

COMMON DISEASES OF CHICKENS, TURKEYS & GAMEBIRDS

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DISEASES EFFECTING THE RESPIRATORY SYSTEM (trachea, lungs, airsacs)

<u>Viral</u>	<u>Bacterial</u>	<u>Fungal</u>	<u>Other</u>
Avian Influenza	Infectious Coryza (C)	Aspergillosis	Mycoplasmas
Pox	Pasteurella		
Infectious Bronchitis (C)	E. coli		
Laryngotracheitis (C)	Bordetella (T)		
Newcastle Disease			

DISEASES EFFECTING THE NERVOUS SYSTEM (brain, nerves)

<u>Viral</u>	<u>Bacterial</u>	<u>Fungal</u>
Avian Influenza	Botulism	Aspergillosis
Marek's Disease (C)	Pasteurella	
Newcastle Disease		
Eastern Equine Encephalitis (G)		

DISEASES EFFECTING THE INTESTINAL TRACT (crop, gizzard, intestines)

<u>Viral</u>	<u>Bacterial</u>	<u>Fungal</u>	<u>Parasites</u>
Hemorrhagic Enteritis (T)	Salmonella	Candida	Coccidia
	E. coli		Worms
	Ulcerative/Necrotic Enteritis		Blackhead

DISEASES CAUSING LAMENESS

<u>Viral</u>	<u>Bacterial</u>	<u>Nutritional</u>	<u>Other</u>
Viral Arthritis	Staph	Ricketts	Mycoplasma
Marek's Disease (C)	Pasteurella	Cage Layer Fatigue	

DISEASES AFFECTING THE SKIN

<u>Viral</u>	<u>Bacterial</u>	<u>Parasites</u>
Pox	Erysipelas	Mites, Lice

Viruses – antibiotics do not work against viruses, need to keep these viruses off the farm with good management and biosecurity; vaccination to prevent disease when necessary.

Bacteria – use appropriate antibiotics at the correct dosage and the correct length of time to prevent building up resistance.

Parasites – usually a sanitation problem, treat to stop problem, but also clean up pens.

VIRAL DISEASES

- **Avian Influenza**

Virus – AI, flu, Fowl Plague

Symptoms: mild disease – can be none to respiratory signs, diarrhea, low mortality, drop in egg production; severe disease – respiratory and nervous signs, dark combs, 100% mortality.

Transmission: the virus is released in nasal secretions and feces of infected birds which can then contaminate equipment, vehicles, crates, clothing and shoes and be tracked around; virus can survive long periods of time in cool, moist environments; waterfowl and wild birds can be carriers.

Prevention/Control: Reportable – possible eradication; strict biosecurity, avoid contact with wild birds and waterfowl; no treatment or vaccine.

- **Bronchitis**

Virus – IB -- very contagious disease which can spread rapidly through a flock

Symptoms: coughing, sneezing, nasal and eye discharge, mortality.

Transmission: the virus is released in nasal secretions and feces of infected birds and can contaminate the environment.

Prevention/Control: maintain good management and biosecurity; vaccinate to prevent; no treatment.

- **Eastern Equine Encephalitis (EEE)**

Virus – effects ring-neck pheasants, chukars & emus

Symptoms: depression, leg paralysis, twisting of head, tremors. In emus see bloody diarrhea & death.

Transmission: spread through mosquitoes and other biting insects.

Prevention/Control: control insect population, no treatment, emus can be vaccinated using equine EEE vaccine.

- **Hemorrhagic Enteritis (HE)**

Virus – effects turkeys, very contagious, which can spread rapidly through a flock.

Symptoms: depression, bloody droppings, death.

Transmission: bird to bird, though contaminated litter.

Prevention/Control: improve sanitation and biosecurity; commercial vaccine available, no treatment.

- **Laryngotracheitis (LT)**

Virus – LT – very contagious disease which spreads slowly through a flock

Symptoms: watery eyes and nasal discharge, coughing, sneezing, and shaking heads to dislodge pus plugs in windpipe.

Transmission: direct bird to bird contact, infected feces/litter, footwear, clothing, buildings and equipment. Birds that recover can remain carriers for years and can shed the virus again if stressed.

Prevention/Control: strict biosecurity, vaccinate – need permission from State Veterinarian in South Carolina; no treatment.

- **Marek's Disease**

Virus -- which induces neoplasia (cancer)

Symptoms: gray eyes and blindness, lameness, paralysis, unthriftiness.

Transmission: virus can spread in feather dander, dust, feces and saliva. Infected birds carry virus in blood for life and are a source of infection for other birds.

Prevention/Control: vaccination at hatchery; no treatment.

- **Newcastle Disease**

Virus – very contagious disease which can spread rapidly through a flock

Symptoms: mild disease – respiratory (nasal discharge, coughing), low mortality; severe disease (Exotic Newcastle Disease) – high mortality, respiratory and nervous signs, swollen heads.

Transmission: the virus is released in nasal secretions and feces of infected birds and can contaminate feed, water, footwear, clothing, equipment and environment.

Prevention/Control: maintain good management and biosecurity; vaccinate to prevent infection of mild strains; no treatment.

- **Pox**

Virus – slow spreading disease

Symptoms: raised scab-like lesions on unfeathered areas (head, mouth, legs, vent), egg production drop, mortality higher with “wet pox” – lesions in the mouth and windpipe.

Transmission: air-borne virus in dust or dander can enter blood stream through conjunctiva of eye, skin wounds or respiratory; mosquitoes and other biting insects can carry the virus and pass it onto the bird from biting.

Prevention/Control: reduce insect population, reduce skin trauma from fighting, vaccinate in endemic areas; no treatment.

- **Viral Arthritis**

Virus – Reovirus

Symptoms: lameness with swollen hocks

Transmission: virus is spread through respiratory secretions, feces and through the egg.

Prevention/Control: strict sanitation and biosecurity, vaccination on problem farms; no treatment.

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BACTERIAL DISEASES

- **Bordetella (turkey coryza)**

Bacteria – *Bordetella avium* – highly contagious, older flocks can serve as carriers

Symptoms: usually occurs in turkeys 2-6 weeks of age; sneezing, open mouth breathing swollen eyes with bubbles, loss of voice.

Transmission: bird to bird within a flock; between flocks from human activity, contaminated litter and water.

Prevention/Control: chlorinate water (2-3ppm), wash drinkers 2X daily, improve sanitation & biosecurity.

- **Botulism (limber neck)**

Bacteria – *Clostridium botulinum* – toxin affects nervous system

Symptoms: unable to rise, lack of control of head, birds appear sleepy, diarrhea

Transmission: birds eating dead carcasses or maggots that have been in carcasses (this bacteria can be found in the guts of normal chickens).

Prevention/Control: dispose of dead carcasses frequently; flush birds with citric acid in drinking water – antibiotics don't work.

- **Coryza**

Bacteria – *Hemophilus paragallinarum*

Symptoms: swollen head and wattles, nasal discharge, rattles, egg production drop, diarrhea.

Transmission: direct bird to bird contact, contaminated feed and water; recovered birds remain carriers.

Prevention/Control: sanitation and biosecurity, avoid mixing flocks; appropriate antibiotics, birds tend to relapse once medication is finished; vaccination in problem farms.

- **E. coli**

Bacteria – non-contagious disease, common inhabitant of intestinal tract, environmental borne disease, usually a secondary invader.

Symptoms: sick bird syndrome, mortality, diarrhea, respiratory signs, lameness.

Transmission: this is not spread from bird to bird, but is an environmental disease spread by contaminated air, water, feed, and litter.

Prevention/Control: strict sanitation in the hatchery and on the farm.

- **Erysipelas**

Bacteria – *Erysipelas rhusiopathiae* – soil-borne organism, pigs are carriers

Symptoms: seen more in range turkeys than confined birds, sudden death, swollen snoods.

Transmission: usually seen more in tom turkeys with snoods from fighting and traumatizing the skin.

Prevention/Control: treat with appropriate antibiotics; vaccinate birds in problem areas.

- **Pasteurella**

Bacteria – *Pasteurella multocida* -- more prevalent in late summer, fall and winter

Symptoms: usually occurs in chickens over 16 weeks of age; early infection – sick bird syndrome, darkened heads, death; late infection – swollen heads and wattles, nervous system signs, reduced egg production.

Transmission: chronically infected birds are considered to be major source of infection; spread by excretions from mouth, nose and conjunctiva that contaminate their environment (feed and water) – rarely through feces. Wild birds, cats and rodents can be carriers.

Prevention/Control: use appropriate antibiotics to stop an outbreak, improve sanitation and biosecurity on farm.

- **Salmonella**

Bacteria – over 2,300 different types (Pullorum, Fowl Typhoid, etc.)

Symptoms: Young chicks: mortality up to 100%, weak chicks, loss of appetite, diarrhea.

Adult birds: no signs, depression, diarrhea, drop in egg production, low mortality.

Transmission: from infected hen to chick through the egg; from bird-to-bird through fecal-oral.

Prevention/Control: maintain free breeder flocks to reduce egg transmission (Pullorum, Fowl Typhoid); control rodents (rats and mice can carry Salmonella); use appropriate antibiotics to stop an outbreak, except with Pullorum-Typhoid.

- **Staphylococcus (Staph)**

Bacteria – common in the environment and normal inhabitant of skin and mucus membranes of mouth and eyes.

Symptoms: Lameness, swollen joints and footpads.

Transmission: for infection to occur, a breakdown in natural defense mechanisms of bird (damage to skin or mucus membrane from trauma or another disease -- viruses).

Prevention/Control: good sanitation, use quality litter; cull affected birds, if problem still increasing then use appropriate antibiotics.

- **Ulcerative Enteritis (UE)**

Bacteria – *Clostridium colinum* – usually effects gamebirds (quail)

Symptoms: sick bird syndrome, depression, diarrhea, weight loss, death.

Transmission: Clostridial spores can live in the environment for months-years, once activated by wetness they become infective to birds when ingested, birds then shed organism in feces and spread to other birds in the same pen.

Prevention/Control: raise birds on wire, improve sanitation & biosecurity, avoid mixing ages in one pen or placing new flocks in the same pen without clean & disinfecting between flocks; use appropriate antibiotics (resistance develops quickly); can use litter treatments which acidify and reduce the bacterial load in the litter.

- **Necrotic Enteritis (NE)**

Bacteria – *Clostridium perfringes* – chickens & turkeys

Symptoms: similar to UE

Transmission: similar to UE

Prevention/Control: usually this disease is a secondary to a coccidial problem. Treat and control coccidia; use appropriate antibiotics.

- **Mycoplasma (CRD – Chronic Respiratory Disease)**

MG – *Mycoplasma gallisepticum*

MS – *Mycoplasma synoviae*

Symptoms: none to nasal and eye discharge, rattles, sneezing, birds stunted and unthrifty; lameness, swollen joints, weight loss.

Transmission: from hen to chick through the egg; direct bird to bird contact from respiratory secretions with can contaminate footwear, clothing and equipment.

Prevention/Control: Eradication is the best control, maintain mycoplasma-free breeders, practice strict isolation; appropriate antibiotics to stop outbreak, but can create carriers.



FUNGAL DISEASES

- **Aspergillosis**

Mold

Symptoms: primarily respiratory signs, silent gasping or gurgling sounds, mortality.

Transmission: from hatchery or litter.

Prevention/Control: set clean eggs in incubator, clean out setters and hatchers; clean water drinkers daily; avoid wet litter conditions.

- **Candida (crop mold, thrush)**

Yeast – usually a secondary problem, prolonged treatment with antibiotics

Symptoms: poor doers, stunted growth, listlessness, roughness of feathers.

Transmission: does not spread from bird to bird, individual bird problem.

Prevention/Control: use copper sulfate treatment in water.



PARASITIC DISEASES

- **Blackhead**

Protozoan parasite – *Histomonas meleagridis*

Symptoms: sick bird syndrome, yellow-colored droppings, death

Transmission: parasite can be carried in chicken cecal worms, earthworms or directly from soil.

Prevention/Control: control cecal and earthworms; keep chickens and turkeys/gamebirds housed separately (chickens have the cecal worm and usually are less effected by Blackhead). Use a commercial medicated feed containing Histostat for prevention.

- **Coccidia**

Protozoan parasite

Symptoms: none to bloody droppings, diarrhea, weight loss, unthriftiness, sick bird appearance (ruffled feathers, chilled, huddling), increased mortality.

Transmission: fecal-oral transmission, coccidial eggs are present in infected feces or litter and can be spread in blowing dust, boots, clothing, equipment. Birds ingest eggs in feed, water, litter or soil and become infected. The eggs can survive up to 4 years in the environment.

Prevention/Control: good litter management, avoid wet litter conditions; coccidiostats in feed.

- **Worms**

Roundworms, tapeworms, cecal worms, capillary worms, gapeworms

Symptoms: unthrifty birds, gasping (gapeworms)

Transmission: fecal-oral spread (ingesting eggs from infected birds).

Prevention/Control: strict sanitation and good management; de-wormers (piperazine – only good against roundworms – resistance develops quickly).



NUTRITIONAL DISEASES

- **Cage Layer Fatigue**

Nutritional imbalance (calcium/phosphorus – in feed or in bird) effecting caged laying hens – “milk fever of chickens”

Symptoms: birds found alert, but paralyzed in cages; later will become depressed and die from dehydration.

Prevention/Control: need to develop a proper layer ration at the proper time to bring hens into egg production; paralyzed hens will often recover in 4-7 days if removed from their cages (and cage-mates) and given free access to food and water.

- **Rickets**

Primary nutritional problem – imbalance of calcium/phosphorus or deficiency of Vitamin D in feed. Secondary due absorption problem in intestines from virus infection.

Symptoms: lameness, soft bones & beak, decreased egg production, thin-shelled eggs, spontaneous fractures.

Prevention/Control: determine if it is a nutritional problem (test feed for level of Ca/Phos) or if it secondary from another infection.