Interesting Cases and Virtual Lab Tour
Rocio Crespo

Outline
- How to collect choanal samples
- Interesting cases
  - Silkies (ethnic market)
  - Ducks
  - Pullets
  - Layers
- Lab Tour - updates

Choanal sampling (respiratory pathogens)

- Avian Influenza
- Newcastle disease
- Infectious bronchitis virus
- Infectious Laryngotracheitis
- Mycoplasmas

Case 1:
Salt poisoning
- Silkies (ethnic market)
- 3-week-old
- High mortality
- Subcutaneous edema and ascites
- Pathogenesis:
  - Pulmonary hypertension and ventricular hypertrophy

Case 2:
Duck viral enteritis
- Necrosis of esophagus
- No other lesions
- Typically DVE:
  - Lesions throughout digestive tract
  - Annular necrosis, associated with lymphatic tissue

Case 3:
Very Virulent Infectious Bursal Disease
- 6-wk-old organic pullets
- Mortality up to 20%
- Bursa hemorrhage
Other gross lesions...
- Proventriculus
- Spleen
- Skeletal muscle

Where is vvIBDV?
- Diagnosed in CA and WA
- Under-diagnosed in BYF?

Case 4
Hepatitis E Virus Infection
- Dec 2012-Mar 2014
- 10 flocks
- Organic layers
  - Non-organic flocks not affected
- Up to 40% drop in egg production
- Increased mortality, 1%
- No age relation (28-97 wks)
- No related to weather

Gross pathology

<table>
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<tr>
<th>Case</th>
<th>Age (wks)</th>
<th>#</th>
<th>Hepatitis</th>
<th>Spleonomegaly</th>
<th>Regressed Ova</th>
<th>Abortion</th>
<th>Other Finding</th>
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<td>1 (C)</td>
<td>Cannibalism (2), ascards (1)</td>
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<td>97</td>
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<th>Egg production (%)</th>
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Flock 10 - Egg production
- 3,800 birds added

Mortality in Commercial Farm in WA
- Standard egg production (HDN) Actual egg production

IBDV Compost Study -
Preliminary results are promising! – further tests pending
Bacteriology

• Aerobic (all tested):
  – Negative or
  – E. coli in 2 submissions
• Anaerobic (5 submissions):
  – Negative or
  – Clostridium sp.: C. sordelli, C. bifermants, C. tetani-like isolated… BUT negative immunohistochemistry
• Campylobacter (2 submissions):
  – Negative by culture
  – Only 1 liver positive by PCR
• Vibrio (3 submissions):
  – Negative by silver stain

Serology

• All negative for AI, MG
• 4 flocks positive for MS
• All positive (and vaccinated) for AE, NDV, IBV

Toxicology

• Two feed samples – mycotoxin test (Alltech 37+ analysis) – ND or low risk

Virus detection

• 10 livers (with gall bladder), in pools of 2 or 3
• 26 sera samples from 3 flocks
• Dr. Darrell Trampel and Priscilla Gerber (Iowa State University)
  • All POSITIVE for avian hepatitis E virus
    – Molecular test: Nested RT-PCR, helicase gene
    – ELISA
  • Sequencing of the virus – pending

Avian Hepatitis E Virus Infections

• Synonyms: hepatomegaly-splenomegaly
• Signs:
  – Drop in egg production up to 20%
  – mortality up to 1%
• Lesions
  – Enlarged liver and spleen
  – Red fluid or clotted blood around liver or in abdomen
  – Regressed ova
  – Hepatic necrosis, phlebitis, amyloidosis

Lab Updates

• Poultry Institute 2013

Food Room
Necropsy Room
Storage Room
BIG THANKS TO...

- WADDL & WSU
- WSDA
- USDA-APHIS
- Poultry Industry