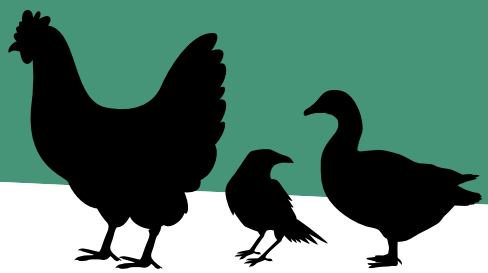
Department of Agriculture
Cayman Islands Government

Avian Influenza (Bird Flu)



What is Avian Influenza?

- Avian Influenza (AI) is a contagious viral disease caused by influenza A viruses that primarily affect birds, especially poultry (chickens, turkeys, ducks).
- AI can range from mild illness to sudden, severe disease with high death losses, depending on the virus type.
- Wild waterfowl often carry AI viruses with few signs and can introduce the virus to domestic birds.

Important "strain groups" of Avian Influenza for Poultry Risk

- AI viruses are grouped by H (hemagglutinin) and N (neuraminidase) proteins (e.g., H5N1, H7N9, H5N2).
- H5 and H7 subtypes are the most important because they can occur as LPAI (Low Pathogenic Avian Influenza) and can mutate into HPAI (High Pathogenic Avian Influenza) in poultry.
- Two main categories based on severity in poultry:

1) LPAI — Low Pathogenic Avian Influenza

- Usually causes mild signs or no signs.
- Signs may include: mild respiratory illness, reduced feed intake, mild drop in egg production.
- Important: Some H5 and H7 LPAI strains can mutate into HPAI, especially in poultry populations.

2) HPAI — Highly Pathogenic Avian Influenza

- Causes severe disease and can spread rapidly.
- Can lead to very high mortality and sudden deaths.
- Considered a major emergency for poultry industries due to the speed and scale of impact.

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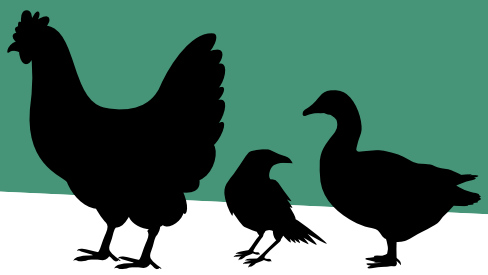
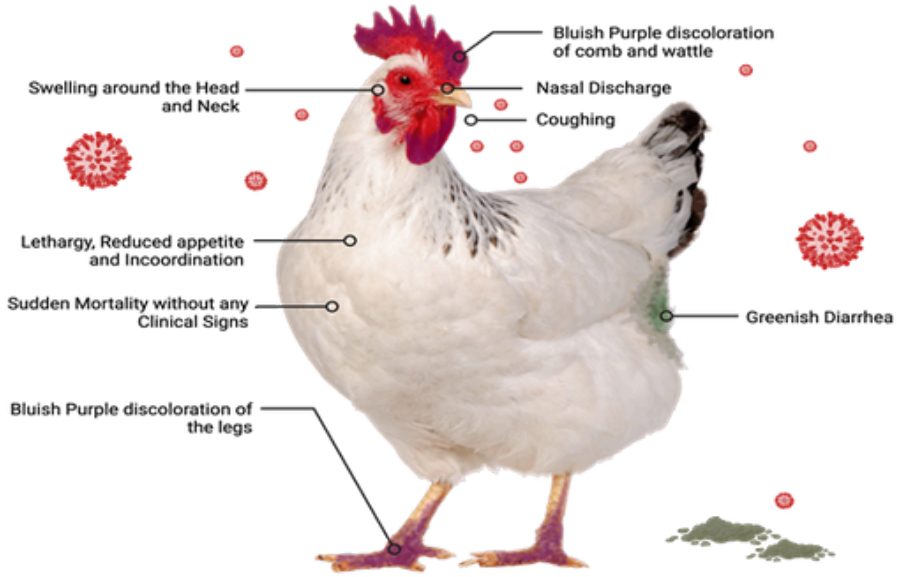


Mode Of Transmission

- Direct contact with infected birds (domestic or wild) and their secretions.
- Droppings (feces) are a major source. Virus can contaminate litter, soil, boots, crates, and vehicles.
- Respiratory droplets and secretions (sneezing, coughing, nasal discharge).
- Contaminated equipment and people: footwear, clothing, egg trays, feeders, drinkers, catching crews.
- Shared water sources: ponds, puddles, standing water contaminated by wild birds.
- Movement pathways: live birds, poultry products, and possibly contaminated manure/litter if handled improperly.

NOTE: Avian Influenza spreads easily when farms share people, equipment, or vehicles without cleaning and disinfection.

Clinical Signs of Highly Pathogenic Avian Influenza (HPAI) in Broilers



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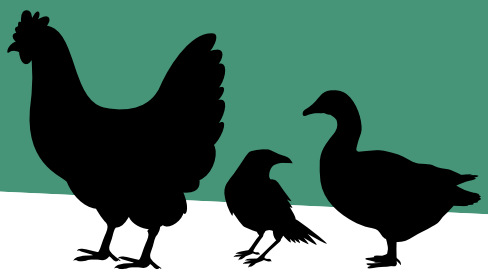

Biosecurity Measures

1) Basic Daily Biosecurity measures.
   - Limit visitors: essential staff only; maintain a visitor log.
   - Control entry: one entry point, signs posted ("No unauthorized entry").
   - Farm-only footwear and clothing: dedicated boots/coveralls.
   - Footbaths/boot dips at entry (maintain correct disinfectant strength and keep clean).
   - Hand hygiene: wash or sanitize before/after handling birds.
   - Manage movement and vehicles: Clean and disinfect vehicles entering the farm and/ or park at a suitable distance away from poultry houses.
   - Cleaning and Sanitation: Ensure adequate and constant cleaning and sanitation procedures are maintained pre and post bird placement on farm.

2) Spread within the farm.
   - Separate flocks by age and type; avoid mixing birds.
   - Use dedicated tools per house/pen (do not share between flocks).
   - Clean and disinfect equipment between uses (crates, feeders, drinkers).

3) Protect birds from wild birds.
   - Keep birds housed or restrict exposure where possible.
   - Secure feed and water: covered feed bins, clean up spills, avoid open water sources.
   - Use netting/screens to block wild bird access to houses and storage areas.

4) Quarantine & Monitor
   - Separate new/ young birds away from older flock and monitor for signs.
   - Daily checks: feed intake, water intake, egg production, and mortality.

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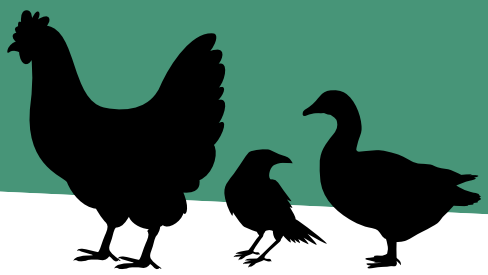

5) Report Early

- If AI is suspected:
  - Isolate the area
  - Restrict movement
  - Contact veterinary/animal health authorities/ Department of Agriculture immediately for guidance and testing.

Signs to look out for:

- Sudden increase in deaths (especially multiple birds dying quickly)
- Drop in egg production or soft-shelled/misshapen eggs
- Respiratory signs: coughing, sneezing, nasal discharge
- Swollen head/face, purple discoloration of comb/wattles
- Severe depression: birds are quiet, not eating, sitting/lying down
- Diarrhea or nervous signs (tremors, lack of coordination)

Financial Impacts on A Poultry Business Should It be Impacted by AI

1) Immediate operational shutdown and movement controls

- Stop-movement / quarantine controls on birds, eggs, manure/litter, feed trucks, staff, and visitors (often farm-level and sometimes area-wide).
- Loss of access to markets (processors, live bird sales, egg buyers) while investigations and control actions occur.

2) Direct production losses

- Broilers
- Rapid losses from mortality and/or mandatory depopulation (culling) of infected/exposed flocks.
- Lost grow-out value (birds not reaching market weight) and disrupted placement schedules.
- Layers
- Loss of current egg production immediately (illness, mortality, depopulation).
- Loss of future production because layers take months to replace to point-of-lay—so revenue interruption is often longer than broilers

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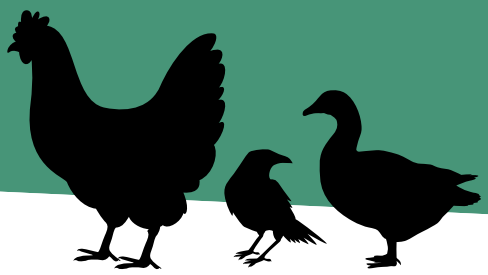

3) Mandatory response costs (farm – level)

- Depopulation and disposal costs (logistics, labor, equipment, rendering/landfill/composting per authority guidance).
- Cleaning and disinfection of houses, equipment, and vehicles; pest/wild-bird control upgrades.
- Testing and surveillance costs (sampling, lab fees, veterinary oversight).

4) Trade and Market Impacts

- Outbreaks can trigger local/national movement limits and international trade restrictions, affecting processors, integrators, and allied services (feed, transport, hatcheries).
- Price volatility: egg and meat supply shocks can swing prices, but individual affected farms typically cannot benefit because they are unable to sell.

5) Cashflow pressure and financing risk

- Sudden loss of sales + ongoing fixed costs (loan payments, utilities, staff, security, contracts).
- Extra working capital needs for cleanup and biosecurity improvements.
- Depending on the country, some producers may qualify for compensation/indemnity for certain losses and response costs, but this can be partial and may not cover all downstream losses (contracts, downtime).

6) Workforce & Compliance Impacts

- Need for tighter PPE, hygiene protocols, restricted staff movement, and training (and possible staffing shortages).
- Staff exposed to infected birds may be monitored per public health guidance; this can add administrative burden and disruption.

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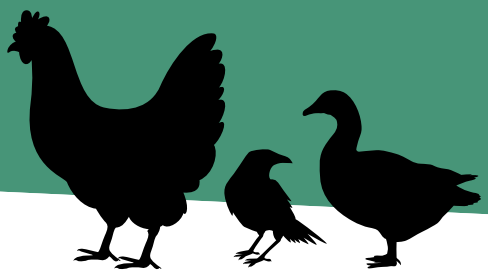

7) Longer – term business impacts

- Reputation/customer confidence impacts, especially for table-egg operations and farm-gate sales.
- Higher ongoing costs: biosecurity upgrades, audits, surveillance testing, insurance changes.
- Potential need to redesign production (housing, perimeter controls, water management, wild-bird deterrence).