

Second Meeting
Geneva, 6-10 December 2004

Meeting of Experts
Geneva, 19-30 July 2004
Items 5 and 6 of the agenda

Avian Influenza in Canada 2004¹

Submitted by Canada

1. In early 2004, Canada experienced an outbreak of Highly Pathogenic Avian Influenza. Following the initial diagnosis of the outbreak in February 2004, the Canadian Food Inspection Agency took steps to isolate and depopulate the infected areas such that the disease could be contained. By June of 2004, some 17 million birds, on 42 commercial premises and 11 backyard flocks, had been destroyed, and the outbreak was seen to have been halted. Disposal of the carcasses, eggs, feed and litter involved a number of methods, including composting, incineration, and placement into landfills. The outbreak was successfully contained, but required significant resources in terms of personnel and equipment.
2. Given the overall economic impact of the outbreak, there was concern that this could be an attractive model for agro-terrorists. In addition, had a second, simultaneous outbreak occurred elsewhere in the country, it could have severely strained the resources that Canada has at its disposal, thus making resolution of the crisis more difficult and expensive. Canada hopes that our experience can assist others in dealing with similar outbreaks.
3. Attached is a summary of information taken from the Canadian presentation on Avian. The full presentation is available upon request.

¹ Prepared by the Canadian Food Inspection Agency.

Annex

Information from the Avian Influenza Presentation

AI Backgrounder

- Avian influenza (AI) is a contagious viral infection caused by the influenza virus Type "A", which can affect several species of food producing birds (chickens, turkeys, quails, guinea fowl, etc.), as well as pet birds and wild birds.
- AI viruses can be classified into two categories: **low pathogenic (LPAI)** and **high pathogenic (HPAI)** forms based on the severity of the illness caused in birds, with AI causing the greatest number of deaths in birds. Most AI viruses are **low pathogenic** and typically cause little or no clinical signs in infected birds. However, some **low pathogenic** viruses are capable of mutating into **high pathogenic** viruses. There are many influenza subtypes, two of which include H5 and H7. Historically, only the H5 and H7 subtypes are known to have become **high pathogenic** in avian species.

Avian Influenza in Canada

- Highly pathogenic avian influenza (HPAI) is reportable under the Health of Animals Act and the response is stamping out.
- HPAI not reported in domestic poultry before 2004.
- Proposed changes to the OIE code for H5 and H7 AI prompted consultation across the country with industry before outbreak.

Avian Influenza in British Columbia, 2004

February 16:

- Presumptive diagnosis of AI by the provincial laboratory of British Columbia.
- Samples transported as high risk specimens to the CFIA's Centre for Foreign Animal Diseases in Winnipeg, Manitoba.
- Preliminary analysis determined that it was avian influenza of the H7 subtype (confirmed by the RT-PCR test):
 - sequencing of the viral genome revealed a low pathogenic virus.
- Actions of the CFIA:
 - farm put under quarantine.
 - policy decision based on clinical signs and concern over potential of H7 to mutate.
 - depopulated farm 19-20 February.
 - developed a surveillance ring 5 kilometres around index.

March 9

- A new infected premises is detected in the 5 km surveillance zone.
- On March 11 it was confirmed by the CFIA Laboratory to be H7N3, highly pathogenic.

March 11

- Ministerial Order under the Health of Animal Act - Control Area of 5000² km:
 - a high risk region (5 km).
 - surveillance region (10 km).
- no movement of poultry and poultry products allowed in the Control Area without permit.
- depopulation, with compensation, of infected premises.

By April 4

- 18 commercial premises considered infected:
 - 12 in the High Risk Region.
 - 4 in the Surveillance Zone.
 - 2 outside the surveillance Zone but in the Control Area.
- 3 backyards:
 - in the High Risk Region.
- Total of 365 000 birds destroyed.

April 5

- The Minister of Agriculture and Agri-food announced:
 - plan to depopulate all commercial and backyard flocks in the Control Area (all CA considered High Risk Region) -19 million birds.
- birds on non-infected premises:
 - slaughtered in federal establishments and sold for consumption in CA.
 - had to have a negative test for AI within 72 hours before slaughter.

By May 21

- 42 commercial premises declared infected:
 - last virus isolated May 13.
 - 1.25 million exposed/infected birds destroyed.
- 11 backyard positive flocks:
 - 171 exposed/infected birds destroyed.
- Surveillance of backyard flocks revealed other subtypes.

Next Steps

May 21: Depopulation is suspended to consider next steps:

- at this time 17 million birds have been destroyed.

June 3: 21 days have passed since the discovery of a commercial infected premises.

June 10: Reduced high risk region to City of Abbotsford:

- the rest of the Control Area can start to repopulate.

June 11: All the compost on previously infected farms are free from virus.

June 18: C& D approved on all infected premises in High Risk Region of Abbotsford (one remaining premises under quarantine - never detected virus).

July 9: 21 days after the last C&D, the repopulation of the high risk region can start (according to OIE standards).

CFIA personnel Involved in B.C.

- Number of CFIA employees from outside of B. C. : 355
- B. C. CFIA employees: 35-40
- Local workers: 138
- Maximum number of CFIA employees at one time: 210-245
- Administrative personnel : 27
- Provincial employees: 102

Personnel Required

////////////////////////////////////	# of employees	# of days of work
Veterinarians	103	2433
Inspectors	154	3551
Management/ Adminstration	59	1566
Total	316	7550

Other Personnel

- CFIA staff in Ottawa
- Industry representatives
- Municipal representatives
- Representatives of other departments (ex: Health Canada, Foreign Affairs, PSEPC)

Depopulation & Disposal

- CFIA
 - positive premises (euthansia on site):
 - composting on the farm
 - incineration
 - landfill
 - high risk contact premises (euthanasia on site):
 - if negative: composting centre
- Industry:
 - if negative: abattoir and rendering

Euthanasia on the Farm

- CO₂ used for euthanasia.
- Composting on farm preferred method of disposal for biosecurity reasons.
- Landfill and incineration other disposal methods available.

Composting on the Farm

- Carcasses, eggs, feed and litter
- Phase 1:
 - inside the barn
 - objective: reduction of viral load
 - 5 to 7 days (depending on temperature)
- Phase 2:
 - composting completed
 - depending on temperature

Landfill and Incineration

- More costly method.
- Collection at the farm.
- Necessary to transport contaminated material:
 - permit
 - protocol of bio-containment
 - refrigerated trucks

Landfill

- Only one site used
- 200 tonnes
- Local residents had concerns with landfill

Incineration

- Two sites:
 - municipal incinerator
 - small volume
 - old mine
 - about 25 000 carcasses a day
- Mobile incinerators:
 - best solution

Central Composting

- Premises considered high risk and ordered destroyed:
 - 1 kilometre from infected farms.
 - epidemiological link with infected farms.
- Tested negative for AI.

Lessons

- The economic impact of AI event is significant and could be attractive for terrorists.
 - Controlled a fast moving disease requires significant resources, multiple simultaneous events would be potentially overwhelming.
 - Farm Biosecurity measures must be in place to control the spread of the disease.
 - Health and safety of first responders must be considered and ensured.
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