Top 15 Diseases of Backyard Poultry

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Biggest Health Concerns

#1 Marek's Disease (Chickens)
#2 *Mycoplasma gallisepticum*
#3 Infectious Coryza
#4 Internal Parasites
#5 Coccidia
#6 Sour Crop
#7 Pododermatitis - Bumblefoot
#8 Northern Fowl Mite
#9 Predator Trauma
#10 Scaly Leg Mite
#11 Histomonas - Blackhead
#12 Decreased Egg Production
#13 Prolapsed Cloaca
#14 Salmonella
#15 HPAI

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Basics of Biosecurity

- Purpose: Prioritizing and Protecting the Health of the Flock
- Modes of infection
  - Direct: Bird to Bird
  - Indirect: something else to bird

Marek's Disease

Etiology: Herpes Virus

Induces Lymphosarcoma

- **Ubiquitous**
- **Highly Contagious**
- **Prevention = VACCINE @ 1 Day Old**
- **No effective treatment**

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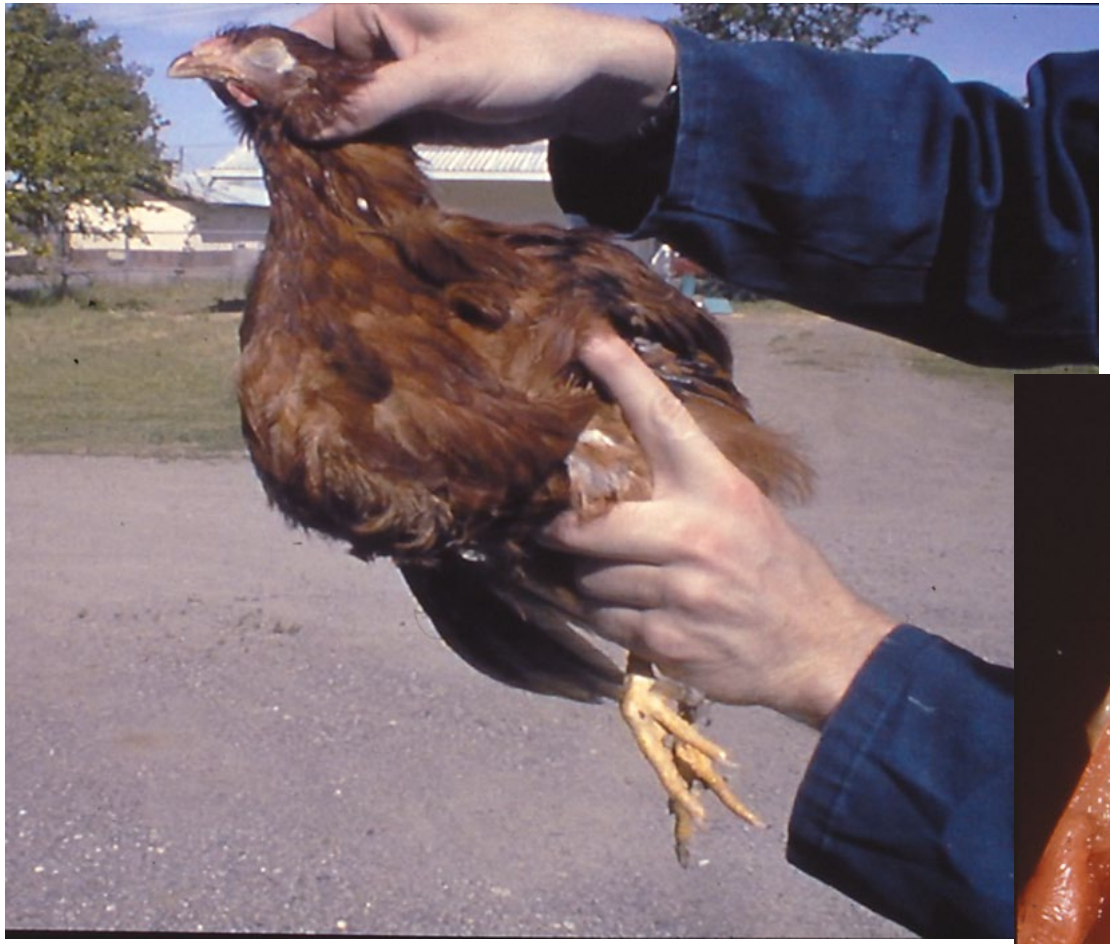

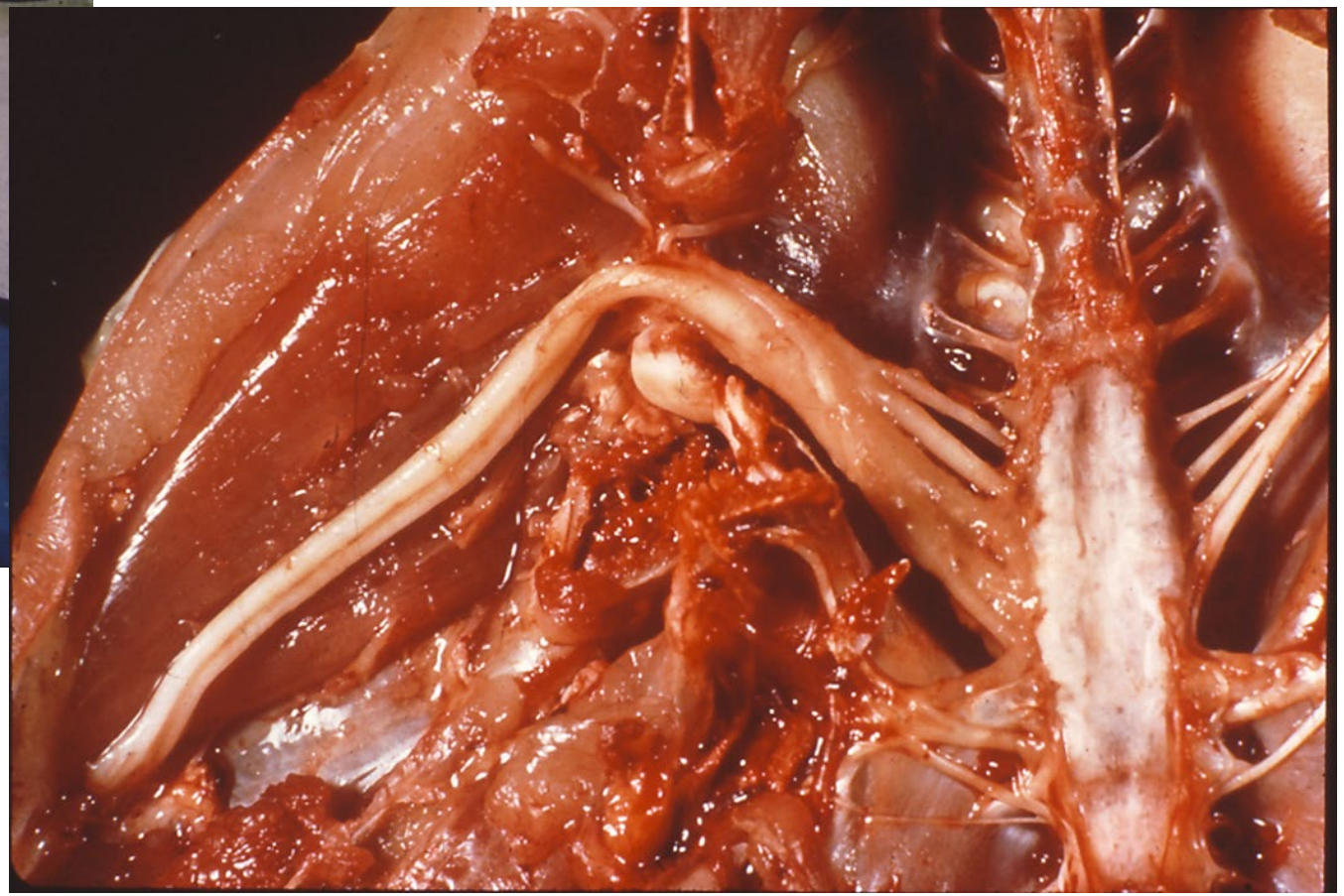

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MYCOPLASMA GALLISEPTICUM

- Chronic respiratory disease that affects all ages of poultry, game birds and *some songbirds*
  - Horizontal and vertical transmission
- Clinical signs: swollen sinuses, sneezing, coughing
  - Affects whole flock: will see a drop in egg production, feed consumption, and lowered growth rate
- Treatment: None. Can have lifelong carriers/shedders

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Photo credit: https://www.merckvetmanual.com/poultry/mycoplasmosis/mycoplasma-gallisepticum-infection-in-poultry

Infectious Coryza

- *Avibacterium paragallinarum*

- Acute respiratory dz.
- Predominantly chickens.
- Short incubation period (24-72 hrs.)
- Recovered birds can be carriers.
- Signs: decreased egg production, decreased feed and water intake, conjunctivitis, facial swelling, nasal discharge.
- Transmit bird to bird plus contaminated feed, water or airborne particles.
- Low mortality, high morbidity unless co-infection with other resp. dz.

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Photo credit: Dr. Jean Sander, Merck Manual

Chicken Digestive Tract

(Omnivores)

- Chickens have no teeth
- Chickens make saliva
- Crop – storage
- Proventriculus – enzymes
- Gizzard – grinding
- Intestinal pathways
- Cloaca/Vent

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Internal Parasites

Most are similar in identification, diagnosis, and life cycle to any other veterinary internal parasite

- Large Roundworms
- Threadworms
- Tapeworms
- Gape Worms
- Cecal Worms
- Coccidia

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Coccidia

- Most common protozoal parasite
- Most expensive poultry disease in the US
  - Ubiquitous; fecal oral transmission in 3 weeks or older birds
  - Species specific
- Clinical Signs: Diarrhea, often red to orange tinged from blood
- Diagnosis: fecal
- Treatment: Coccidiostats
- Prevention: lower stocking density, low level amprolium in feed

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Sour Crop

Check via palpation, smell

"Thoracic" inlet

Candida "thrush"

<u>Secondary to:</u>

- Antibiotic use
- Internal parasites
- Dietary indiscretion
- Secondary to Marek
- Concurrent infection
- Husbandry/sanitation

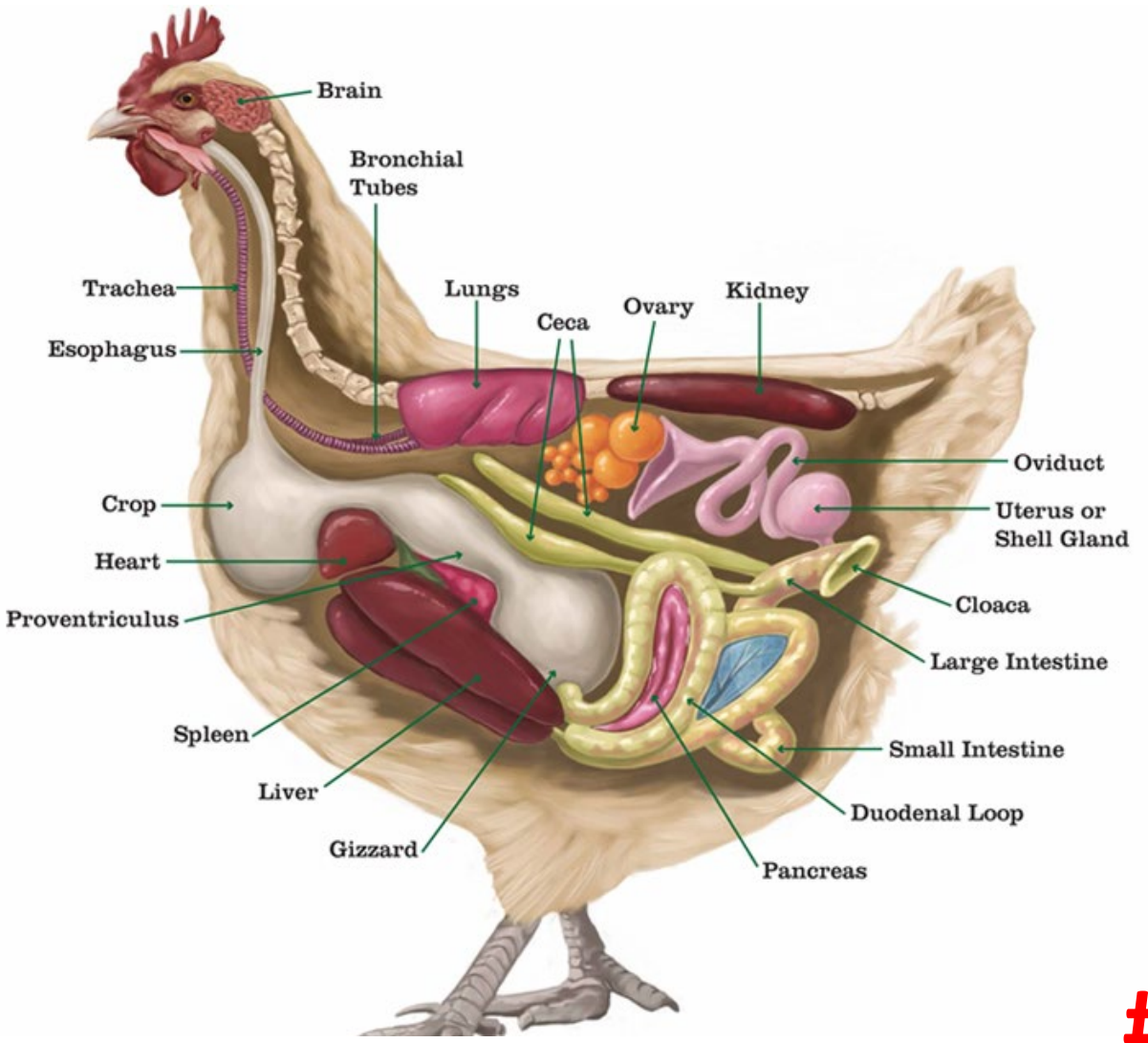

Photo credit: Purina Corp

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#6

Bumble Foot - Pododermatitis

- Management
  - Litter type (straw, wood chips, sand, etc), depth, and moisture
  - Perch design and height
  - Bird weight
- Treatment
  - Soak 2-3x daily with Epsom salts, chlorhex, or iodine
  - Bandage in between soaks – keep dry and clean
  - Surgical treatment available
- Prevention
  - Have appropriately rough surfaces for exfoliation

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Photo credit: Pat Wakenell

Photo credit: Pat Wakenell

Mites – Northern Fowl Mites (Ornithonyssus sylviarum)

- Most common mite in backyard poultry
- The entire life cycle is on the bird
  - egg, larva, nymph and adult
- Presents as black, greasy patches of feathers around the vent and underbelly
- NFM feed on blood
  - (lice chew on skin and feathers)
- Welfare issue for birds; leads to decreased production

Photo credit: J F Butler

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Predators of Poultry

Prevention = Rock Solid Coop Security

- **Missing Adult Birds: Coyotes, Bobcats, Dogs, Foxes, Birds of Prey**
- **Missing Eggs or Chicks: Possums, Skunks, Rats, Cats, Snakes, Coyotes, Foxes, Birds of Prey**
- **Missing Heads or Limbs: Birds of Prey, Raccoons,**

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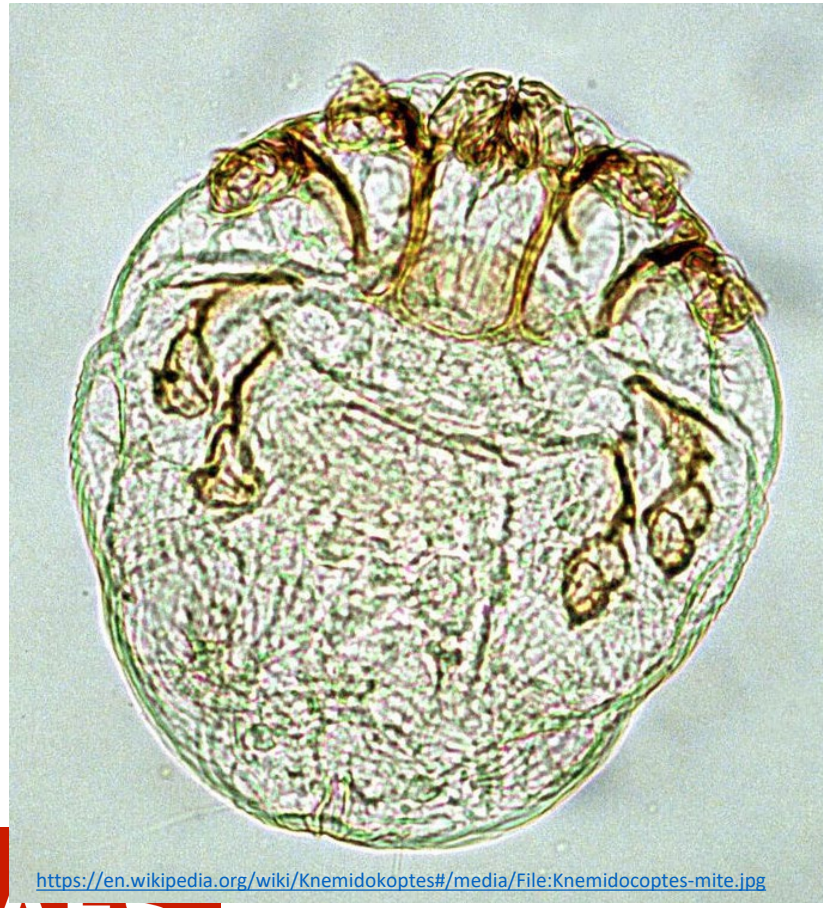
#9

Scaly Leg Mites

(*Knemidokoptes mutans*)



https://en.wikipedia.org/wiki/Knemidokoptes#/media/File:Knemidocoptes-mite.jpg

CREDIT: Hen Harbor @ Emma Prusch Farm Park in San Jose, CA

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#10

Histomonas meleagridis "**Black Head**"

- Protozoan transmitted by the nematode parasite *Heterakis gallinarum* (cecal worm)
  - Can be seen in turkeys when housed with chickens
- Clinical signs: general GI signs
- Prevention: do not house turkeys or other gallinaceous birds with chickens or in places that chickens were raised
  - Heterakis eggs persist in the environment for years

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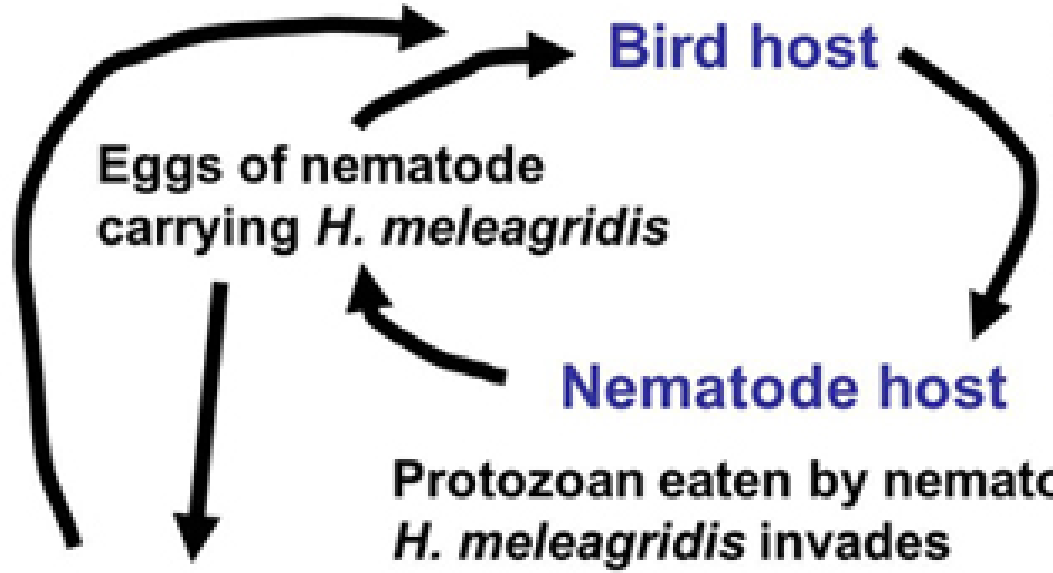
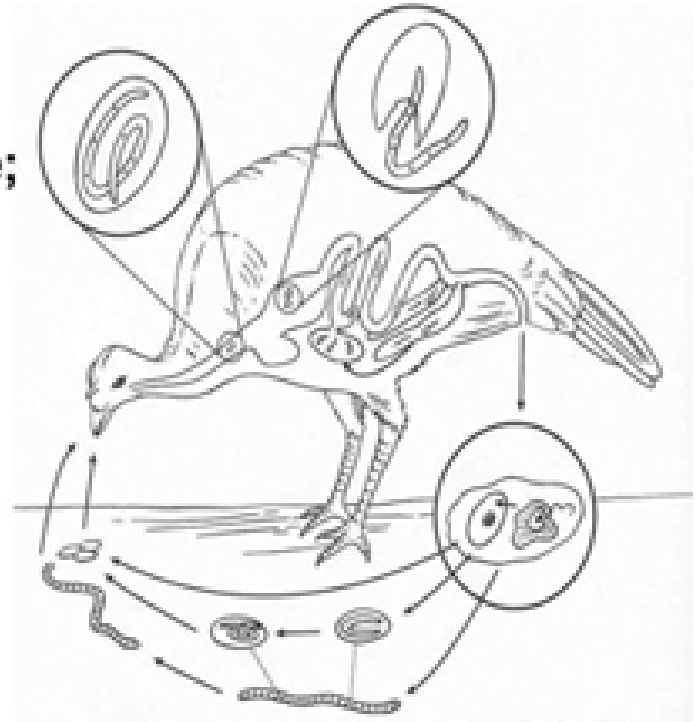
Histomoniasis cont.



Nematode (*Heterakis*) eggs eaten by bird & hatch in intestine; *H. meleagridis* released from worm in cecum

Protozoan eaten by nematode; *H. meleagridis* invades worm's ovaries, enters eggs



http://rowdysites.msudenver.edu/~churchcy/BIO3270/Images/Protozoans/Histomonas-1.html

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Egg Basics

- Make about one per day
- Usually in morning
- Are wet when come out
- Same opening as feces
- Follow EXACT Wash directions
- Discard if cracked, dirty, problem

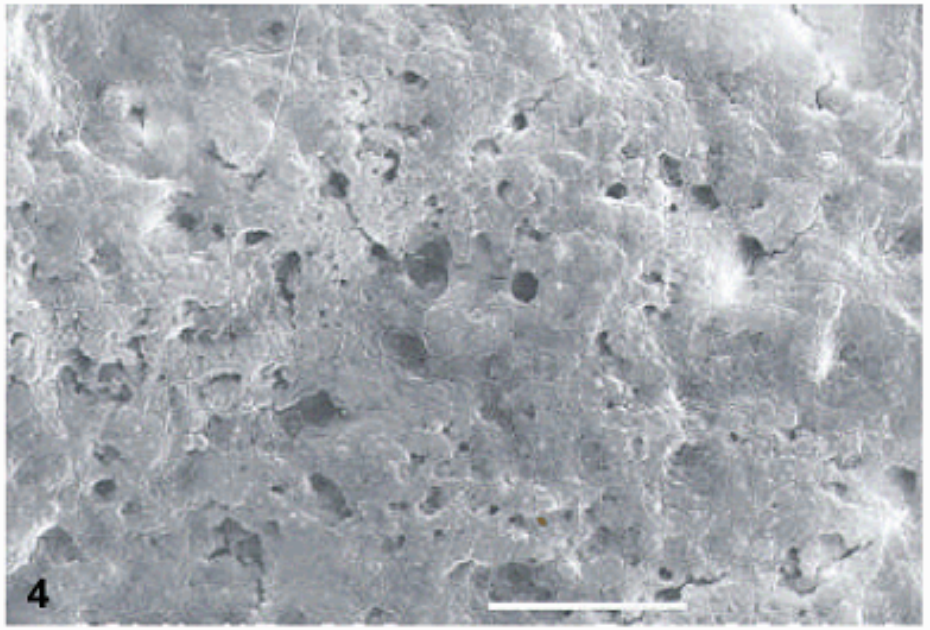

Figure 4 - Outer shell pores (bar: 5µm).

http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1516-635X2000000200007

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Egg Production Problems

- Is it one bird or all the birds?
  - Husbandry Problem – not enough light → 14-16 hours
- Infection (Any system, including reproductive)
- Egg Bound
- Unusual Eggs

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https://www.grit.com/animals/how-a-chicken-makes-an-egg-why-some-eggs-are-unusual#:~:text=affectionately%20refer%20to%20these%20as,occurrence%2C%20a%20defective%20shell%20gland.

- Can be chronic
  - Obese
  - Aged/young
  - Internal Parasite
  - Mass effect
  - Excess light
  - Large eggs
- How to fix?
- Cannot purse string
  - Stay sutures
  - Osmotic
  - Light management

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Cloacal Prolapse

#13

EMERGING INFECTIOUS DISEASES®

Emerg Infect Dis. 2016 Oct; 22(10): 1705–1711.
doi: [10.3201/eid2210.150765]

PMCID: PMC5038410
PMID: 27649489

Outbreaks of Human *Salmonella* Infections Associated with Live Poultry, United States, 1990–2014

Colin Basler,[✉] Thai-An Nguyen, Tara C. Anderson, Thane Hancock, and Casey Barton Behravesh

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Abstract

Go to:

Backyard poultry flocks have increased in popularity concurrent with an increase in live poultry–associated salmonellosis (LPAS) outbreaks. Better understanding of practices that contribute to this emerging public

#14

- 49% Snuggled baby birds
- 13% Kissed baby birds
- 22% kept poultry in living room
- 12% kept poultry in the kitchen
- 10% kept poultry in the bedroom
- 10% kept poultry in the bathroom

- When asked if aware of poultry – Salmonella connection – 58% were aware of the risk

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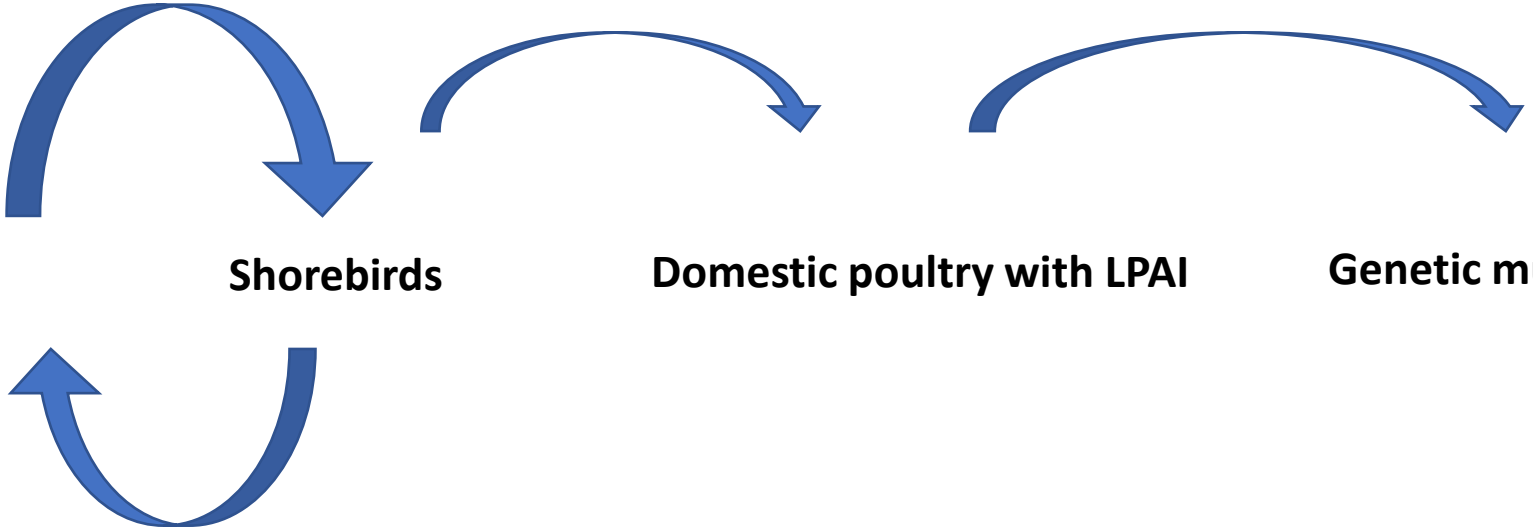
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5038410/

https://www.ratemds.com/blog/are-you-getting-salmonella-from-kissing-your-pet-chicken/



Low Path Strains cycle amongst wild waterfowl and shorebirds

Influenza: The Traditional Cycle

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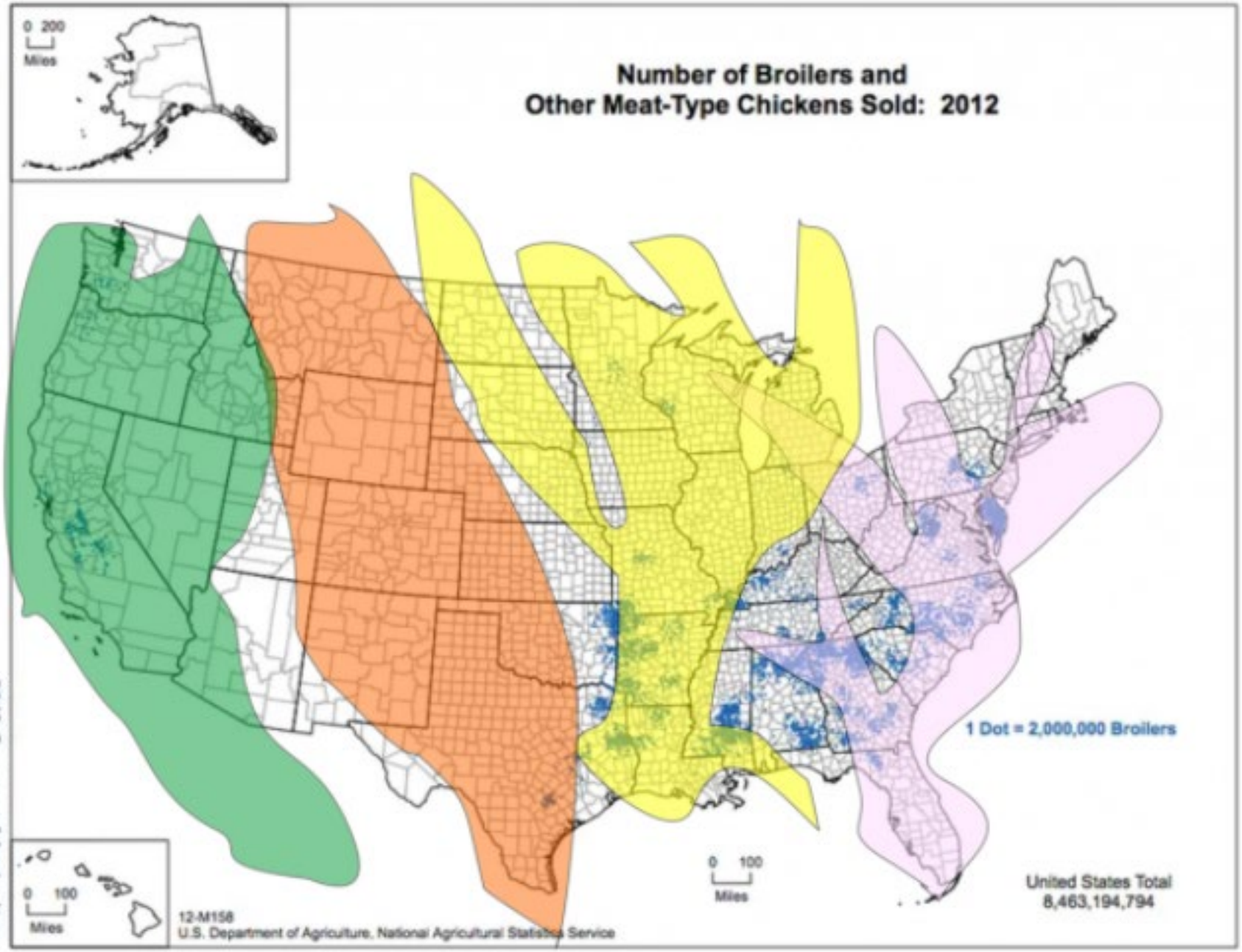
Number of Broilers and
Other Meat-Type Chickens Sold: 2012
0 200
Miles
1 Dot = 2,000,000 Broilers
0 100
Miles
United States Total
8,463,194,794
0 100
Miles
12-M158
U.S. Department of Agriculture, National Agricultural Statistics Service

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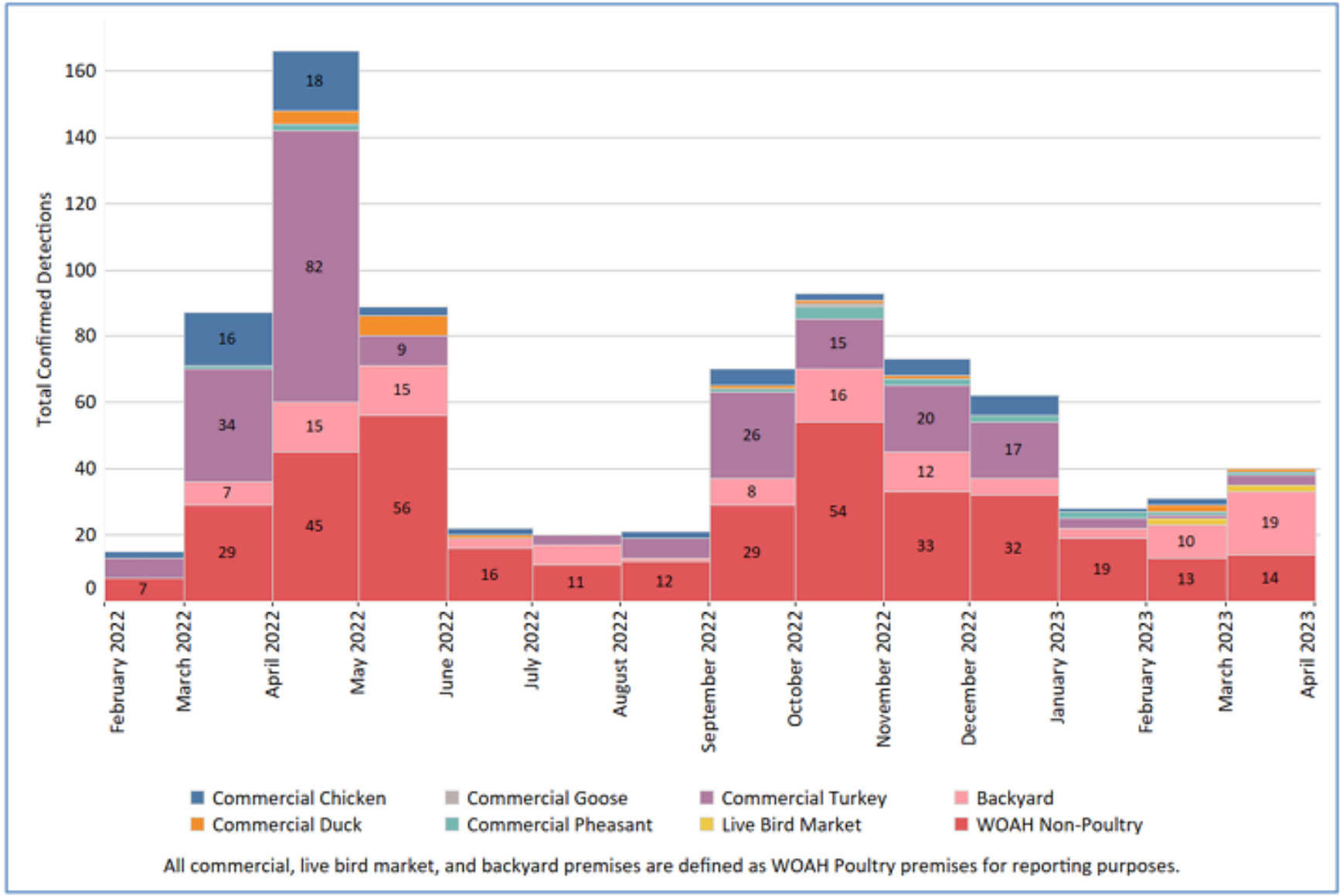

Figure 2. Monthly highly pathogenic avian influenza detections by premises type as of 31 March 2023.

- Sudden death with no prior signs
- Low energy or appetite
- Purple discoloration or swelling of body parts
- Hemorrhages on un-feathered parts of the legs or feet
- Decreased egg production, or soft-shelled/misshaped eggs
- Nasal discharge, coughing, or sneezing.
- Lack of coordination
- Diarrhea

HPAI Signs

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Source: https://www.avma.org/resources-tools/animal-health-and-welfare/animal-health/avian-influenza

#15

Other Species Affected:

Mammals that eat birds:

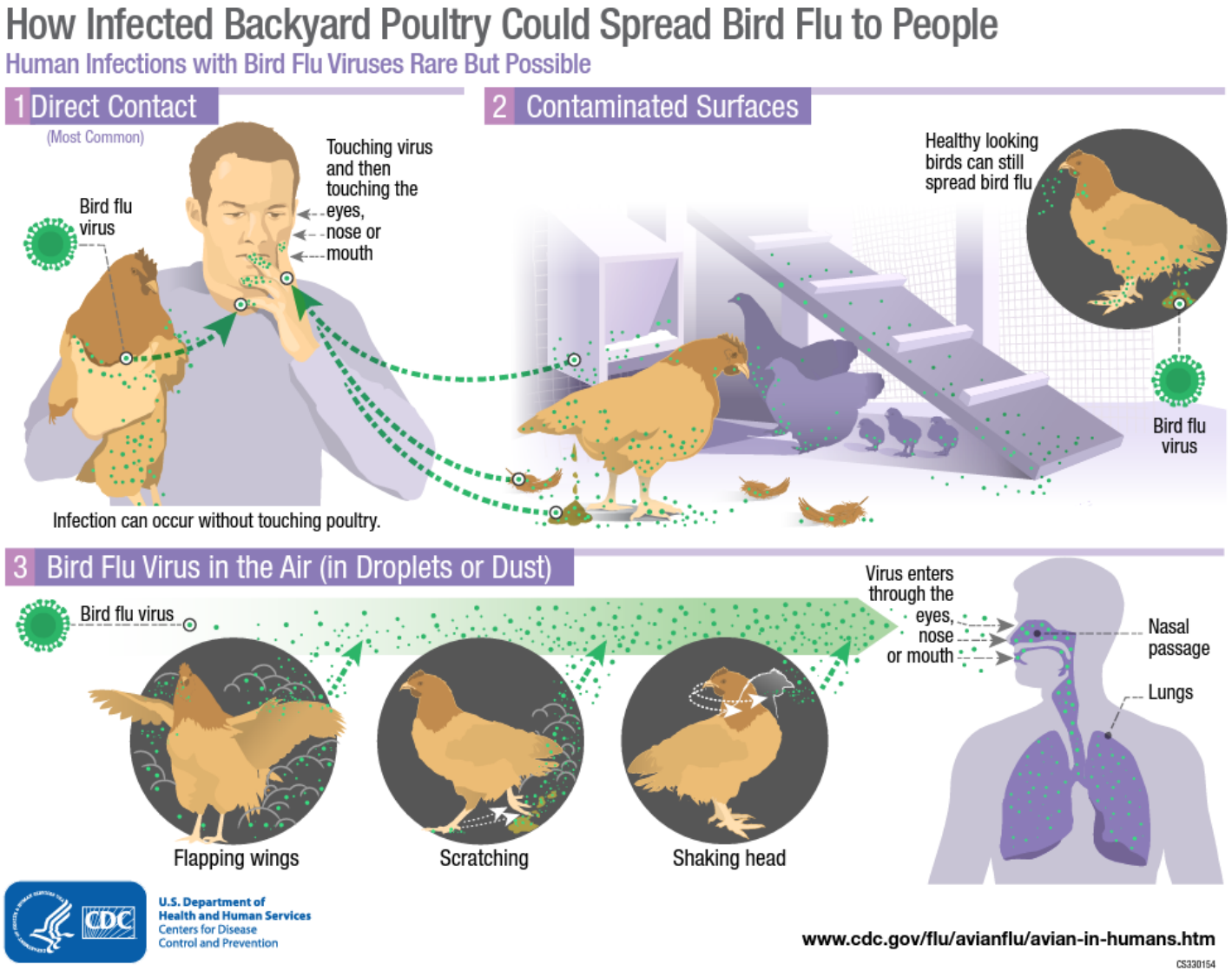
- Seals
- Bears
- Fox
- Skunks

Domestic animals

- Cats
- Dogs

Zoo animals

- Tigers
- Leopards



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FARAD
Food Animal Residue Avoidance and Depletion
Species Pages

Welcome to FARAD Species Pages

Backyard Flocks

Dairy Page

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FARAD SPECIES PAGES VFD CA SB 27 DRUG HA

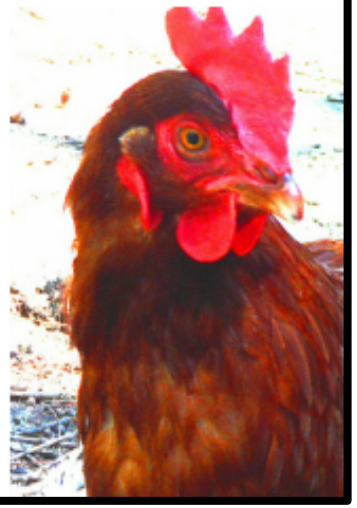
FOR PHARMACISTS COMPOUNDING

FARAD
Food Animal Residue Avoidance and Depletion
Species Pages

Medications labelled for Layers

Find FDA-approved medications for laying hens on FARAD's VetGram

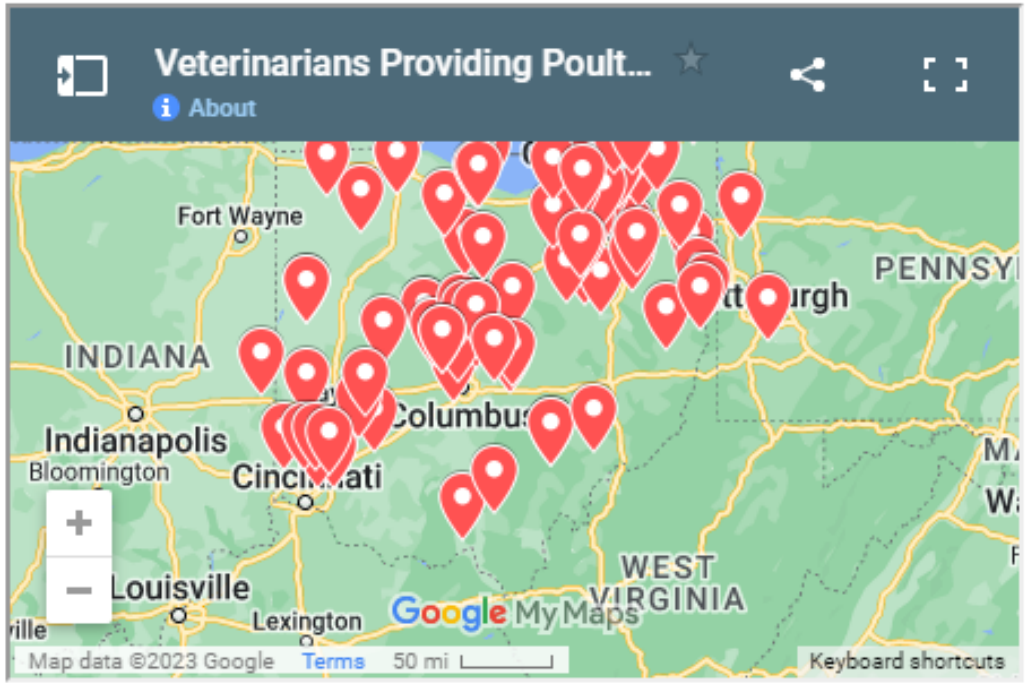
See FDA-approved medications for Laying Hens!



Veterinarians Providing Poultry Services

A resource for backyard and noncommercial poultry producers in Ohio (*list updated as of February, 2021*).

- List of Veterinarians (Excel)
- Map



https://u.osu.edu/poultry/

Backyard Poultry Production Resources

There has been a resurgence of people who wish to raise their own food for personal and family food security, both with produce and with poultry. I am increasingly getting asked about backyard poultry keeping so I wanted to put a resource together to assist you in getting the knowledge you need for safe, healthy and productive backyard poultry keeping.

FIRST THING: Find out the regulations in your city or municipality that governs the keeping of backyard poultry and follow those rules carefully.

We also have a number of Fact Sheets hosted on Ohioline to support poultry keeping:

- Performing a Physical Exam on a Chicken
- Winter and your Backyard Chickens
- Predators of Poultry
- Chicken Breed Selection

go.osu.edu/HPAI

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Poultry Owners

The United States aims to remain free from Highly Pathogenic Avian Influenza (bird flu). This means that the preferred course of action in the event of an outbreak is to immediately eradicate the disease.

Poultry owners need to be on alert and protect their birds through proper biosecurity. Owners and their flocks must avoid any direct or indirect contact with wild birds or other poultry. If there is high mortality, owners should submit birds to be tested

THE OHIO STATE UNIVERSITY
COLLEGE OF VETERINARY MEDICINE

I think my birds are sick. What are my next steps?

If your birds are showing unusual signs of disease or unexpected death immediately contact any of the following:

Ohio Department of Agriculture
Animal Disease Diagnostic Laboratory: (614) 728-6220

US Department of Agriculture
Toll-free number (866)-536-7593

Ohio Poultry Association
info@ohiopoultry.org
Phone: (614) 882-6111

If your birds are suspected of having HPAI, they will be tested by ADDL

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United States Department of Agriculture | National Institute of Food and Agriculture

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

Veterinary Extension

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HPAI: Improve Biosecurity with Wildlife Deterrents

Certain diseases, including Avian Influenza, have little to no illness in wild waterfowl yet can have a huge impact in your domestic flock.

Strengthen your farm biosecurity by implementing wildlife management practices to limit exposure to your flock.

- :**Remove standing water.** Even shallow water can attract wildlife. Make sure to keep your birds away from this area. Do not walk or move equipment near areas visited by wild waterfowl.
- **Do not use pond water as drinking water**. Only provide clean filtered water to your birds.
- **Reduce wildlife feed sources**. Do not feed wildlife and have poultry feed in secured area.
- **Add wildlife deterrents.** Use decoys such as swans or predators and move frequently to improve effectiveness. Add fencing around ponds.

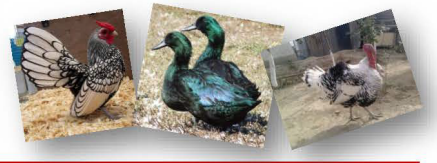
Q: How will I know if my birds get infected with this virus?

One of the earliest signs of the disease is increased death with up to 100% mortality in many cases. Birds will also show signs of sickness, twisted necks, blue and swollen faces and feet. The most consistent necropsy lesion was hemorrhages on the proventriculus (See pictures below).

Wild migratory waterfowl are thought to be the source of the disease. The state of Ohio is part of the Mississippi Flyway.

Q: Can this disease affect my backyard/show flock or 4-H project?

Yes, Avian influenza can infect all domestic poultry including chickens, turkeys, and ducks. It is important to have good biosecurity practices in place and keep your birds away from wild waterfowl.



Q: How can I protect my birds from this disease?

BIOSECURITY

- Biosecurity includes all of the sanitary practices that are implemented to prevent the spread of diseases. These include:
  - Prevent any contact with wild birds
  - Prevent any contact with other animals, wild or domestic
  - Keep your birds sheltered in animal proof/ bird proof houses
  - Avoid visitors to your flock
  - Use disposable gloves and shoe covers before you come in contact with your birds or their environment
  - Wash your hands before and after contact with your birds or their environment
  - Use dedicated cloths to work with your birds, or use disposable coveralls
  - Avoid using surface water (ponds or lakes) as a source of drinking water for your birds
  - Acquire your feed from reliable sources and store it in a clean, dry, and cool place away from wild birds or wild animal's access, particularly rodents
- USDA provides excellent resources for bird biosecurity at: USDA's Defend The Flock Program

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Take Home

Clinical signs and Lesions → List of Diseases → Sampling and treatment

3 Things to remember

- Withdrawal time
- Zoonotic diseases
- Reportable diseases

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Questions?

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