

## Avian Disease Fact Sheet

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### Introduction

I. Disease: “Any deviation from normal state of health.”

A. How diseases are spread:

1. Through feed and water
2. Bird to bird contact:
  - a. Poultry and swap shows
  - b. Carrier birds
  - c. New stock
  - d. Free flying birds
3. Visitors or attendants
4. Equipment, carrying cases, feed sacks, etc.
5. Contaminated litter and soil
6. Flies, mosquitoes and parasites
7. Lack of nutrient

B. Prevention of disease:

1. Buy from known, well-managed sources
2. Careful introduction of new stock; quarantine
3. Keep visitors away or take proper bio-security measures
4. Don't visit other farms unless you take proper measures
5. Dispose of dead birds promptly and properly
6. Follow tight sanitation and disinfection measures
7. Control insects
8. Don't allow your flock contact with wild birds or wild waterways
9. Vaccination if warranted

C. Recognize and diagnose:

1. Know what is normal activity, growth and physiology of your birds:
  - a. What size, color should the organ be?
  - b. Where are the organs located?
  - c. What is the organ's basic function?

2. Diseases are caused by viruses, bacteria, feed deficiencies, toxins, parasites and others
3. Post birds which die and look for abnormalities
4. Symptoms: bird's actions and visible problems; droopy, ruffled feathers, watery eyes
5. Lesions: usually things shown by autopsy
6. If abnormality exists, consult experienced or professional help:
  - a. State Diagnostic Labs are in Harrisonburg, Ivor, Lynchburg, Richmond, Warrenton and Wytheville, VA. For best results, take a freshly dead and a sick live bird from your flock.
  - b. Private veterinarian or poultry expert
7. Keep a flock history. Record any vaccinations, medications or inspections. Keep a record of dead birds (date and possible reason for death). Keep a general flock record of age of birds, feed ration and environmental conditions.

D. Treatment of disease:

1. Get proper diagnosis
2. Treat promptly, properly
3. Follow treatment directions, precautions
4. Don't substitute drugs for management

<b>Disease Diagnosis</b>		
<b>Disease</b>	<b>Symptoms</b>	<b>Prevention/Control</b>
<b>Avian Influenza (Virus)</b>	<b>Mild form:</b> Decline egg production - Mild respiratory disorder - Sneezing- coughing - Low mortality <b>Systemic form:</b> Chronic respiratory infection - Sinuses filled with cheese (like plugs) - Drowsiness, swelling of heads - High mortality	Serological test only means of proper diagnosis - Prevent through vaccination - Vaccination not successful because of the many serotypes and short immunities - Management best prevention - De-population best control
<b>Blackhead (Protozoan)</b>	Sulfur colored droppings - Enlarged ceca with cheese-like core - Large saucer- shaped lesions on the liver - 50% mortality after 15 days	Rotate range and keep different ages of bird separate - dimetridayole is an effective treatment
<b>Cholera (Bacterium)</b>	Listless, refusal to eat or drink - Rapid loss of flesh - Diarrhea, severe drop in egg production - Darkened head and combs - Swollen or paralyzed feet, head and legs - Swollen wattles and high temperatures. <b>Lesions:</b> Hemorrhages on heart and liver - hemorrhages on gizzard and intestines - light spots visible on liver and heart	Sanitation, rotate range - dispose of carcasses promptly - vaccines are available - treatment of sulfa-tracylines

<b>Coccidiosis (Protozoan)</b>	Low mortality - loss of weight and poor growth - Bloody droppings - Intestines or ceca are swollen, bloody mucus when opened - Many types of coccidia; each affect different portion of intestine or ceca.	Coccidia are always present - good sanitation, dry litter - use of a coccidiostat helpful - change coccidiostat so coccidia does not become resistant - treatments of sulfas are effective for early outbreaks
<b>Fowl Pox (Virus)</b>	" <b>Wet Pox</b> " - labored breathing nasal/eye discharge, facial swelling - canker are found in the mouth - cankers are found in the throat and windpipe " <b>Dry Pox</b> " brown/yellow bumps on face, comb and body - bumps look like scabs in 2-4 weeks.	Vaccination best prevention
<b>Infectious Bronchitis (Virus)</b>	Respiratory noises in both chicks and old birds - gasping rales and coughing - wet nasals and eyes - inactive, tend to huddle - Declined feed consumption - dropped egg production with soft-shelled, misshaped eggs and poor egg quality - lower mortality	Vaccination - no specific treatment established - must make affected birds as comfortable as possible - increase heat to eliminate drafts
<b>Infectious Coryza (Bacteria)</b>	Sneezing - clogging of nostrils and sinuses with a sticky, putrid smelling exudate - exudate accumulates and causes swelling of face, eyes and wattles - cheesy core sometimes develops in eye	Caused by stress, drafts - birds which recover from severe infections become carriers and seem to become ill often - sulfa drugs have been a satisfactory treatment
<b>Laryngo-tracheitis (Virus)</b>	Coughing, sneezing, difficult breathing - depressed - stretches neck when inhaling (causing sound as they breathe) - occasional facial swelling - medium to high mortality <b>Lesions:</b> bloody mucus in the trachea - cheesy plug at the upper tracea, usually causing death (get lab diagnosis)	Vaccination is only treatment - Quarantine
<b>Merek's (Virus)</b>	Paralysis - slower growth and feathering - usually no signs <b>Lesions:</b> swelling in the peripheral nerves in legs and wings - tumors on some visceral organs	Vaccination - no treatment available
<b>Newcastle (Virus)</b>	Coughing, sneezing, rattling in the windpipe - decreased feed consumption - increased water consumption - nervous symptoms and paralysis - heads down or in circles - stopping egg production - many soft shelled eggs - yellowish cloudy air sacs	Vaccination - no treatment available

<b>Signs of Health and Disease in Poultry</b>		
<b>Feature</b>	<b>Normal</b>	<b>Unhealthy</b>
Posture	Bird stands erect. Head and tail elevated.	Head held close to body, tail and possibly wings droop, neck twisted with head held over back or between legs.
Head	Comb and wattles bright red in color. Face parts filled out. Eyes bright and alert. Nostrils clean, free of exudate.	Comb and wattles shrunken, pale or blue in color. Face parts shrunken. Eyes dull, may be held only partly open. Nostrils caked, crusted. Eyes watery. Sinus area below eye swollen or flutters with respiration.
Musculature	When handled, bird has feeling of weight, when struggling has power in its movement.	Loss of weight and strength. Muscle at point of the keel and near crop cavity shrunken, resulting in a thin breast.
Legs and Feet	Scale covering clean and waxy. Legs filled out, joints are smooth and cool to the touch.	Dehydrated with prominent tendons. Joints enlarged, warm to the touch. Bottom of feet cracked, crusted or discolored. Scales enlarged and crusty.
Feathers	Smooth, neat and clean.	Feathers not preened. Feathers fluffed out or broken. Staining in areas of abdomen. Bird generally ruff looking.
Pigmentation	Characteristic for breed and strain, period of production.	Reduced depth of color. In adult hens an excess of yellow pigment may result from disease reducing rate of lay.
Appetite and Thirst	Eat and drink frequently.	Loss of appetite or excessive drinking.
Respiration	Absence of noise. Breathing through nostrils. Movement of abdominal wall barely perceptible. when pen temperature exceeds 85š F. healthy adult poultry will breathe through the open mouth. Young chicks will demonstrate this at temperatures about 100š F.	Gurgling, rattling, snickering noise; gasping; obvious movement of abdominal wall.
Manure	Gray, brown, white caps. Mass has definite form. Droppings firm, sticky, not firm. Dropping passed from ceca may be frothy.	Milky white, green, yellow, red. Dropping very liquid or very sticky, not firm.

## **Parasites**

### **I. External (can transmit disease)**

#### **A. Lice, a small flat insect**

1. Live on body; eat feathers and dry skin, usually found below the vent

2. Control:
  - a. Nicotine sulphate
  - b. Malathion 4-7% dusts
  - c. Stirfos
  - d. Read direction and precautions carefully
  - e. Avoid contact of wild birds

#### B. Mites

1. Red Mites
  - a. Live on birds during night
  - b. Treatment: paint walls, roosts and other cracks with carbolineum, other anthracene oil or malathion.
2. Northern Fowl Mites
  - a. Live on bird all the time, hard to eliminate
  - b. Treatment: nicotine sulphate, malathion, stirfos and carbaryl
  - c. Avoid contact with wild birds
3. Scaly Leg
  - a. Cause thick scales on legs. Show spread
  - b. Treatment: Dip birds' legs in hot water and then in oil. An oil with a petroleum base is preferred.

C. Ticks are controlled by insect stripes.

D. Mosquitoes transmit diseases.

#### II. Internal

A. Roundworms: live in small intestines

B. Tapeworms: live in intestines

C. Control and treatment of worms:

1. Thoroughly clean up between batches of birds
2. Good litter management (break worms life cycle)
3. Avoid overcrowding
4. Prevent contact with wild birds
5. Treat with specific drugs, poultry wormers
6. Use piperazine, phenothiazine, dibutyltin dilaurate

<b>Nutritional Deficiencies</b>	
<b>Minerals</b>	<b>Deficiency Symptoms</b>
<b>Calcium</b>	Rickets, poor egg shell quality.
<b>Phosphorous</b>	Rickets, poor egg shell quality.
<b>Zinc</b>	Poor feathering, short bones.

**Vitamins**

- A** Decreased growth, production ataxia (muscles uncoordinated). Night blindness. Embryos die at second and third day of incubation. Xerophthalmia (tearing of eye, cornea becomes softened).
- D** Soft, spongy beaks and bones. Poor egg quality, thin shells, rickets in young birds.
- E** Low hatchability. Embryos die at fourth day of incubation. Degeneration of muscles.
- K** Hemorrhages in body cavity. Thin blood, poor clotting.

<b>Riboflavin</b>	In young: slipped sciatic nerve. Flabby muscles. Crippled legs, feet. Sprattled legs, walk on hocks. Club down on dead embryos. Old birds: dry skin, refusal to walk, decreased production.
<b>Niacin</b>	Poor feathering, bowed legs, twisted legs, enlarged hock joints. Dermatitis.
<b>Thiamine</b>	Unsteady gate, weak legs.
<b>Pantothenic Acid</b>	Scab-like lesions on corners of beak, on feet. Broken feathers, dermatitis, large liver, yellow liver.
<b>Biotin</b>	Embryos, shortened long bones, webbing between toes, parrot beak, deaths at 7 days or 3 days before hatching. Adults dermatitis on feet around eyes and beak.

NOTE: A little mineral and vitamin supplement is good. However, too much can be bad, even fatal.

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