Diseases Affecting Poultry Causes, Signs, Prevention, Treatment Broilers VS Layers

Department of Agriculture
Cayman Islands Government

Viral Diseases

1) Avian Influenza (AI) – LPAI/ HPAI

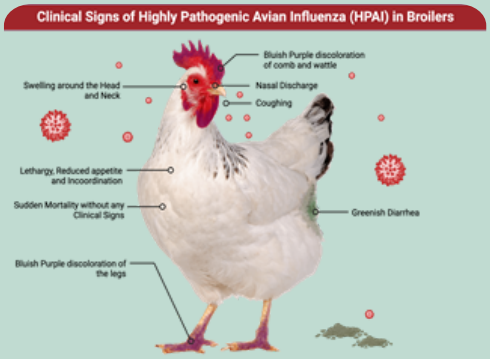
- Cause: Influenza A virus; LPAI may be mild, HPAI often severe/high mortality.
- Key signs: Sudden deaths (esp. HPAI), severe depression, respiratory signs, swollen head/face, diarrhea.

Effects

- Broilers: Rapid mortality, poor growth and FCR.
- Layers: Sudden egg production collapse and mortality, long recovery due to restocking time.

Prevention: Strict biosecurity & wild bird exclusion, movement control, surveillance.

Treatment: No approved curative treatment for HPAI in poultry; control commonly relies on rapid response and depopulation. For some LPAI, antimicrobials may help secondary bacterial infections but do not treat the virus



2) Newcastle Disease (ND)

- Cause: Avian paramyxovirus-1, severity varies by strain.
- Key signs: Respiratory signs, greenish diarrhea; may see nervous signs (tremors/paralysis) and sudden deaths.

Effects

- Broilers: Mortality spikes, poor growth/FCR, condemnations.
- Layers: Egg drop, poorer egg quality, mortality depends on strain/immunity.

Prevention: Vaccination & biosecurity.

Treatment: No specific treatment. Supportive management and control of secondary bacterial infections may be used under veterinary guidance.

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3) Infectious Bronchitis (IB)
Cause: Coronavirus (IBV), many strains.
Key signs: Coughing/sneezing, watery eyes, tracheal rales; some strains affect kidneys.
Effects

- Broilers: Reduced growth/FCR, uneven weights.
- Layers: Egg drop and shell/quality defects and can have lasting flock impact.

Prevention: Vaccination programs, ventilation and hygiene.
Treatment: No antiviral cure, use supportive care (reduce stress, manage temperature, electrolytes as advised) and antimicrobials for secondary bacterial infections when indicated.

4) Marek's Disease
Cause: Herpesvirus; spreads via feather dander/dust.
Key signs: Paralysis/lameness, weight loss, uneven performance; tumours at necropsy.
Effects

- Broilers: Condemnations/performance loss if immunity breaks down.
- Layers (pullets/young hens): Can cause significant mortality and poor performance.

Prevention: Hatchery vaccination and sanitation to reduce dust exposure.
Treatment: No effective treatment. Control depends on vaccination and management

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Viral Diseases

5) Fowl Pox

Cause: Poxvirus spread by mosquitoes and contact through skin wounds.

Key signs: Dry scabs/warts on comb/wattles/eyelids; wet form causes mouth/throat lesions and breathing difficulty.

Effects

- Broilers: Reduced growth/feed intake.
- Layers: Production drop from stress and facial lesions reduce feeding.

Prevention: Vaccination in risk areas, mosquito control and biosecurity.

Treatment: No specific effective treatment. Provide supportive care and control secondary infections as advised by a vet.

6) Egg Drop Syndrome (EDS)

Cause: Duck adenovirus 1, mainly affects laying hens.

Key signs: Sudden egg production drop, thin/soft/shell-less or pale eggs.

Effects

- Broilers: Usually minimal unless breeder flocks affected (hatching-egg/chick supply impact).
- Layers: Major loss from reduced saleable eggs and shell defects.

Prevention: Biosecurity, keep chickens away from waterfowl/untreated water, disinfect/wash egg trays, vaccination where risk exists.

Treatment: No treatment. Control relies on biosecurity and vaccination/eradication strategies.

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Bacterial Diseases

7) Salmonellosis
Cause: Salmonella spp. (different types cause different syndromes).
Key signs: Chick weakness, diarrhea/pasted vent, high early mortality. Older birds' diarrhea, dehydration. Can be risk to food safety.
Effects

- Broilers: Poor growth, mortality/condemnations; major food-safety implications.
- Layers: Production drops; egg contamination risk varies by serotype and controls.

Prevention: Buy from tested sources, rodent control, clean water/feed, strict hygiene, monitoring/testing programs.
Treatment:

- Treatment not recommended (goal is elimination/eradication, especially from breeding stock).
- Supportive care; antimicrobials may be needed for systemic illness, but routine use can be controversial and should be veterinary-led.

8) Fowl Cholera
Cause: Pasteurella multocida.
Key signs: Sudden deaths (acute) or chronic disease with swollen wattles/joints, lameness, respiratory signs, yellow diarrhea.
Effects

- Broilers: Mortality spikes, condemnations, and performance losses.
- Layers: Mortality and egg production losses may persist and reoccur.

Prevention: Biosecurity, rodent/wild bird control, sanitation; vaccination may be used in endemic/high-risk areas.
Treatment: Early antimicrobial treatment can reduce losses, and culture/sensitivity is recommended due to resistance concerns; in some situations, eradication may require depopulation and cleaning/disinfection.

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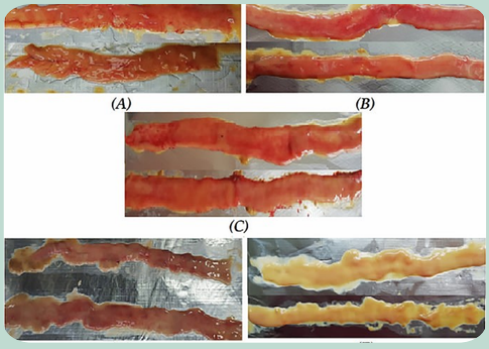
PROTOZOAL / ENTERIC DISEASES

9) Coccidiosis
Cause: Eimeria spp. birds ingest oocysts from contaminated litter.
Key signs: Diarrhea (may be bloody), wet litter, poor growth, uneven flock; can be fatal.
Effects

- Broilers: Big driver of poor FCR, uneven weights; predisposes to necrotic enteritis.
- Layers: Reduced pullet growth, delayed point-of-lay; production losses if severe during lay.

Prevention: Dry litter, avoid overcrowding, planned anticoccidial program or vaccination, cleanout between flocks.
Treatment: Anticoccidial drugs are available (use approved products per label/vet direction). Treating early is important; also improve litter dryness and reduce challenge.



10) Necrotic Enteritis (NE)
Cause: Clostridium perfringens overgrowth; often follows coccidial damage or diet changes.
Key signs: Sudden deaths, depression, diarrhea and rapid performance/FCR collapse.
Effects

- Broilers: Rapid mortality and severe FCR loss; may progress too fast to salvage performance.
- Layers: Can occur (often when gut health is compromised) causing mortality and production losses.

Prevention: Strong coccidiosis control, avoid abrupt feed changes, manage litter moisture, reduce stress/overcrowding.
Treatment: Antimicrobial-medicated drinking water is the standard emergency approach under veterinary direction and success will depend on early intervention.

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FUNGAL DISEASE

11) Aspergillosis

Cause: Aspergillus spores from moldy litter/feed, dusty environments, or contaminated hatchery materials.

Key signs: Gasping/respiratory distress, lethargy; often severe in young chicks.

Effects

- **Broilers:** Early chick losses, uneven growth; condemnations possible.
- **Layers:** Chronic respiratory losses and reduced performance if exposure persists.

Prevention: Never use moldy litter/feed, improve ventilation, fix leaks, reduce dust, clean/disinfect equipment/hatchery areas.

Treatment: No effective treatment in poultry flocks. Control depends on removing the source and correcting environment (ventilation and contaminated materials).