Lay Out

• What are poultry diseases?

• How do we know that birds are sick?

• What can we do about it?
What are Poultry Diseases?
Poultry Diseases

- Infectious
- Nutritional
- Environmental
- Toxic
- Developmental
- Reproductive
- Behavioral
Infectious Causes
Disease Examples

• Viral (Influenza – Newcastle)
• Bacterial (Cholera – Coriza)
• Fungal (Aspergillosis)
• Protozoal (Coccidiosis)
• Parasitic (Ascarediosis)
Microbes

- Viruses (.003-.05 microns)
- Tobacco Smoke (.1-.1 microns)
- Bacteria (3-5 microns)
- Fungus Spores (5-30 microns)
- Plant Spores (10-80 microns)
- Rain Droplet (600-10,000 microns)

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Nutritional Causes

• Deficiency (Minerals – Vitamins)

• Excess (protein – energy)

• Imbalance
Environmental Causes

• Temperature (Heat stasis – Ascites)

• Obnoxious gases (Ammonia – Carbon Dioxide)

• Housing related (bumble foot)
Toxic Causes

- Biological (Botulism)
- Environmental (Lead)
- Chemical (Antibiotics – insecticides)
Other Causes

• Developmental

• Reproductive

• Behavioral
How do we know that birds are sick?
Lethargic Birds

Normal Body Temperature is 104°F
Respiratory Signs
Digestive Signs
Musculoskeletal Signs
Neurological Signs

![Image of a chicken with Torticollis](image1.png)

![Image of a chicken lying on its side](image2.png)

![Image of a chicken lying on its side](image3.png)

![Image of two chickens lying on their sides](image4.png)
Injuries or Skin Lesions
What can we do about it?
Depending on the Cause

- Nutritional ➔ Correct nutrition
- Environmental ➔ Correct Environment
- Toxic ➔ Remove toxin
- Developmental
- Reproductive ➔ No short term remedy
- Behavioral
Infectious Causes

- Vaccination
- Medication
- BIOSECURITY → YOURSELF

 Veterinarian
Biosecurity

• Prevent pathogen access

• Sterility is not the target

• Control specific pathogens

• General sanitary practices
Specific poultry pathogens

- Specific poultry pathogens
  - Not all poultry pathogens

- What is the source of these pathogens??
  - Poultry
  - Birds
  - Animals
  - Humans
Route of Transmission

Source of disease → Route of Transmission → Poultry Population

Biosecurity
Disease Transmission

• Direct Transmission: direct physical contact

• Indirect Transmission: through indirect transportation vehicles
Biosecurity Programs

• Interventions with Direct Transmission

• Intervention with Indirect Transmission
Intervention with Direct Transmission

• Prevent Contact:
  – Other poultry
  – Wild birds (Open Water Bodies)
  – Captive birds
  – Animals and human

• Multi-species or multi-ages

• Acquire birds from NPIP

• Quarantine newly acquired birds

• Quarantine birds a minimum of 7 days (14 preferably) when back from:
  – Show
  – Market
  – Fair
Intervention with Indirect Transmission

• Potential vehicles for Indirect Transmission:
  1. Human
  2. Domestic animals including pets
  3. Wild animals including varmints and rodents
  4. Inanimate objects including equipment
  5. Feed
  6. Water
  7. Air
  8. Environments including shared pastures and water ponds
Intervention with Human Transmission

1. No visitors to your flocks
   - Hands and Shoes
   - Cloths
2. Wash your Hands
3. Plastic shoe covers and sterile gloves
4. Disposable coveralls
Intervention with Domestic Animals Transmission

No Pets Allowed
Intervention with Wild Animals Transmission

• Animal-proof houses
  – Predators
  – Varmints
  – Rodents
• Bird-proof houses
• Rodent Control
• Insect Control
Intervention with Inanimate Objects Transmission

• Thoroughly clean and disinfect:
  – Equipment (Feeders, Drinkers, Egg Flats...etc.)
  – Bedding Material
  – Housing material
  – Any object contacts birds
Intervention with Feed Transmission

• Feed from trusted sources

• Pellets or crumbled

• Properly store:
  – Clean, dry and Cool
  – Protected from wild birds, rodents and animals
**Intervention with Water Transmission**

- Same quality as human drinking

- Evaluate ground water (Chemical and biological)

- Continuous water disinfection
  - 1 part bleach + 15 parts water = 500 ppm (Stock Solution)
  - Recommended 3 – 5 ppm
Intervention with Air Transmission

• Distance from other poultry (1/2 mile minimum)

• Distance from the road

• Not always possible

• Keep it in your mind
Intervention with Environment Transmission

- Not much we can do
- Monitor your environment
  - Pasture
  - Pond
- Determine high risk areas
- Avoid high risk areas
Highly Pathogenic Avian Influenza

• 2015 outbreak (21 states)
• 2016 outbreak (1 state)
Thank You