as a result, request additional biosecurity measures.

4. The catching crew supervisor **will keep a daily log** of ALL catching jobs (date, time, crew members, location, flock information, and general notes as necessary).

5. The catching crew supervisor **is responsible for ensuring the biosecurity procedures are followed by crew members**.

6. The catching crew supervisor should, **prior** to catching, be aware of the general health status of the flock so that co-ordination of flock catching, beginning with the healthiest, can take place.

7. The catching crew supervisor will provide transportation for the crew and ensure the vehicle is CLEAN.

8. The catching crew supervisor will control ALL visitors during the catching and **log visitors** to the barn.

## B. At the Farm and Before Entering the Barn

1. Catching crews **should stay in or near** the vehicle until the catching crew supervisor discusses loading details with the farm owner/ manager.

   The catching crew supervisor should provide COMPLETE information in the farm log sheet.

   The catching crew supervisor should coordinate with the flock owner and:

   - Determine the barn(s) that will be loaded.
   - Identify any off-limit areas.
   - Identify location of washroom and changing area (to be used for changing, washing hands, and taking a break).
   - Inquire if the owner has **specific biosecurity requests**, and respect these.
   - Ensure that the owner or his/her representative is readily accessible during the catching job.

2. Leave vehicle windows and doors CLOSED while working inside the barn(s).

3. Park the vehicle in a designated area (identified by the owner), **away from the barns(s)**.

4. The vehicle (which is considered a CLEAN area) **should NOT be entered** during the catching job, unless ALL necessary measures have been taken (Section E). This is to prevent the contamination of the vehicle interior.

5. In the designated changing area, catching crews should change into clean barn clothes. Footwear (boots, catching shoes) should be **cleaned** and **disinfected BEFORE** entering the bird area.

6. If a Yellow Alert/Enhanced Biosecurity situation exists in the area, **additional biosecurity measures MUST be considered** (refer to Section F).

## C. During the Catching Process

1. Catching crews that work inside the barn should LEAVE their coats and hats in the change room (except for catchers that stay outside the barn to load the truck).

2. Catchers should NOT visit other barns.

3. Stray birds can be a potential health risk to other flocks. Farm manager or his/her representative should cull these birds **as soon as possible**.

## D. After Catching and Before Leaving the Farm

1. **Clothes**

   In the designated area (pre-determined) any noticeable debris from the crew's catching clothes should be removed. Catching clothes should be **placed in garbage bags and tied shut**.

**Shoes**

Catching shoes should be completely brushed (hard brush is preferred) and DISINFECTED. Cleaned and disinfected shoes should be placed in a CLEAN container (or bag) and placed in a CLEAN area of the vehicle.

**Hands and Face**

Hands and face should be washed with water and soap and dried **before** entering the vehicle. Use warm water to wash hands (if possible). Use **nailbrush** to clean under fingernails. It is recommended that hands should be washed with *antibacterial soap* and then an **alcohol gel** product should be applied.

Remember that washing **must be done first** with soap **before** using the gel solution disinfectants.

**NEVER enter the vehicle with dirty clothes/shoes.**

Catching crews should NOT visit the second scheduled catching job until this entire step one of Section D is completed.

2. Leave any disposable materials (disposable coveralls, footwear, hair covering, masks, lunch bags, etc.) AT THE FARM in containers designated by the flock owner.

3. The operator should remove any excess debris from the forklift and blow or wash it down. Using pressure washer, exterior parts of the truck and any other equipment used for catching should be **washed and misted with disinfectant**.

4. ONLY equipment that has been cleaned, and disinfected can be returned to the CLEAN area (or containers) of the vehicle. Remember to **clean and disinfect**

**hands** (Section D-1) **before entering the vehicle** and do NOT cross-contaminate by handling DIRTY materials again.

5. Catching crews should **NOT** visit stores, restaurants, etc. during and after catching unless Section D-1 is completed.

## E. Vehicle

### General

1. Vehicles should be divided into two different sections. CLEAN compartment (passenger area, interior of clean containers) and DIRTY compartment (truck bed and dirty containers).

2. Use rubber floor mats (washable) for each person inside the vehicle.

3. Use a **single piece of plastic** to cover the whole trunk so it is more easily cleaned and disinfected at the end of each visit.

4. During normal operations (no risk in the area) and when the last visited flock had no history of a health problem and/or visible clinical signs, vehicles should be **washed regularly**. The following items MUST be followed:

    - The exterior of the vehicle MUST be **washed at the end of the day**. It is best to use a pressure washer to remove ALL visible organic materials. If necessary, use a scraper and brush.
    - Special attention MUST be paid to wheels, wheel arches and mudguards.
    - **The sequence of cleaning is very important**. Start from the top and finish with the bottom. Always clean the outside first before the interior

of the vehicle. It is recommended to use an appropriate detergent. Use hot water (~60°C) at pressure (400-500 psi). **Soak with detergent first; wait for 10 minutes and then rinse.**

- Vehicles can be washed at a commercial washing site. If washing is done at home base, make sure that the **washing area is completely washed** to minimize the risk of cross contamination.
- The interior of the vehicle should also be **cleaned at the end of the day**.
- Floor mats should be washed with detergent.
- All loose objects MUST be removed and if possible washed and disinfected. This also includes CLEAN and DIRTY containers.
- Vacuum inside the vehicle and wipe the seats, windows, foot pedals, and steering wheel with a detergent. **After** application of a detergent, spray with an appropriate disinfectant. Make sure that the type of **disinfectant** that is used is **not corrosive** to metal surfaces.
- Check both the exterior and interior of the vehicle and make sure that ALL visible organic material has been removed. Repeat the above if necessary.

## F. Specific Measures During Yellow Alert/Enhanced Biosecurity

1. The minimum measures as outlined above MUST be followed.

2. If possible, in coordination with the processing plant, schedule to visit ONLY one farm per day. If that is not possible, make sure that you collect flock histories earlier that day and ensure that you visit **healthy flocks first**.

Partial pickup flocks should ALWAYS be scheduled for the **first visit of the day** unless there is a health concern. In this case, ONLY the partial pick up should be scheduled for that day (no other visit for that day).

3. Washing of the vehicle MUST be done **daily**.

    - The exterior of the vehicles (especially wheels, mudguards, and wheel walls) should be washed completely and disinfected using a non-corrosive disinfectant **before and after each visit** on any given day.
    - The interior of the vehicle should be **washed at the end of the day** and disinfected as outlined above.
    - If washing is done at home base, make sure that the washing area is completely washed and disinfected **after** the cleaning of the vehicle.
    - At the farm entrance, STOP and spray the tires with disinfectant. Then, proceed and park the vehicle AWAY from the poultry barns, in an area acceptable to the owner.

4. Extra attention should be made to cleaning, washing, and disinfecting ALL catching equipment **at the end of each visit and before visiting the next flock**.

5. ALL catching crews should use disposable coveralls (with hair covering), disposable footwear and disposable masks. **ALL used material MUST stay on the farm in designated containers** (coordinated with the owner). If a shower facility exists, a shower-in and shower-out biosecurity measure is **strongly recommended**.

## G. Specific Measures During Red Alert/Emergency

1. It is important to remain up to date on the **status of disease in the area**. Representative(s) of the service industry sector should be present on the Poultry Industry Emergency Management Team and act as a communication bridge to this sector.

2. ALL movements and daily jobs MUST be coordinated with incident command posts (CFIA) or other designated authorities.

3. **Prior** to any visit to any farm, appropriate permits MUST be obtained.

4. Traffic routes MUST be planned based on movement control zones (high-risk area, surveillance region and control area) and MUST be as far from poultry farms as possible. These control regions are established by CFIA after the declaration of an emergency situation.

5. After each visit and before the next visit, a complete change of clothing and footwear (must use disposable) is NECESSARY. If a shower facility exists, a shower-in and shower-out biosecurity measure is strongly recommended.

## Operating Procedures  Catching, Cleaning, Disinfecting and Vaccination Crews (Breeder and Layer)

The following biosecurity measures are expected to be used by catching and vaccination crews **prior to entering and after leaving any poultry farm** during Green/Normal Biosecurity Operations, Yellow Alert/Enhanced Biosecurity, and Red Alert/Emergency situations. Since breeder and layer flocks are kept for a long period of time, the **highest level of biosecurity is needed**.

### A. General Considerations

Be aware of the health status of the flock. If there is any health problem, in consultation with the flock owner, RESCHEDULE the farm visit (a sick flock would not be vaccinated under normal circumstances).

It is preferred to complete **one job per day**. Catching crews that finish their first job at a commercial farm should NOT visit a breeder/layer flock **unless strict biosecurity measures are applied** (shower, complete change of clothing and footwear).

#### *Catching Crews*

1. Catching crews should NOT own poultry or other birds.

2. Catching crews should AVOID visiting locations that have backyard poultry and/or swine.  **This would include family members or friends.**  In situations where visits have been made, a full change of clothes and a shower is REQUIRED before going to work.

3. Catching crews should AVOID visiting other poultry and/or swine facilities. In situations where visits have been made, a full change of clothes and a shower is REQUIRED before going to work.

4. Catching crews should NOT enter any poultry farm sites before changing into clean clothes and footwear.

### *Catching Crew Supervisor*

1. The catching crew supervisor will advise the crew of the number of clothing and footwear changes that will be required for the work period **(one clothing and footwear set per farm visit**).

2. The catching crew supervisor will PRE-CHECK the crew to ensure that each member has the necessary clean clothing and footwear.

3. The catching crew supervisor MUST be aware and advise the crew that the farm manager/owner has the right to inspect ALL vehicles, equipment, footwear, and clothing and may, as a result, request additional biosecurity measures.

4. The catching crew supervisor **will keep a daily log of ALL catching jobs** (date, time, crew members, location, flock information and general notes as necessary).

5. The catching crew supervisor **is responsible for ensuring the biosecurity procedures are followed by crew members**.

6. The catching crew supervisor should, **prior** to catching, be aware of the general health status of the flock so that co-ordination of flock catching, beginning with the healthiest, can take place.

7. The catching crew supervisor will provide transportation for the crew and ensure the vehicle is CLEAN.

8. The catching crew supervisor will control ALL visitors during the catching and **log visitors** to the barn.

## B. At Home Base (Prior to Leaving Home)

### *Clothing and Footwear*

1. Each crew member will be informed of the time and date of each visit. The most acceptable approach is that for each visit, a new pair of clean disposable coveralls, hair covering, disposable footwear and a dust mask **should be provided** to each member **before** entering the barn.

2. Catching crews should arrive at work wearing CLEAN clothes.

3. All catching and vaccination equipment should be inspected **prior** to leaving the home base and be **cleaned if necessary**.

### *Coordination*

The catching and vaccination crew supervisor should coordinate with the flock owner and determine:

1. The barn(s) that will be visited.

2. Exits and entrances (farm and barn) that should be used by the crew members.

3. Location of the washroom, changing area and break/eating area (carry food in disposable bags and leave bags on the site before leaving the farm).

4. If the owner has **specific biosecurity requests** (e.g., shower-in shower-out), they should be respected.

5. The supervisor should know the health status of the flock. If the flock is sick, in consultation with the flock owner, RE-SCHEDULE the job for a better date. If that is not possible, all efforts should be made to avoid spreading the potential infection to other flocks.

6. It is important to ask the owner or his/her representative to be present during the catching or vaccination job.

## C. At the Farm and Before Entering the Barn

1. Catching and vaccination crews **should stay in the vehicle** until the supervisor reconfirms details of Section B-2 with the farm owner/ manager. The supervisor should provide complete information in the farm log sheet.

2. In the designated changing area, catching and vaccination crews should change into CLEAN disposable coveralls, disposable footwear, hair covering and dust mask.

## D. During Catching and Vaccination Process

1. Catching and vaccination crews should NOT visit other barns.

2. If possible, **limit these activities to one job per day**. If not, start from the healthiest and youngest flock.

3. During the process of moving birds from the grower barn to the production farm ALL necessary **biosecurity measures should be considered** by the driver of the live haul truck:

    - The live haul truck driver should NOT make unnecessary stops on the way to or back from the production farm, except for checking on the birds' condition.

    - After all birds are moved to the production farm, it is important to wash, clean and disinfect the truck and ALL used equipment at the end of the day. The **same truck should NOT be used for the second job during the same day**, unless complete cleaning and disinfection of the live haul truck, trailer and ALL used equipment is carried out.

    - ALL necessary items such as disposable clothing, footwear, hair covering, and hand sanitizing solution should be kept in the cabin in a CLEAN container. The driver should use these items if he/she needs to leave the truck for any reason at the farm.

    - The driver of the live haul truck is expected to NOT leave the truck while at the farm unless it is necessary.

## E. After Catching and Vaccination and Before Leaving the Farm

1. In the designated area (pre-determined) ALL disposable coveralls, boots, hair coverings, dust masks should be **removed and placed in garbage bags**.

2. Hands and face MUST be washed with water and soap and dried before entering the vehicle.

    - Use warm water to wash hands (if possible). **Use nailbrush to clean under fingernails**.
    - It is recommended that hands should be washed with antibacterial soap and then an alcohol gel product should be applied.
    - Remember that washing MUST be done FIRST with soap before using the alcohol gel solution disinfectants.

3. **NEVER enter the vehicle with dirty shoes.**

4. Leave any disposable materials (disposable coveralls, footwear, hair covering, masks, lunch bags) **at the farm in containers** designated by the flock owner.

5. The operator will remove any excess debris from the forklift and blow it down with the backpack blower.

6. Using pressure washer, exterior parts of the truck (especially wheels), trailers, forklift and any other equipment used for catching and moving **should be washed**, and then **misted with disinfectant**.

7. ALL vaccination equipment MUST be dismantled, washed, and sanitized at the end of each vaccination job. This is EXTREMELY IMPORTANT as this

equipment comes in close contact with birds and poses an important **potential biosecurity risk** to any given flock.

8. Catching and vaccination crews should NOT visit stores, restaurants etc. during and after each job and before cleaning vehicles, equipment, and clothing.

## F. Vehicle

### *General*

1. Vehicles should be divided into two different sections. CLEAN compartment (passenger area, interior of clean containers) and DIRTY compartment (truck bed, trunk of the car, dirty containers).

2. Use washable rubber floor mats for each person inside the vehicle.

3. Use a **single piece of plastic** to cover the whole trunk so it is more easily cleaned and disinfected at the end of each visit.

### *At Home Base*

1. The following equipment should be **kept in the vehicle** prior to leaving the home base:

    - CLEAN container(s) and/or designated clean area to contain clean tools (such as brush, bucket, disinfectant, clean sanitized vaccination equipment). If disposable boots are used, use heavy plastic material.

- DIRTY container(s) (or designated area that does not have any contact with the clean containers and /or clean area) for used materials that need to be cleaned, washed, and disinfected
- Disposable dust masks and hair covering
- Disposable bags to store used items
- Disposable coveralls and footwear
- Hand detergent and disinfectant solution, paper towels, and nail brush
- Backpack blower
- Disinfectant sprayer
- Hard brush or any other tool to clean catching equipment

### *At Farm Gate*

1. Leave vehicle windows and doors CLOSED while working inside the barn(s). Apply spray insecticide to kill flies (vehicle interior).

2. Park your vehicle in a designated area (coordinated with the owner), AWAY from the barn(s) (at least 100 feet or 30 meters).

3. If a Yellow Alert/Enhanced Biosecurity situation exists in the area, **additional biosecurity measures should be considered** (refer to Section G).

4. The interior of the vehicle (which is considered clean area) **must NOT be entered** during the catching/vaccination job, unless ALL necessary measures have been taken (Section E). This is to prevent the contamination of the vehicle interior.

### *After Catching and Before Leaving the Farm*

1. ONLY the equipment that has been cleaned and disinfected can be returned to the CLEAN area (or containers) of the vehicle. Remember to **clean and disinfect hands** (Section E-item 2) **before entering the vehicle** and NOT to cross contaminate by handling dirty materials again.

2. During NORMAL OPERATIONS (no risk in the area) and when the visited flock had NO history of a health problem and/or visible clinical signs, vehicles **should be washed regularly**. The following items must be followed:

    - The exterior of the vehicle MUST be **washed at the end of the day**. It is best to use a pressure washer to remove all visible organic materials. **If necessary, use a scraper and brush.**
    - Special attention MUST be paid to wheels, wheel arches, mudguards.
    - **The sequence of cleaning is very important.** Start from the top and finish with the bottom. Always clean the outside **first** before the interior of the vehicle.
    - It is recommended to use an appropriate detergent. Use **hot water** (~60°c) at pressure (400-500 psi). **Soak with detergent first; wait for 10 minutes** and then **rinse**.
    - Vehicles can be washed at a commercial washing site. If washing is done at home base, make sure that the **washing area is completely washed** to minimize the risk of cross contamination.
    - The interior of the vehicle should also be **cleaned at the end of the day**.
    - Floor mats should be washed with detergent.
    - All loose objects must be removed and if possible washed and disinfected. This also includes CLEAN and DIRTY containers.

- Vacuum inside the vehicle and wipe the seats, windows, foot pedals, and steering wheel with a detergent. **After application of detergent, spray with an appropriate disinfectant** (e.g. Lysol). Make sure that the type of disinfectant that is used is **not corrosive** to metal surfaces.

- Check both the exterior and interior of the vehicle and make sure that ALL visible organic material has been removed. **Repeat the above if necessary.**

## G. Specific Measures During Yellow Alert/Enhanced Biosecurity

1. **The minimum measures as outlined above MUST be followed.**

2. It is important to keep updated with the status of suspect flock(s) in the area. Representative(s) of the service industry sector MUST be present on the emergency industry team (if one exists) and act as a communication bridge to this sector.

3. It is **very important** to discuss the health status of each flock and preferably RESCHEDULE the visit if the flock experiences any health problem and if the location is in proximity to the suspect farm(s).

4. If possible, traffic routes should be selected based on the location of the suspect farm(s) and **to be as far away as possible.**

5. The exterior of the vehicles MUST be washed completely and disinfected (using non-corrosive disinfectant) **before and after each visit** on any given day.

6. The interior of the vehicle MUST be **washed at the end of the day** and disinfected as outlined above.

7. If washing is done at home base, make sure that the **washing area is completely washed and disinfected** after the cleaning of the vehicle.

8. At the farm entrance, STOP and spray the tires and wheel wells with disinfectant. Then, proceed and park the vehicle **away** from the poultry barns.

9. ONLY **one job per day** should be considered.

10. Extra attention should be made to cleaning, washing, and disinfecting ALL catching and vaccination equipment at the **end of each visit and before visiting the next flock**.

11. ALL catching and vaccination crews should use **disposable** clothing, footwear, masks, and hair covering.

12. ALL used material MUST **stay on the farm** in designated containers (coordinated with the owner). If a shower facility exists, a shower-in and shower-out biosecurity measure is **strongly recommended**.

## H. Specific Measures for Red Alert/Emergency

1. It is important to keep updated with the status of disease in the area. Representative(s) of the service industry sector MUST be present on the emergency industry team (if exists) and act as a communication bridge to this sector.

2. ALL movements and daily jobs MUST be **coordinated with incident command posts** (CFIA) or other designated authorities.

3. Prior to any visit to any farm, appropriate permits MUST be obtained.

4. Traffic routes MUST be planned based on movement control zones (high-risk area, surveillance region and control area) and MUST be **as far from poultry farms as possible**. These control regions are established by CFIA after the declaration of an emergency situation.

5. **After each visit and before the next visit**, a complete change of clothing, footwear (must use disposable) is necessary. If possible, shower in and shower out before and after each job. The exterior and interior of the vehicles and ALL equipment MUST be washed and disinfected before and after each visit.

6. ONLY one visit per day should be scheduled.

## Feed/Hatchery/ Grading Station Industries

### Preparation Procedures

***Personal Preparation***

Green/Normal Biosecurity Operations

Recommended procedures in the normal course of business, under normal conditions are as follows:

1. Follow company's **standard procedures** for personal preparation.

2. The company employing the driver is responsible for ensuring that the employee has been **fully trained** in biosecurity procedures.

3. **Monthly reviews** of biosecurity procedures should be practiced.

4. Shower and change clothes at home on a **daily** basis.

5. Travel from **youngest animals to oldest** and healthy to sick animals.

6. During winter months wear layers of non-bulky clothing under coveralls.

Yellow Alert/Enhanced Biosecurity

1. **Identical to Red Alert/Emergency procedures below.**

Red Alert/Emergency

1. Change clothes and footwear at work and place in a sealed container (separate DIRTY/CLEAN containers). Wash work clothing at work or wash separately from everyday clothing.

2. Leave footwear AT WORK and spray the entire footwear with disinfectant at the end of a shift.

3. **Shower at the end of the shift.** Prevent the travel of disease by changing into **clean clothes and shoes** before entering personal vehicle.

4. Clothing and/or any other materials that are used inside the barn MUST NOT be worn/used outside the barn during and/or after the visit.

5. Be aware of the animal health status on farms.

6. Check with dispatch for routing instructions. Be aware of Red Alert/Emergency and Yellow Alert/Enhanced Biosecurity zones.

7. **Do NOT travel from a Red Alert/Emergency zone to any other area without full cleaning and disinfection.**

## ***Vehicle Preparation***

### Green/Normal Biosecurity Operations

Recommended procedures in the normal course of business, under normal conditions are as follows:

1. Large washable (rubber/plastic) containers designated as CLEAN or DIRTY for storing the appropriate equipment and clothing between barn visits.

2. Keep an **information log** of **ALL daily truck activity** (company vehicle and contract carriers) for possible trace-back purposes.

### Yellow Alert/Enhanced Biosecurity

1. **See Red Alert/Emergency procedures below.**

### Red Alert/Emergency

1. Keep CLEAN areas and items separate from DIRTY areas and items. Designate a CLEAN (i.e., passenger area) and DIRTY (i.e., truck bed, equipment box, etc.) area of the vehicle and use those areas accordingly. NEVER enter any clean area with soiled footwear and/or soiled clothing.

2. Washable (rubber) or disposable floor mats for EACH person in the vehicle.

3. Pump up sprayer FULL of disinfectant solution (quaternary ammonia or phenol) for tires and footwear.

4. Hand disinfectant and cleaner, paper towels and Lysol or approved disinfectant in the truck cab.

5. Personal biosecurity kit should be **restocked daily** and stored in designated CLEAN area of vehicle.

6. Chick and feed trucks MUST be loaded for **one chick/feed delivery per truck.**

7. Keep an information log of **ALL daily truck activity** (company vehicle and contract carriers) for possible trace-back purposes.

## ***Personal Biosecurity Kit***

### Yellow Alert/Enhanced Biosecurity

1. Footwear that can be sanitized. If using disposable boots, should be **at least 3 mm** thick plastic.

2. If the barn MUST be entered, wear WASHABLE coveralls that can be easily cleaned and disinfected and/or DISPOSABLE coveralls (reinforced paper).

3. Use DISPOSABLE head coverings, dusk masks, and disposable gloves (or several pairs of CLEAN work gloves for the day).

4. Use polyethylene bags to store used coveralls, gloves, and other contaminated articles.

5. A small spray or squeeze container filled with disinfectant solution is useful for cleaning small areas (i.e., floor mats).

6. Use a plastic clipboard or folder (MUST be cleanable) for records (information log). This MUST be **cleaned on a daily basis** at the end of every shift.

Red Alert/Emergency

1. Use disposable boots of **at least 3 mil** thickness.

2. If the barn MUST be entered, use disposable coveralls (reinforced paper).

3. Use DISPOSABLE head coverings, dusk masks, and disposable gloves.

4. Use polyethylene bags to store used coveralls, gloves, and other contaminated articles.

5. A small spray or squeeze container filled with disinfectant solution is useful for cleaning small areas (i.e., floor mats).

6. Use a plastic clipboard or folder (MUST be cleanable) for records (information log). This MUST be **cleaned after each use**.

## *Customer Biosecurity Requirements*

**Applies to all Biosecurity Zones**

1. **Know the customer's biosecurity requirements and respect them.** This applies to ALL disease outbreak zones: Red Alert/Emergency, Yellow Alert/Enhanced Biosecurity and Green/Normal Biosecurity Operations.

2. **Current biosecurity procedures** (could include shower in, company clothing requirement, no previous poultry visits 24 hours, etc.).

3. Farm/manager owner has the **right to inspect** ALL vehicles, equipment, footwear, and clothing.

4. Clothing and/or any other materials that are used inside the barn MUST NOT **be worn/used outside the barn** during and/or after the visit.

## Farm Entry Procedures

### Green/Normal Biosecurity Operations

1. Follow ANY procedures required by the customer.

2. Drive **slowly** (**less than 15 km/hr**) to avoid tires throwing debris into wheel-well.

3. Avoid large puddles, heavy mud, and obvious manure whenever possible. Unsuitable driving conditions should be **reported immediately** to dispatch or office.

## Yellow Alert/Enhanced Biosecurity

1. Safely pull off the highway into a laneway or designated area and STOP.

2. IMMEDIATELY upon exiting the truck, ALL personnel are to put on SANITIZE-ABLE or DISPOSABLE boots and clean gloves (if using gloves).

3. Ensure a DISPOSABLE or clean, SANITIZE-ABLE floor mat is in place in cab of truck.

4. Disinfect tires and undercarriage of vehicle.

5. Follow **any additional procedures required by the customer.**

6. Re-enter cab and drive **slowly** (**less than 15 km/hr**) to avoid tires throwing debris into wheel-well.

7. Avoid large puddles, heavy mud, and obvious manure whenever possible. Unsuitable driving conditions should be **reported immediately** to dispatch or office.

8. Keep vehicle windows and doors CLOSED while on farm property to prevent insects from entering.

9. Feed pipes MUST be disinfected before placing in the storage compartment.

10. Feed truck drivers should NOT **enter the feed box** of the truck without permission from their supervisor.

11. Feed truck drivers are NOT **to enter any barn or building attached to the barn**. Chick and egg truck drivers and/or other personnel MUST follow procedures outlined before entering the barn.

## Red Alert/Emergency

1. Safely pull off highway into laneway or designated area and STOP.

2. IMMEDIATELY upon exiting the truck, ALL personnel are to put on CLEAN coveralls, sanitize-able or disposable boots and clean gloves (if using gloves).

3. Ensure DISPOSABLE or CLEAN sanitize-able floor mat is in place in cab of truck.

4. Disinfect tires and undercarriage of vehicle.

5. Follow **any additional procedures required by the CFIA and/or the customer.**

6. Re-enter cab and drive **slowly** (**less than 15 km/hr**) to avoid tires throwing debris into wheel-well.

7. Avoid large puddles, heavy mud, and obvious manure whenever possible. Unsuitable driving conditions should be **reported immediately** to dispatch or office.

8. Keep vehicle windows and doors CLOSED while on farm property to prevent insects from entering.

9. Feed pipes CANNOT be dragged between bins on farm. Feed pipes MUST be disinfected before placing in the storage compartment.

10. Feed truck drivers are NOT **allowed to enter the feed box** of the truck while in the Red Alert/Emergency zone.

11. Feed truck drivers are **NOT to enter any barn or building attached to the barn** for any reason.

12. It is unlikely that chick or egg trucks will be allowed to enter the Red Alert/Emergency zone. If commercial egg pickup is allowed then specific procedures, licensing, disinfection and sealing of trucks may be required by the CFIA.

## Barn Entry Procedures (chick delivery, sales reps, flock service)

### Green/Normal Biosecurity Operations

1. Put on CLEAN coveralls, DISPOSABLE boots (or easily sanitized boots which can be sanitized prior to barn entry), and hairnet **beside the vehicle**.

2. For chick/pullet delivery: try to **minimize the tracking in and out of the barn** by having one person on the truck and another in the barn.

3. **Disinfect hands** and **walk to door** leading into the barn area.

4. Follow **any additional procedures as required by the customer.**

### Yellow Alert/Enhanced Biosecurity

1. Put on CLEAN DISPOSABLE coveralls, disposable gloves, disposable boots, mask, and hairnet **beside the vehicle**.

2. **Carry** a pair of DISPOSABLE boots to be **worn into the barn**.

3. **Disinfect hands** and **walk to door** leading into the barn area.

4. Put on the **second pair of boots** and **enter barn**.

5. Disposables should be **disposed of on-farm**.

### Red Alert/Emergency

1. **Do NOT enter Red Alert/Emergency zone.** Use other means of communication such as the telephone to reach farmers in the Red Alert/Emergency zone.

## Barn Exit Procedures

### Yellow Alert/Enhanced Biosecurity

1. Sign the visitor **logbook** and fill out any necessary paperwork.

2. **Wash or disinfect hands before exiting the barn.**

3. Upon exit, remove the second pair of boots, hairnet, and mask **at barn door** and DISPOSE of them.

4. DISPOSE of paper from chick boxes **on the farm**.

5. Return to vehicle; sanitize any equipment with a disinfectant.

6. Remove and DISPOSE of first pair of boots.

7. Remove coveralls **without contaminating** street clothing and DISPOSE of **on the farm**.

8. **Clean and disinfect hands before entering vehicle.**

## Green/Normal Biosecurity Operations

1. Sign the visitor **logbook** and fill out any necessary paperwork.

2. **Wash or disinfect hands before exiting the barn.**

3. Remove and DISPOSE of disposable items **at barn door**.

4. Return to vehicle; sanitize any equipment with disinfectant.

5. CLEAN and sanitize footwear **before** entering vehicle.

6. Remove washable coveralls **without contaminating** street clothing and **seal** in plastic bag and keep in DIRTY section of vehicle.

7. **Clean and disinfect hands before entering vehicle.**

## Farm Exit Procedures

### Green/Normal Biosecurity Operations

1. Follow **any procedures required by the customer**.

2. Drive **slowly** (**less than 15 km/hr**) to avoid tires throwing debris into wheel-well.

3. Avoid large puddles, heavy mud, and obvious manure whenever possible. Unsuitable driving conditions should be **reported immediately**.

### Yellow Alert/Enhanced Biosecurity

1. Feed pipes MUST be disinfected before placing in the storage compartment.

2. Proceed to end of laneway or designated area and STOP.

3. Disinfect tires and undercarriage of vehicle. Remove as much mud and manure as possible.

4. DISPOSABLE mat MUST be removed, or a SANITIZE-ABLE mat MUST be disinfected and steering wheel sprayed with disinfectant.

5. Remove DISPOSABLE boots, gloves or disinfect SANITIZE-ABLE boots and hands (if no gloves worn) **before** entering cab. Place DIRTY materials in

appropriate container and return to mill for proper disposal or sanitization **or leave on farm if possible**.

Red Alert/Emergency

1. Feed pipes MUST be disinfected before placing in storage compartment.

2. Proceed to end of laneway or designated area and STOP.

3. Disinfect tires and undercarriage of vehicle. Remove as much mud and manure as possible. If leaving a quarantined premises, **a full wash and sanitizing supervised by CFIA will be required** before leaving the property. A **second wash may be required** before leaving the zone.

4. The cab should be inspected and any mud and/or manure in the cab should be removed.

5. DISPOSABLE mat MUST be removed or a SANITIZE-ABLE mat MUST be disinfected and steering wheel sprayed with disinfectant.

6. Remove coveralls, gloves (if worn), and DISPOSABLE boots or disinfect SANITIZE-ABLE boots and hands (if no gloves worn) **before** entering cab. Place DIRTY materials in appropriate container and return to mill for proper disposal or sanitization **or leave on farm if possible**.

## Return to Base Procedures

### Yellow Alert/ Enhanced Biosecurity

Identical to Red Alert/Emergency Procedures. **See Below.**

### Red Alert/Emergency

**After** leaving the quarantined farm **prior** to returning to base the vehicle MUST **be cleaned and disinfected** at the designated cleanout area.

***Vehicle Washing:***

**Minimum requirement is DAILY washing of vehicle however the minimum could be that the vehicle be washed EVERY LOAD if it is delivering into the quarantine area.**

1. Vehicle MUST **be completely washed**, including interior, when leaving quarantine zone.

2. For vehicle washing, a commercial truck wash is acceptable (drive through or pressure wand), or a nozzled hose with pails/brushes.

3. If using a pressure washer, wear coveralls/boots during the process and REMOVE/SANITIZE at completion **before** entering vehicle.

4. Half-ton truck cargo area should be considered vehicle exterior.

5. **The sequence for vehicle washing is important.** Go from top to bottom, outside to inside.

***Exterior Washing:***

1. Use water **at pressure**, (ideally pressure washer) spray to rinse exterior of vehicle, removing all visible organic material, including wheel wells, wheels, exposed chassis.

2. Wash ALL areas with detergent suitable for vehicles **ideally using hot water** (60-77° C, 140-171°F) and pressure application if available (400-500 psi).

3. Using water **at pressure** rinse ALL external areas (can be cold water). Inspect to be sure NO organic material/debris remains.

4. Once the exterior of the truck has been washed, the truck should be **moved a minimum one truck length from where the exterior was cleaned**, **before the cleaning of the interior may proceed**.

***Interior Washing:***

1. Remove and DISPOSE of ALL garbage.

    - Loose objects and containers MUST be removed, and exteriors cleaned and sanitized before returning to the cleaned vehicle.
    - DIRTY containers MUST be emptied, cleaned, and sanitized inside and out.
    - Thoroughly CLEAN and sanitize ALL equipment used.
    - CLEAN any DIRTY carry containers inside and out, as well as the base they sit on.

2. Remove, wash, and sanitize floor mats and trunk liner. DISPOSE of any disposables.

3. Vacuum interior of vehicle including seats, floors, and trunk.

4. CLEAN panels, windows, steering wheel, floor pedals with detergent and disinfectant.

5. INSPECT entire vehicle and associated objects for adequacy of cleaning procedure. **Re-clean any deficient areas.**

6. Return containers, mats etc. to their appropriate locations.

7. **Clean up cleaning area.**

***Vehicle Disinfecting:***

**Minimum requirement is DAILY washing of vehicle; however, the minimum could be that the vehicle be washed EVERY LOAD if it is delivering into the quarantine area.**

1. Complete a thorough inspection of the vehicle and ensure that NO debris remains on the exterior of the vehicle.

2. The appropriate disinfectant for the disease MUST be thoroughly applied using appropriate washing procedures i.e., top to bottom.

***Exterior Disinfecting:***

1. In Red Alert/Emergency, the exterior of the vehicle MUST be disinfected with approved disinfectant for the disease outbreak. Use a hand sprayer or pressure washer to apply disinfectant to ALL external areas including wheel wells, wheels, exposed chassis.

***Interior Disinfecting:***

1. In Red Alert/Emergency situation, mist interior of vehicle with Lysol spray or other approved product.

2. **Disinfect footwear and hands before entering the vehicle.**

3. **After** the truck has been CLEANED and DISINFECTED in the above manner the truck will return to base where **it will be determined** if the truck will take another load into the quarantine area or if the truck will sit idle. If the truck is NOT required to deliver into the quarantined area, it is **recommended that the truck sit idle for 72 hours**.

## At Home Base

1. Laundry facilities should be EASILY sanitized and have SEPARATE area for receiving DIRTY laundry, (handle as contaminated product); followed by area for washer, area for dryer (CLEAN) and separate CLEAN storage area.

2. Carry DIRTY laundry inside in the CLOSED plastic bag or container. For washing biosecurity garments, hot water, strong detergent, bleach, and high dryer temperatures **are recommended.**

***Suitable Disinfectants/Sanitizers:***

Some of the more common ones are listed below. There are many more available.

**Note that if there is a degreaser in formula, the product may be hard on vehicle paint!!!**

**Quaternary Ammonia**

dilution 1:128 (1oz/gal) to 2:128 (2 oz/ gal)

*Trade names*: Ascend, Swish Food Service 1000 or 2000, Coverage 256, Enviro-Solutions General purpose neutral disinfectant.

**Phenols**

dilution 1:128 (1oz/gal) to 2:128 (2 oz/ gal)

*Trade names*: One-Stroke Environ, LpH Ag

**Hand Disinfectants**

Cida-Rinse, Bacti-stat, Purell hand sanitizer

Note that **Virkon** is very effective as sanitizer, but **very corrosive** on **ALL** metal surfaces. Use 2oz in 10L of water. (In winter substitute 40% of the water with windshield washer fluid).

# Section 7: Humane Depopulation Protocols
## (Humane Euthanasia of Large Numbers of Birds)

At present, the ONLY humane method of euthanizing large numbers of poultry is by exposure to argon or carbon dioxide (**$C0_2$**) gas. Humane euthanasia MUST ensure that the birds **remain unconscious until death occurs**. Since birds can appear dead, but regain consciousness, it is **important to confirm death**. Using smaller containers, this can be accomplished by physical exam. However, for the euthanasia of larger flocks or entire barns, death is ensured by the exposure of the desired level for extended periods of time, e.g., hours.

Exposure to argon gas causes hypoxia. Although less irritating than $CO_2$, it may not be as readily accessible in large quantities and hence, less practical.

Exposure to carbon dioxide results in a rapid onset of anesthesia followed by respiratory arrest, resulting in death. Depending upon the species and concentration of $CO_2$ used, death occurs in two to five minutes. $CO_2$ is an irritant and can result in increased movement of the birds during euthanasia. Euthanasia is performed by using containers that are sufficiently airtight to maintain $CO_2$ at the desired level. Depending on the number of birds, a circulation system may be needed to maintain the desired level consistently throughout the container. $CO_2$ MUST be delivered either from vapory delivery chambers or vaporized first to prevent the formation of dry ice.

Domestic fowl chicks require a concentration of **at least** 80% $CO_2$ in air. Newly hatched turkey poults and ratite chicks require a concentration of **at least** 90%. Adult chickens can be euthanized **using** 50% $CO_2$. A mixture of 30% $CO_2$ plus 60% argon or 90% argon (with less than 5% residual oxygen) is **effective and less aversive** than $CO_2$ alone. $CO_2$ is **not acceptable** for the euthanasia of waterfowl.

Containers that are sufficiently airtight for the use of backyard flocks can be constructed of wood with a sliding door on the top. This is placed in the back of a pickup truck, along with cylinders of $CO_2$ and oxygen ($O_2$) to vaporize the $CO_2$. To meet the criteria for humane euthanasia, it is recommended that ONLY as many birds be placed in the

container that will lie on the bottom of the container WITHOUT overlaying each other. It is important that individuals mixing the vaporizing the $CO_2$ have been APPROPRIATELY TRAINED.

When depopulating an entire barn of birds, the barn MUST be examined for structure leaks. If the barn houses layers, they MUST be removed from the cages and **permitted to be free ranging** on the floor. The barn is sealed to a level above the birds and fitted with $CO_2$ concentration measuring equipment. $CO_2$ is then pumped into the building from a large container truck. Because of the risk to human health, rather than assessing death by examination, exposure to $CO_2$ is for an extended period of time, e.g., hours, at a constant level. Exposure for an **extended time ensures death**. This may necessitate the injection of $CO_2$ frequently. Euthanasia can be performed by sealing the building in the evening and exposing the birds to $CO_2$ overnight. **It is paramount that ALL individuals involved in the depopulation be equipped with the appropriate masks and safety gear and are monitored in the event of a leak.** This is a greater concern with older barns. At the end of the pre-determined exposure time, the barn is vented. After sufficient ventilation, the barn is opened, and an examination of the birds is completed.

As previously stated, **ALL personnel, including transporters, require training in the method of choice for the euthanasia for the prescribed birds. They MUST be equipped with the necessary safety gear and equipment and be familiarized with their use.** A written action plan for emergency euthanasia of ill birds should be developed in advance. Since improved methods of euthanasia for poultry, especially on-farm euthanasia of large numbers, are currently under development, the action plan will be reviewed and updated regularly to incorporate appropriate changes.
**De-population of birds infected by a reportable disease as listed in the *Reportable Diseases Regulations*[8] under section 2(2) of the Canadian *Health of Animals Act*[9] is performed by the CFIA**.

8 *Reportable Diseases Regulations* http://laws-lois.justice.gc.ca/eng/regulations/SOR-91-2/
9 *Health of Animals Act* http://laws-lois.justice.gc.ca/eng/acts/H-3.3/

# Section 8: Disposal Options for Deadstock and Manure

In the case of a CFIA declared Yellow Alert/Enhanced Biosecurity or Red Alert/Emergency, **CFIA will direct how to proceed with deadstock and manure disposal** from affected barns. However, it is important that every producer be aware of acceptable disposal options and have a **plan for disposal**. The options will differ depending on the number of carcasses to be disposed, the location of the farm in the province, and whether there is a confirmed presence of an infectious disease.

## Disposal Options Confirmed Infectious Disease

CFIA will assess the situation and decide the appropriate action. Removal of any infected birds from barns before heat or time treatment **should be avoided**.

1. **Composting**

    - In-barn partial composting followed by complete composting outside or incineration **is the preferred option.** This may not be possible in all types of barns. The Department of Communities, Land and Environment (PEIDEECA) MUST approve the sites before composting can take place.
    - Composting in **bio-bags** is encouraged.

2. **Incineration**

    - Incineration is ONLY feasible for **small** flocks.
    - Any removal of diseased carcasses from barns MUST be done in containers that are disinfected as they leave the barn. Containers MUST be incinerated with carcasses or thoroughly

disinfected.

- Approval from the PEIDEECA **is required** to operate an incinerator.

3. **Burial**

   - Small volumes (**up to 7000 lbs. per acre**) can be buried on-farm **when approved** by the PEIDEECA.

   - Large volumes **(over 7000 lbs./acre**) REQUIRE **approved sites** authorized by the PEIDEECA. These sites are either pre-approved or approved at the time of an emergency disease declaration.

   - Any removal of diseased carcasses from barns MUST be done in containers that are disinfected as they leave the barn. Containers MUST be disinfected or handled in a manner that would **prevent the spread of disease**.

## Disposal Options - Without Infectious Disease

### (Uninfected birds destroyed in a Control Zone or mass mortalities from a power outage, etc.)

1. **Composting**

   - In-barn partial composting, followed by complete composting outside or incineration is the **preferred disposal option**. This may **NOT** be possible in all types of barns.

   - Composting in **bio-bags** is encouraged.

2. **Incineration**

   - Incineration is ONLY feasible for **small** flocks.

- Any removal of diseased carcasses from barns MUST be done in containers that are disinfected as they leave the barn.
- **Approval** from the PEIDEECA **is required** to operate an incinerator.

3. **Burial**
    - Small volumes (**up to 7000 lbs. per acre**) can be buried on-farm **when approved** by the PEIDEECA.
    - Large volumes **(over 7000 lbs./acre**) **REQUIRE approved sites** authorized by the PEIDEECA. These sites are either pre-approved or approved at the time of an emergency disease declaration.

## Manure and Litter Disposal from FAD Infected Barns

In the event of a confirmed FAD, manure handling will be under the control of the CFIA.

1. Manure and litter may NOT be removed from infected barns **until temperature and/or time treated**. Heat treatment may include in-barn composting or raising the barn temperature to 38°C for 72 hours.
2. Manure/litter should be left in the barn **for at least two weeks** and be **tested before removal**. Manure and litter testing negative may be disposed of using normal practices.
3. For manure removed more than **four months after** initial infection, handle normally. Special precautions are NOT required.

## Manure and Litter Disposal from Non-infected Barns

1. Manure and litter may be disposed of using normal practices.

# Section 9: Cleaning and Disinfecting Protocols for an Infected Premises

The following C&D protocols are those used by CFIA during the 2004 outbreak of AI in British Columbia and are included here for information purposes. **During any outbreak of FAD, all C&D procedures will be under the direction of CFIA.**

Cleaning and disinfection activities on infected premises will **be limited to areas inhabited or exposed to poultry**. Veterinary inspectors assigned to each infected premises will determine whether materials can be effectively **cleaned and disinfected or should be discarded**. In the case of a federally reportable disease as listed in the *Reportable Diseases Regulations*[10] under section 2 of the Canadian *Health of Animals Act*[11], cleaning and disinfection will be carried out according to CFIA requirements and internationally accepted standards.

## Cleaning and Disinfection of Barns

1. ALL infected premises will be visited **a minimum of three times** by a veterinary inspector (C&D Protocol for Depopulated Premises).

2. The first inspection, the **Site Evaluation**, will involve an assessment of the property indicating any **potential problem areas**. The **cleaning and disinfection protocol** will be reviewed with the owner/manager of the premises. **Water and power supplies** will be identified. The owner/ manager will be provided instructions as to **personal safety** and **biosecurity**.

10 *Reportable Diseases Regulations* http://laws-lois.justice.gc.ca/eng/regulations/SOR-91-2/
11 *Health of Animals Act* http://laws-lois.justice.gc.ca/eng/acts/H-3.3/

3. An **action plan** is to be developed for the infected premises and the **extent** to which C&D should be carried out.

4. The **methods** of cleaning, the **vector control** program, the **detergent**, the **disinfectant**, the **contractor** performing the cleaning and disinfection, and an **estimated completion date** will be identified.

5. The second inspection, the **Clean Inspection**, will involve a thorough **walk-through** of the infected premises to ensure that ALL **organic material has been removed**. If the cleaning process is NOT approved during this visit, then **another visit** will be required **before** disinfection is allowed to proceed.

6. The third inspection, the **Disinfection Inspection**, will involve the **observation** of the disinfection process. The **disinfectant** will be **identified** and **monitored** to ensure that the proper dilution rate is used.

7. The cleaning and disinfection of an infected premises is approved ONLY once the veterinary inspector is satisfied that ALL **requirements** of the C&D protocol and the **Cleaning and Disinfection Checklist** have been met.

## Equipment on Infected Premises

1. Equipment on an infected premises will be identified. The C & D procedure of equipment will be reviewed with the owner/manager. Storage areas will be **inspected** and the extent to which C&D should be taken will be discussed with the owner/manager.

2. Movements are **licensed** and anything or anyone coming on to, or going off an infected premises MUST be subjected to thorough C&D.

## Biosecurity

1. **Biosecurity of the infected premises is vital throughout the C&D process.**

2. Biosecurity protocol will be followed as set out by CFIA.

    - Cleaning and disinfection are the **financial responsibility of the owner,** and is labour intensive and time consuming.
    - The highest standards MUST be maintained at all times.
    - If the owner requires manpower to assist in the C&D of his/her premises, the appropriate industry representative (PERAT member) **should be contacted**.

## Cleaning and Disinfection Checklist

### Step 1: Dry Cleaning

Removal of ALL **organic matter is essential**, as manure, litter and feathers may contain high levels of contamination and are major sources of infection.

- Ensure that decontamination facilities for vehicles and personnel are set up. Biosecurity procedures MUST be followed at all times.
- Empty feeders and bins
- Shut down ventilation fans
- Close all windows, etc.
- Remove ALL mobile equipment, e.g. Feeders, drinkers, pen dividers, etc.
- Clean and dust ceiling, walls, and fixed equipment, including fans, fan hoods and inlets.

- Remove manure and litter. Scrape and sweep the floor. Remove the top 3 cm of dirty soil if applicable.
- Rodent and insect control programs MUST be in place.

**Step 2: Water System Disinfection**

ALL water systems, tanks, pipes, drinkers, and trays **may contain contaminants**.

- Clean ALL watering systems. Flush water lines.
- Put the disinfecting solution **through the medicator** to get the recommended dose.
- Make sure ALL your disinfectant has reached the end of the water line by letting the water run through until you can see or smell the disinfectant. **Please note that molds and debris may be released during the disinfection process.**
- Leave the solution in the drinking water system for **at least 10 minutes** before draining.
- Fill water lines with fresh water.

**Step 3: Cleaning of Facilities and Equipment**

Cleaning with the use of a detergent/degreaser helps to remove organic material and biofilm. ALL units and equipment which are physically or functionally connected to the premises MUST be thoroughly cleaned and disinfected.

- Begin the cleaning process by **thoroughly wetting** the ceiling, walls and fixed equipment finishing with the floor. A low-pressure sprayer could be used with detergents. Foaming agents work well for cages.
- Soak heavily soiled areas for **at least 20 minutes** and use a brush if

necessary.

- Rinse with a high-pressure washer.
- Clean entries, walkways, and ALL other adjoining rooms.
- Clean around the barn: the entries, walkways, exhaust fans, doors, loading docks, etc.
- Allow to dry. Auxiliary heat may be necessary. Heating the barn will also help bring out any beetles.
- Feed tanks MUST be cleaned and fogged with the approved disinfectant.
- Treat the facility for beetles. Afterwards, sweep up and dispose of them appropriately.

**Step 4: Mobile Equipment and Vehicle Cleaning**

Mobile equipment (feeders, drinkers, cages, etc.), vehicles and storage areas **may be highly contaminated** and will require cleaning. ALL vehicles areas which are physically or functionally connected to the premises must be cleaned.

- Remove ALL organic material by pressure washing with a detergent/degreaser.
- Foaming agents may be helpful for cages and other hard to clean equipment.

**Step 5: Clean Inspection**

- Contact CFIA for Clean Inspection

**Step 6: Disinfection**

**Approved disinfectants used according to label instructions are essential**.

- Make sure that ALL surfaces and equipment are as dry as possible.
- Apply disinfectant on ALL surfaces according to label instructions paying particular attention to contact times.
- Start from the apex of the roof and work down the walls to the floor.
- When finished, leave and close ALL openings.
- Allow surfaces to dry. Auxiliary heat may be necessary.
- **Fogging is recommended for inaccessible areas (corners, cracks, seams, feed tanks, attics).**

**Step 7: Final Inspection**

- Contact CFIA for final inspection and approval.

# Section 10: Communication Plan - Crisis Communications for Foreign Animal Disease Outbreaks

## Roles and Responsibilities

### Producer

1. When a problem with the flock is observed, the producer will contact their veterinarian or service rep and ensure that samples are sent to AVC-DS.

2. Based on AVC-DS or veterinarian recommendations, the producer will:
    a. **Implement** self-quarantine: Yellow Alert/Enhanced Biosecurity.
    b. **Inform** and **document** ALL services that have visited the farm over the past 48 hours of Yellow Alert/Enhanced Biosecurity.
    c. **Cancel** ALL service visits to the farm within the next three days of Yellow Alert/Enhanced Biosecurity.
    d. **Inform** marketing board representative of possible disease problem and agree to supply ALL contact information.

### Local Veterinarian

1. **Visit** the farm for investigation, post-mortem, diagnostics.

2. **Relay** suspicions and/or tentative diagnosis to owner.

3. **Inform** the CFIA and Provincial Veterinarian of suspicion of disease of importance.

4. **Submit** samples to AVC-DS, Charlottetown along with farmer information.

5. Based on suspicions, the local veterinarian will:
    a. **Request** permission from farmer to alert industry and invoke Yellow Alert/Enhanced Biosecurity.
    b. Highly **recommend** that the farmer contact the General Manager of their marketing board about possible disease of importance.
    c. Highly **recommend** that the farmer contact ALL service/input providers that have been on the property in the last 48 hours.
    d. Highly **recommend** that the farmer contact ALL service/input providers that will be visiting the property within the next three days.
    e. If farm is a **non-commercial** farmer who agrees to alert industry, advise him to **contact PEIDA**.

## AVC-Diagnostic Services

1. Determines through preliminary testing whether samples support a disease of importance:
    a. If negative, will contact the person who submitted the samples and advise that NO further action is required.
    b. If testing supports suspicion. AVC-Diagnostic Services will:
        i. **Contact** the person who submitted the samples (farmer/service person/vet) and **advise** that Yellow Alert/Enhanced Biosecurity be put in place or continue if already in place.
        ii. **Alert** the CFIA who collects samples for AVC-DS and for NC-FAD, Winnipeg. Yellow Alert/Enhanced Biosecurity **may continue** as is or it **may change** to Red Alert/Emergency.
        iii. **Alert** the PEIDA of suspicion of disease of importance.

## Industry Board/Associations

1. Keep ALL members **up to date** on disease information.

2. Ensure that the media has access to **accurate and current information** of the disease outbreak as it relates to their sector.

## Poultry Emergency Response Advisory Team (PERAT)

1. **Gather** at the JEOC office in Charlottetown to assemble the team and bring forth the GIS/GPS information and membership lists.

2. **Generate** a 3 and 10-km radius GIS/GPS map around the suspect farm. Make maps and associated data **available to CFIA as soon as possible**.

3. **Advise** CFIA that PERAT is in place.

4. **Inform farmers** within a 10-km radius of identified farm of Yellow Alert/Enhanced Biosecurity and/or Red Alert/Emergency and **recommend** heightened biosecurity be put in place.

5. **Inform feed manufacturers** of the 10-km radius area involved under Yellow Alert/Enhanced Biosecurity and/or Red Alert/Emergency and **recommend** heightened biosecurity be put in place.

6. **Inform processors** of the 10-km radius area involved under Yellow Alert/Enhanced Biosecurity and/or Red Alert/Emergency and r**ecommend** heightened biosecurity be put in place.

7. **Inform** remaining organizations on the **Emergency Industry Contact List** (Appendix IV) of the 10-km radius area involved under Yellow Alert/Enhanced Biosecurity and/or Red Alert/Emergency and **recommend** heightened biosecurity be put in place.

## Canadian Food Inspection Agency (CFIA)

1. **Submit** additional samples to the National Centre for Foreign Animal Diseases and to AVCBDS.

2. Based on confirmation and/or suspicion, the CFIA will invoke the **Emergency Preparedness Plan** and will:
    a. Work under **Yellow Alert/Enhanced Biosecurity** or Invoke **Red Alert/Emergency**
    b. **Quarantine** farm
    c. **Alert** Health Canada
    d. **Alert** PEIDA
    e. **Alert** AVC-DS
    f. **Alert** Media when confirmed

The CFIA operates under its own Emergency Preparedness Disease Plan, but it is suggested that they form partnerships with industry to improve communication and information transfer during a disease outbreak:

1. CFIA will forward **guidelines** and **protocols** for expected best management practices to provincial, local, and industry representatives.

    Protocols address the **notification** of suspected AI, **movement** restrictions and **quarantines**, vehicle **cleaning** and **disinfection**, sanitary and other procedures at infected premises, methods of **destruction**/euthanasia, **disposal**/composting, sentinel birds/**restocking**, and **valuation** and **compensation** payments.

2. Provide an **AI outbreak contact list** that will be distributed to the provincial department of agriculture, national, provincial, local, and industry representatives, laboratory officials and local practitioners.

3. **Work with PERAT.** PERAT will be available to provide specialized knowledge and training, advise on industry infrastructure, industry politics and relationships and provide connections to other specialists, and will be available as consultants on disease strategy and control as it pertains to the poultry industry.

   PERAT will produce **reports** and **forward information** on disease location/spread so industry can implement stricter biosecurity measures, including truck rerouting and enhanced disinfection procedures to industry.

4. Create a **Public Information Team** (PIT) to produce information for public use. The PIT shall consist of appropriate representatives from **CFIA**, **PEIDA** and the poultry **industry** including **farmers** and **communications officer(s)** from marketing boards. Their aim is to provide enough information to the media to prevent them from going into quarantine areas by **providing adequate video footage, interviews etc.**

5. In addition to information from CFIA, **PERAT will electronically maintain and forward copies of reports** and forward them to the PIT, which may be used in developing public releases.

6. The PIT will prepare and electronically maintain a **copy of press releases and a timeline (log)** of public information activities.

7. The spokesperson for the PIT will **brief the news media** as new information becomes available. In some cases, briefings may be pre-scheduled to occur at designated times.

8. Information released to the public should be **timely** and include **at least** the following general information:
    a. **Nature** and **extent** of the emergency.
    b. Impacted or potentially **affected areas** of the province.
    c. Human health **implications** or lack thereof.
    d. **Activities** being carried out by government officials and industry leaders **to respond** to the outbreak or mitigate its effects.

9. The PIT will **monitor** national, provincial, and local news broadcasts to ascertain if information released is being reported **accurately**.

10. The PIT will counter unfounded rumors with the preparation of **factual information**, which can be released to the public in a timely manner. Previously prepared documents on AI, biosecurity, movement controls, destruction and disposal etc. will **speed up response time**.

11. The use of radio, television and social media may include **prepared announcements, interviews, question and answer sessions, live footage, up to date web sites**, posts, tweets, and so forth depending on the circumstances. **Tele-seminars** effectively deliver important information in a biosecure way. Information released may also include **newspaper inserts** or supplements, which provide detailed information the public could use, and information about the steps being taken by the province and industry to protect them.

12. After the outbreak, **public information records will be collected** by the PIT and filed. All public information media releases will be maintained in an electronic format when possible.

13. After the outbreak, information records will be **filed by PERAT**. **ALL** industry information reports will be maintained in an electronic format when

possible.

14. After the outbreak, industry will have access to **ALL** files for developing educational training seminars and workshops. These are intended to maintain **awareness** of the disease both within the veterinary profession and in the agricultural community. Disease awareness campaigns should be targeted primarily at **stock owners** and at **non-professional personnel** who regularly visit flocks, e.g. bird-catchers. The campaigns should emphasize the following:
    - importance of Avian Influenza,
    - clinical signs,
    - importance of prompt notification.
    - epidemiological inquiries (tracing and surveillance), and
    - infected premises procedures including biosecurity, sanitation, destruction, and disposal.

15. After the outbreak, CFIA will seek input from the PERAT when and if government policies regarding infectious diseases are changed.

# Section 11: Appendices

## Appendix I - PEI Emergency Response Contacts

| Group | Contact | Organization | Office Tel. | Cell | Home Tel. | Fax | Email |
|---|---|---|---|---|---|---|---|
| Chicken Farms of PEI | Janet Hilliard-Murphy | Chicken Farms of PEI | 902-218-1872 | | | | info@peichicken.ca |
| Egg Producers of PEI | Michael Cummiskey<br>Gerard MacDonald | Egg Producers of PEI | 902-892-8401<br>780-902-5625 | | | | mcummiskey@dfpei.pe.ca<br>gmacdonald@peifa.ca |
| Feed Mills | Trevor Towers | Trouw Nutrition | | 902-940-2671 | | | trevor.tower@trouwnutrition.com |
| Provincial CFIA | Martha Hagar, DVM | CFIA, Charlottetown | 902-566-7290 Ext. 2038 | 902-393-2860 | | 902-566-7290 | Martha.Hagar@inspection.gc.ca |
| Provincial CFIA District Veterinarian | Lauren Howard, DVM | CFIA, Charlottetown | 902-566-7290 Ext. 2038 | 782-324-1078 | | 902-566-7290 | Lauren.howard@inspection.gc.ca |
| Atlantic CFIA Regional Vet Officer | Dr. Lynn Hodd | CFIA | 902-698-9237 | | | | Lynn.hood@inspection.gc.ca |
| Atlantic CFIA Emergency Coordinator | Suzanne Nadeau | CFIA, Moncton | 506-777-3925 | | | 506-777-3942 | Suzanne.nadeau@canada.ca |
| Atlantic CFIA Communications Officer | Greg Rogers | CFIA, Moncton | 506-378- 0294 | | | 506-851-2689 | Greg.Rogers@inspection.gc.ca |
| Provincial Agriculture | Kelly Hughes | PEIDA | 902-368-5654 | 902-314-0814 | | 902-368-4857 | kellyhughes@gov.pe.ca |
| Provincial Agriculture | Yosdany C. Garcia, DVM | PEIDA | 902-316-1095 | | | | ycgarcia@gov.pe.ca |
| Assistant Deputy Minister Agriculture | Carolyn Sanford, DVM | PEIDA | 902-368-5660 | 902-628-7072 | | 902-368-4857 | cjsanford@gov.pe.ca |
| Provincial Agriculture Chief Veterinary Officer | Jill Wood, DVM | PEIDA | 902-370-4923 | 902-218-2665 | | 902-368-4857 | jwoods@gov.pe.ca |
| AVC-DS | Liz Dobbin | Director, Diagnostic Services | 902-566-0831 | 902-316-2426 | | 902-566-0723 | edobbin@upei.ca |
| AVC-DS | Andrea Bourque | Anatomical Pathologist | 902-566-0855 | 902-628-9492 | | | abourque@upei.ca |
| AVC-DS | Weekend/after hours | Post-Mortem | 902-566-0871 | 902-626-7737 | | | |
| Provincial Health and Wellness | Ryan Neale | PEIHW – Manager, Environmental Health | 902-368-4142 | 902-314-2222 | | 902-368-6468 | rwneale@gov.pe.ca |
| Provincial Health and Wellness | Dr. Heather Morrison | PEIHW – Chief Public Health Officer | 902-368-4996 | 902-314-5694 | | 902-620-3354 | hgmorrison@gov.pe.ca |
| Provincial Environment, Energy and Climate Action | Greg Wilson | PEIDEECA - Environmental Land Management | 902-368-5274 | | | | gbwilson@gov.pe.ca |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Provincial Justice and Public Safety | Office | PEIJPS - Emergency Measures | 902-894-0385<br>1-877-894-0385 | | | 902-368-6362 | publicsafety@gov.pe.ca |
| Provincial Justice and Public Safety | Emergency (24 hrs) | PEIJPS - Emergency Measures | 902-892-9365<br>1-888-294-9909 | | | | |
| Provincial Justice and Public Safety | Dakota Murray | PEIJPS - Emergency Measures | | | 902-394-6350 | 902-368-6362 | dakotamurray@gov.pe.ca |
| Federal EMO (Public Safety Canada) | Simon Hofley | Public Safety Canada | 613-408-8613 | | | | Simon.hofley@ps-sp.gc.ca |
| Federal Environment and Climate Change | Becky Whittam | Atlantic Canadian Wildlife Services | 506-364-5189 | | | 506-364-5062 | becky.whittam@canada.ca |
| Provincial Environment, Energy and Climate Action | Andrew Ing | PEIDEECA - GIS | 902-368-6471 | 902-394-4481 | | | aring@gov.pe.ca |
| Department of Transportation and Infrastructure | Stephen Szwarc | TIE Director, Highway Maintenance | 902-368-5103 | 902-394-5946 | | | sjszwarc@gov.pe.ca |
| Confederation Bridge | Bridge Control (24/7) | | 902-437-7349 | | | | |
| Emergency Animal Response Team (EART) | Ron McConnell<br>Lynn Davis | EART | 902-439-2262<br>902-954-1287 | | | | emergencyanimalresponseteam@gmail.com |

## Appendix II - PEI Poultry Boards, Associations, and Poultry FAD Advisory Group

### *PEI Poultry Boards and Associations*

| | | |
|---|---|---|
| Chicken Farmers of PEI<br>*Contact*: Janet Hilliard-Murphy | *Primary Tel*:<br>*Secondary Tel:*<br>*Fax*:<br>*Email*: | 902-218-1872<br>902-838-4108<br>902-838-4018<br>info@peichicken.ca |
| Egg Producers of PEI<br>*Contact*: Michael Cummiskey<br><br>*Contact*: Gerard MacDonald | *Tel*:<br>*Fax*:<br>*Email*:<br><br>*Tel*:<br>*Email*: | 902-892-8401<br>902-566-2755<br>mcummiskey@dfpei.pe.ca<br><br>780-902-5625<br>gmacdonald@peifa.ca |
| PEI Purebred Poultry Fanciers Association<br>*Contact*: Leif Taylor | *Tel*:<br>*Fax*:<br>*Email*: | 902-887-3320<br><br>ltaylor@pei.sympatico.ca |
| Turkey Industry<br>Contact: Harvey Larkin | *Tel:*<br>*Email*: | 902-658-2781<br>Rosemary.larkin@pei.sympatico.ca |

## *PEI Poultry FAD Advisory Board*

| | |
|---|---|
| Chicken Farmers of PEI | Janet Hilliard-Murphy |
| Egg Producers of PEI | Michael Cummiskey<br>Gerard MacDonald |
| Canadian Food Inspection Agency | Dr. Martha Hagar<br>Dr. Thomas Ogilvie<br>Dr. Tara McCarthy<br>Dr. Lauren Howard |
| PEIDA | Dr. Jill Wood<br>Kelly Hughes<br>Dr. Yosdany C. Garcia |
| Trouw Nutrition | Trevor Towers |
| Turkey Industry | Rosemary Larkin |
| PEIDEECA | Scott Mitchell |
| PEIJPS | Dakota Murray<br>Nick Jagoe |
| Worker's Compensation Board | Hillary Hayden |

## Appendix III - Avian Disease Premises Investigation Questionnaire (ADPIQ)

When a producer or private veterinarian suspecting the presence of a FAD contacts the CFIA, the district veterinarian will arrange to visit the farm as soon as possible and begin an initial investigation. As part of the investigation, the district vet will need to collect information pertinent to the flock and the current disease situation. Having this information assembled before the district vet arrives on the farm, if possible, will greatly assist investigation efforts. The information may include:

- Contact names for the owner of the premises and birds, and the person(s) responsible for the premises and employees.
- The clinical signs or pathology that you have seen in the birds.
- When you first noticed the clinical signs and in which birds (young, mature, location etc.)
- An inventory and the location of all animals (birds and others) that are present on the premises.
- Any recent (past 21 days) movements or shipments of animals, products, feed etc. on to or off of the farm.
- The source of water (drinking, misting etc.) and whether it is treated.
- Farm management practices and biosecurity measures in place.
- Presence and location of any nearby (within 5-km) poultry farms and or backyard poultry if known.

## Appendix IV - Poultry Emergency Response Advisory Team (PERAT)

**Roles and Responsibilities**

1. Activate and deactivate the Poultry Emergency Response Plan.

2. Provide direction to manage the industry response.

3. In the case of a presumptive positive diagnosis of a FAD, PERAT will:
   a) Activate the Emergency Response Plan.
   b) Arrange for any assistance and information that might be required by the producer (depopulation and disposal protocols, materials and equipment, biosecurity procedures, etc.).
   c) Inform all producers, feed mills, processors, and other industry services in the province within, or operating within, a 10 km radius of the suspect farm of an industry declared Yellow Alert/Enhanced Biosecurity and recommend heightened biosecurity be put in place.

4. Authorize and direct the commitment of industry resources.

5. Recommend movement controls.

6. Participate in a joint PIT, established by CFIA. PERAT will be the official spokesperson for industry throughout an emergency. PERAT may assign individual members as a spokesperson for their sector as required.

7. Provide specialized knowledge, advise on industry infrastructure, industry politics and relationships to CFIA, EMO and other agencies, as well as provide connections to other resource people.

8. Maintain a log of ALL group activities for use during the debriefing process.

9. Each member is responsible for maintaining individual logs during any emergency.

10. Prepare situation reports during the response to emergencies.

11. Provide government agencies (CFIA, EMO, PEIDA) with any geographical data and information of poultry producers and poultry industry support groups in the province as might be required.

12. Maintain an updated list of contacts for the emergency plan.

13. Prepare and disseminate information to the industry (nationally, provincially) on the state of the emergency. Responsible for notifying industry members of the actions of the PERAT during a response to an emergency.

## Appendix V - Document Revisions

| | |
|---|---|
| December 7, 2006 | Section 4 revisions to mirror new zone terminology and details used by CFIA (Kim) |
| May 22, 2007 | Updated the Contact information in Appendix IV (Paul) |
| March 13, 2008 | Updated the Contact information in Appendix IV (Paul) |
| March 18, 2008 | Updated/corrected names of organizations/minor word smithing (Paul) |
| April 16, 2008 | Updated Stages 1, 2, and 3 according to discussion at the April 9, 2008 meeting |
| July 22, 2008 | Document Layout and Design (Strategic Marketing and Graphic Design B File No. 08AG41-20516) |
| September 2, 2010 | Updated contact information. |
| October 2008 | Reformatted version printed at the Document Publishing Centre. |
| March 2012 | Updated contact information. |
| November 2012 | Updated contact information, updated cover with new department ID, replace page 1.9, minor type/ spelling corrections. (Creative Services File No. 12AG41-33824) |
| June 2017 | Updated contact information, minor word smithing and formatting (S. Mellish) |

| | |
|---|---|
| June 2017 | Updated CFIA wording/nomenclature, disinfectant, and biosecurity links, and current contact info (Dr. M. McGeoghegan) |
| December 2022 | Updated CFIA Zone categories, updated contact information, minor words changing and formatting (Saad Cheema) |
| February 2024 | Updated department names, contact information, minor words changing and formatting (Kelly Hughes) |