



**PRAIRIE LIVESTOCK**  
V E T E R I N A R I A N S

**PSIW 2022**

**Western Disease Update**

# Agenda

Organized by  
production type

Generalities across  
provinces

Provincial Case  
Studies



# Meat Turkey Production



# Meat Turkey: Commonalities Across The West

- Starvation: Chronic multifactorial disease
  - Poor lighting, litter picking, behavioural
  - Poor water quality and availability
  - Drafts or poor ventilation in barns creating crowding problems



# Meat Turkey: Commonalities Across The West

- Round Heart
  - Spontaneous cardiomyopathy
  - Ventilation, temperature, salt, genetics, ??
  - Deaths usually occur in the first 4 weeks
  - Post mortem finding: Enlarged heart
    - Swollen liver
    - Congested lungs
  - Potential improvement: increase number of dark hours



Image source: Dr. Tyra Dickson, Poultry Extension Veterinarian - Saskatchewan



P  
L  
V



# Meat Turkey: Commonalities Across The West

- Colibacillosis
  - Noted in Saskatchewan, Alberta, Manitoba
  - Potential link to difficult start causing immune suppression
    - Brooding
    - Transportation stress
    - Poult quality
  - Water sanitation



# Meat Turkey: Commonalities Across The West

- Coccidiosis (Alberta and British Columbia)
  - Flocks on Ionophores or chemical
  - Various feed companies
  - Breaks in coccidiosis between 4 and 5 weeks of age
- **Manitoba: Most turkeys are Raised Without Antibiotics**
  - Enteritis
  - E.coli



# Meat Turkeys: Interesting Case in BC

- **Histomoniasis (Blackhead)**
  - Fewer cases than previous 2 years but still present
  - Observed earlier than normal this year
    - Cluster of cases in the last 2 months
  - Morbidity and mortality vary between farms
  - Risk factors:
    - Darkling beetles? Hot weather?
  - Effect of the BC floods?

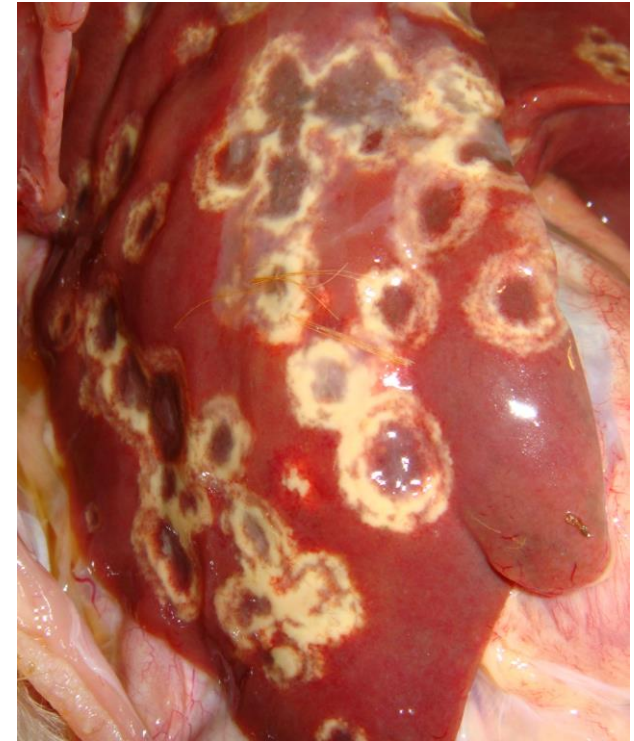


Image source: [nadis.org.uk](http://nadis.org.uk)





# Broiler Breeder Production



# Broiler Breeders: Commonalities Across The West

## High First Week Mortality

- Supply chain disruption
- Poor doing chicks
- Yolk Sac Infection
- Early Systemic Bacterial Infection
  - E.coli
  - Enterococcus





# Broiler Breeders: Commonalities Across The West

- Egg Yolk Peritonitis

- Stable in presence
- Around peak of lay
- Quick recovery
- E.coli is the primary agent

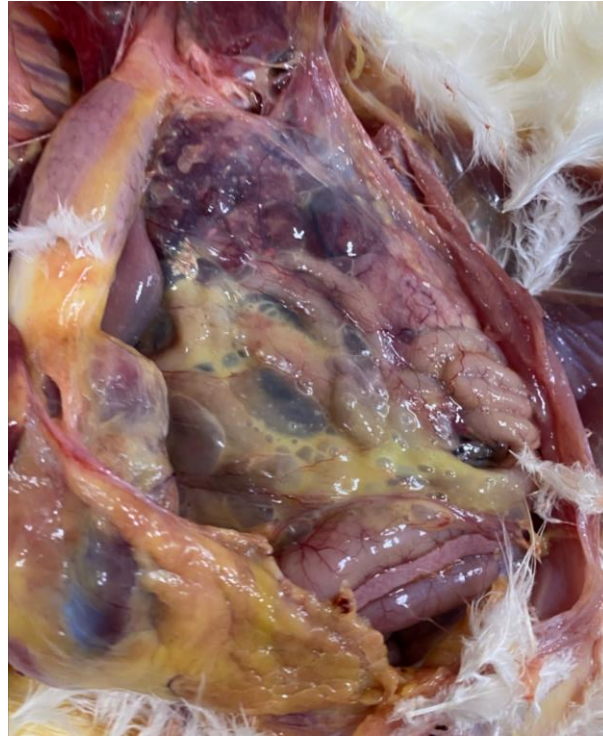


Image source: Dr. Alix Nelson, Maple Leaf Foods



Image source: merckvetmanual.com



# Broiler Breeders: Commonalities Across The West

- **Bacterial Lameness**

- Consistently common (some report uncommon)

- Staph Aureus

- Mostly males

- Gut integrity

- Coccidiosis control

- Feed changes

- **Body weights**



Image source: Dr. Alix Nelson, Maple Leaf Foods



# Broiler Breeders: Commonalities Across The West

- **Histomoniasis (Blackhead)**
  - Chickens are typically asymptomatic
  - Higher than normal mortality, but still low
  - Dilated cecal cores on pathology
  - Histopathology
  - Stressful periods (peak production)
  - Heterakis and Protozoa in the ceca





# Broiler Breeders: Commonalities Across The West

- Management Issues
  - Overweight breeders
    - Femoral head necrosis, staphylococcus infections, tenosynovitis
    - Reactionary feed changes
  - Corn diets changing how the birds are fattening out
  - Pseudomonas in the waterlines



Image source: Dr. Alix Nelson, Maple Leaf Foods



# Broiler Breeder: Alberta Case

- Gangrenous Dermatitis
  - After vaccination
  - Hot summer months
  - Severe spike in mortality
    - Clostridium septicum
    - Clostridium perfringens
    - Staph aureus



# Broiler Breeders: British Columbia Case

- Infectious Laryngotracheitis in British Columbia
  - Pullets as they come into production
  - Peak of lay breeders
  - Clinical signs for approx. 1 week
    - Worse when paired with yolk peritonitis
  - Common and increasing
  - Risk factors: high density poultry area



Image source: Dr. Gigi Lin, Canadian Poultry Consultants Ltd.



# Broiler Breeders: Saskatchewan case

- Fowl Cholera in Saskatchewan: Dr. Tyra Dickson
  - *Pasteurella multocida*
  - 10 week old cockerels
  - Mortality due to lameness (affecting cockerels only)
    - Relatively low mortality
  - Necropsy findings: Purulent arthritis affecting bilateral femorotibiotarso (knee) and hock joints



Image source: [thepoultrysite.com](http://thepoultrysite.com)





# Broiler Production



PLV



# Broilers: Commonalities Across The West

- **Yolk Sac Infection and Early Systemic Bacterial Infection**



- **Late Systemic Bacterial Infection**

- **Ecoli and Enterococcus**
  - **Vertebral osteomyelitis**



# Broilers: Commonalities Across The West

- Inclusion Body Hepatitis
  - Currently decreased in prevalence
  - 8b predominated early in the year
  - Now 8c?
  - Potential forecast to increase in the next few months?



# Broilers: Commonalities Across The West

- Reo Virus and Infectious Bursal Disease
  - Neither virus currently has a high prevalence
    - Bursal disease not common in Alberta compared to the other provinces
  - Reo virus working more as an immune compromising agent that allows for a secondary bacterial infection than a lameness issue
  - Potential forecast for reovirus to increase:
    - Reovirus titres have been high in some breeder serology surveillance programs, previously this occurred right before an increase in broiler reo cases





# Broilers: Commonalities Across The West

- Condemnations
  - BC: Cellulitis and hepatitis
    - Condemns are low this year!
  - AB, SK: Cellulitis and myopathy



# Broilers: Interesting Case in BC

- Infectious Bronchitis Virus: Case Presented by: Dr. Amy Taylor (Sunrise)

- Broilers at 32 and 34 days of age
- Producers had been noticing “swollen heads”
- Ecoli and IBV co-infection
- Clinical signs: Birds with eyes shut, sinuses were completely swollen, birds had gurgling noises that were heard and felt through the chest, facial edema on post mortem



PLV



*E. coli* isolated from Poultry at PDS  
2021

<i>E. coli</i> isolated from Poultry 2021				
Antimicrobial	Number tested	Sensitive %	Intermediate %	Resistant %
Amoxicillin	183	68.85	2.73	28.42
Enrofloxacin	183	97.27	2.73	0
Erythromycin	183	Intrinsic R		
Gentamycin	183	75.96	0	24.04
Tetracycline	183	61.75	0	38.25
Neomycin	183	92.9	2.73	4.37
Penicillin	183	Intrinsic R		
Trimethoprim/Sulfa	183	91.9	1.09	7.1
Spectinomycin	183	90.16	3.83	6.01
Sulfisoxazole	183	73.77	0	26.23
Lincomycin	183	Intrinsic R		

*E. coli* isolated from Poultry UCVM DSU  
Q1 2022

Antimicrobial	<i>E. coli</i>			
	Tested	R (%)	S (%)	I (%)
Amoxicillin	21	42.86	57.14	0
Clindamycin	21	0	0	100
Enrofloxacin	21	0	90.48	9.52
Erythromycin	21	0	0	100
Gentamicin	21	0	76.19	0
Neomycin	21	9.52	80.95	9.52
Oxytetracycline	21	33.33	66.67	0
Penicillin	21	0	0	100
Spectinomycin	21	9.52	90.48	0
Sulphadimethoxine	21	33.33	66.67	0
Tetracycline	21	33.33	66.67	0
Trimethoprim/Sulfamethoxazole	21	4.76	95.24	0

# Egg Layer Production



PLV

# Layers: Commonalities Across The West

- Egg Yolk Peritonitis
  - Stable in BC and Saskatchewan
    - Potentially because of the E.coli vaccine
  - Increasing in Alberta
    - Water quality
    - Lack of E.coli vaccine?
  - Clinical signs: waxing and waning mortality, particularly around peak production
  - Outdoor birds have the largest challenge



# Layers: Commonalities Across The West

- Pullet Vaccination Titters
  - Still work to be done on improving pullet vaccination
    - But they are improving!
  - Pullets coming into production are moved into the lay barn
  - Significant decrease in production in the older flock
    - Bronchitis
    - Avian encephalomyelitis





# Egg Layers: Interesting cases

- Infectious Bronchitis in British Columbia
  - Case Presented by: Dr. Gigi Lin (Canadian Poultry Consultants Ltd.)
    - Suboptimal peak level (90% versus 97/98%)
    - Maintained very low production after peak (approx. 80%)
    - Interesting: No change in egg shell quality
    - Isolated IBV (California strain) from cecal tonsils



# Egg Layers: Interesting cases

- ILT in British Columbia
  - Constant and stable in prevalence (last 2-3 years)
  - Spreads and infects easily
  - Clinical signs: similar to breeders, with typically low mortality and recovery in about one week



Image source: Dr. Gigi Lin, Canadian Poultry Consultants Ltd.



# Egg Layers: Interesting case in Manitoba

- Heat Stress in Leghorns (and broilers)
  - Uncharacteristically high temperatures for a couple of days 37C+ with high humidity.
  - Leghorns in various stages of production.



Image source: Drawception.com



PLV

# Small Flocks



PLV



# Small Flocks: Commonalities Across The West

- **Mycoplasma gallisepticum**
- **Infectious Coryza**
- **Infectious Laryngotracheitis**
- **Mareks**
- **Ovarian adenocarcinoma**
- **HPAI?**



# Small Flocks: Helping companion animal veterinarians



Western Canadian  
Animal Health  
Network



# A Difficult Year for Poultry

## 1) Floods in British Columbia (late 2021)

- 10 poultry farms in the Fraser Valley were affected
  - 1 poultry farm is still being renovated after the damage
- The army was trained quickly as chicken catchers
- Still in progress: Remediation work on the dyke and pumping system, repairs to infrastructure (including road and railway), and drinking water



# A Difficult Year for Poultry

## 2) High Pathogenic Avian Influenza

- British Columbia: 22
  - 4 since September 1 (1 commercial)
- Alberta: 55
  - 16 since September 1 (13 commercial)
- Saskatchewan: 22
  - 9 since September 1 (5 commercial)
- Manitoba: 13
  - 10 since September 1 (9 commercial)
- Many cases had no gross lesions of HPAI or other diseases.
- AI presented with very few clinical signs except mortality





# But some wins!

- Coming together as in industry during difficult times
- Two new poultry veterinarians in Western Canada!



**Dr. Amy Taylor, Sunrise Poultry**

**Dr. Alix Nelson, Maple Leaf Foods**



THANK YOU



**PRAIRIE LIVESTOCK**  
V E T E R I N A R I A N S