WECAHN POULTRY NETWORK PRODUCER REPORT

OCT—DEC 2021

Western Canadian Animal Health Network

Poultry Network Meeting

The WeCAHN Poultry Network met Mar. 4 2022 reviewing Q4 (Oct. —Dec. 2021) with poultry veterinarians, laboratory diagnosticians, provincial veterinarians, and researchers attending. Data included the veterinarians' Clinical Impressions survey, and data from western veterinary diagnostic laboratories.

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1. Dataset Overview

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ii. Laboratory Data: UCVM Diagnostic Services Unit (DSU), Prairie Diagnostic Services (PDS), Manitoba VDS Laboratory.

iii. FAO risk assessment.

Clinical Impressions Survey:

The purpose of the clinical impressions survey is to be a simple, quick overview of diagnoses by practitioners, which does not require practitioners to extract data from their information management systems to complete.

It asks practitioners to report, for a list of selected pathogens/syndromes how frequently (never/rarely/ commonly/very frequently, as defined within the survey) they have diagnosed these pathogens over the time period in question (for this meeting, October - December 2021). Additionally, they are asked whether, compared to the previous time period (for purposes of this meeting, July - September 2021) their diagnosis of these pathogens is increasing/decreasing/ or stable.

Laboratory Data:

Recap on 'control charts': Recap on 'control charts': for each of the following graphs, each data point reflects the number of positive samples or cases reported, over a 3 month period. The upper and lower horizontal lines, called control limits, are similar to statistical confidence intervals.

Control charts are a simple way of presenting data collected over time. Apparent trends (e.g. increasing or decreasing frequencies of detection) over time, or individual points lying outside the control limits, suggest a need for investigation to determine whether/how significant a signal they represent.

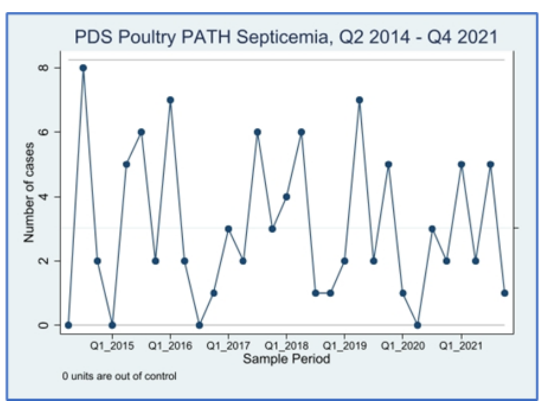
2. Syndromic Data

a) Broilers:

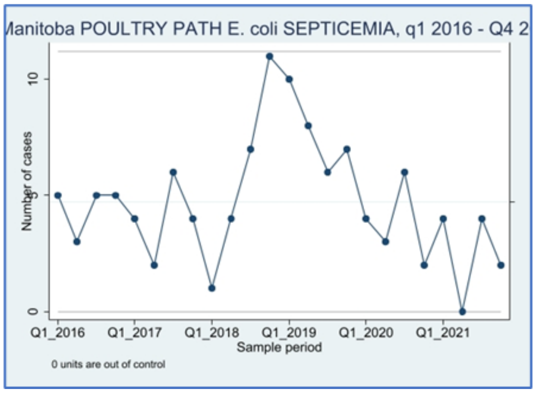
Clinical Impressions Survey and Laboratory Data:

Commonly (defined in this section as 4 or more individual practitioners out of 7 responding, reporting a syndrome diagnosed once or twice a month, or more frequently, in the practitioners' survey) reported diagnoses included:

- **Early systemic bacterial infection**: reported Commonly to Very Frequently, rated increasing by 2 practitioners, (and Stable by other 5), associated with antimicrobial resistance or treatment failure (AMR) by 1 veterinarian.
- **Late systemic bacterial infection**: reported Commonly to Very frequently; rated Increasing by 3, and Stable by 4, and associated with antimicrobial resistance or treatment failure (AMR) by 1 veterinarian.

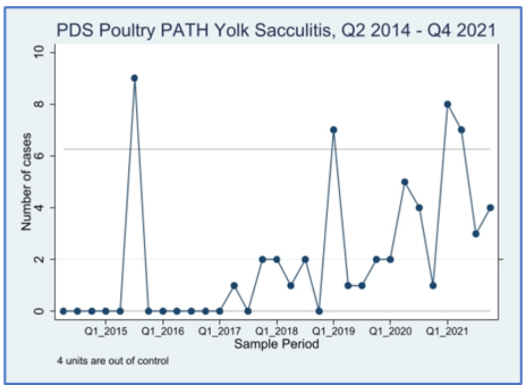


(Broiler Data continued)

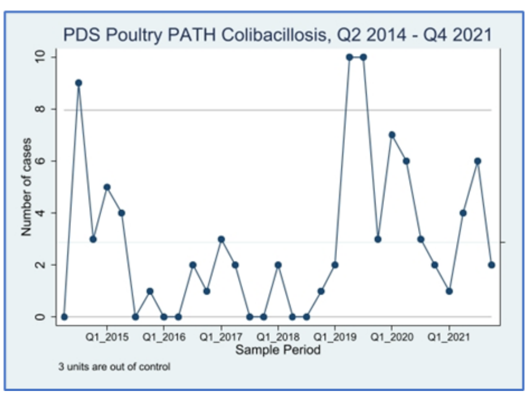


- Apparent trend to decreasing number of cases of *E. coli* septicemia diagnosed in Manitoba VDSL from 2019 on.

Yolk sac infections: reported commonly to Very frequently, and Stable by all 7 practitioners completing this part of the survey.



- **Yolk sacculitis:** Across relatively small number of total cases, possible trend to increasing diagnosis from 2017 – 2021 at PDS.



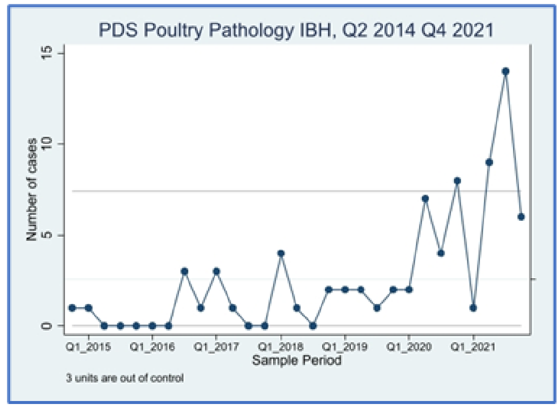
- **Colibacillosis:** again, across a relatively small number of cases, fluctuations across quarters but no clear time trend.

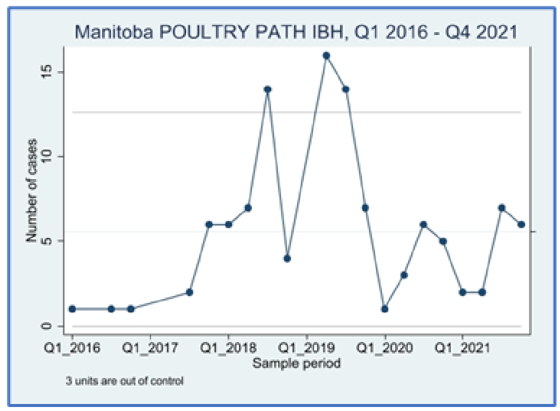
Bacterial infections: Increases may be associated with:

- Changes in weather
- Conditions/quality of chicks from hatchery

Bacterial lameness: reported Commonly by 4, increasing by 1, decreasing by 1, stable by 5, associated *E. coli* and *Enterococcus* spp. by 1 veterinarians.

Inclusion Body Hepatitis: reported Commonly to Very frequently by 6 of 7 practitioners; categorised increasing by 1, decreasing by 2, and stable by 4 practitioners.





- Slightly different time trend reported from Manitoba VSDL relative to PDS.

Ascites:

- See associated with cold weather
- Especially older broilers, some with secondary respiratory dz

Q: If these are housed animals: the disease is associated with changes in outside temp

A: Some had problems even maintaining indoor temp; see increased condemnations: respiratory conditions, ascites

COMMENT: Observe increase in flips/sudden deaths prior to increase in ascites

- At PDS do not do a lot of poultry necropsies, but do perform these on agricultural college project poultry
- In this way, have the chance to follow a cohort/ batch
- Subjective impression is that bad weather is followed first by flips, then by ascites?

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(Broiler Data continued)

COMMENT: Really only commonality is rapid growth of affected individuals

- Ascites: associated in cold
- Flips: associated with best birds, often males, different pathology

Cold weather in MB is associated with ammonia, e.g. in breeder flocks

COMMENT:

- See less in broiler flocks due to relatively short lifespan
- Saw recently apparent blindness in 18 wk pullets with apparent blindness due to ulcerated corneas.

Less frequently reported conditions:

- **Other early mortality:** reported Commonly to Very frequently, associated with AMR by 1 veterinarian, and associated with conditions including starveouts (N = 2 practitioners), ascites, and brooding management.
- **Coccidiosis:** reported Commonly by 2 practitioners.
- **Necrotic enteritis:** reported Commonly (N = 1 veterinarian) to Very Frequently (N = 1).
- **Cellulitis condemnations:** reported Commonly (N =2) to Very frequently (N = 1**)**
- **Liver condemnations:** reported Commonly (N = 1) to Very frequently (N = 1)
- All of these less frequently seen conditions were categorised Stable relative to the previous time period, by all practitioners completing this part of the survey.

Overview of five Clinical Impressions Survey: Broilers

Note: Given the small sample sizes for practitioners and survey periods so far, the following are intended only to possibly stimulate some discussion.

- **IBH:** was not rated by any practitioners as increasing this quarter, in contrast with the 4 previous datasets.
- **Coccidiosis:** was not rated by any practitioners as increasing this quarter, in contrast with the 2 previous datasets.
- **Systemic bacterial infections:** both early and late bacterial infection diagnoses reported in creasing in Q4, in contrast with previous quarterly datasets.
- **Ascites:** rated as increasing by 2 veterinarians; its diagnosis has varied over previous quarterly datasets.

b) Broiler-breeders

Clinical Impressions Survey and Laboratory Data:

Following were diagnosed commonly (defined in this section as 4 or more individual practitioners out of 7 responding, reporting a syndrome diagnosed once or twice a month, or more frequently) by practitioners:

Commonly reported conditions:

- **Early bacterial systemic infection:** reported Commonly by N = 4 practitioners, and rated as Stable by all practitioners.

Less frequently reported conditions:

- **In-lay bacterial septicemia:** reported Very frequently by 2 practitioners, and rated decreasing by 1.
- **Bacterial lameness:** reported Commonly by 3 practitioners, and rated Stable by all practitioners completing this part of the survey.
- **Yolk sac infections: :** reported Commonly by 2, associated with *Staphylococcus* by one practitioner, and rated Stable by all veterinarians completing this part of the survey.
- **ILT:** reported Very frequently by 1 practitioner, and rated Increasing relative to previous time period by this practitioner.
- **ILT:** BC saw an increase in cases from July to November. From November to now, these are presumptive diagnoses with the provincial laboratory (AHC) closed

Overview of five Clinical Impressions Surveys: Broiler-breeders

- **ILT in broiler-breeders:** Frequency of diagnoses has fluctuated across surveys and also individual practitioners.

c) Layers:

Clinical Impressions Survey and Laboratory Data:

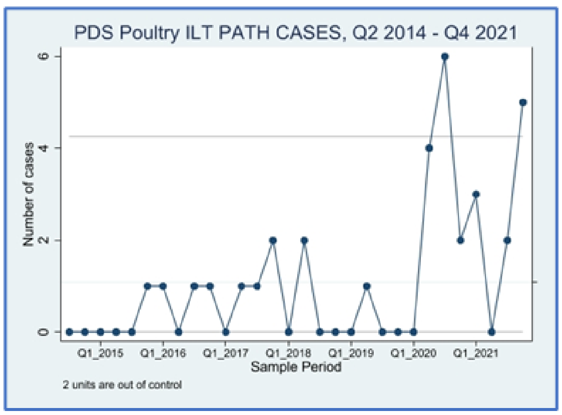
Commonly (defined for purposes of this report as 3 or more individual practitioners out of 6 reporting a syndrome diagnosed once or twice a month, or more frequently, in the practitioners' survey) reported diagnoses:

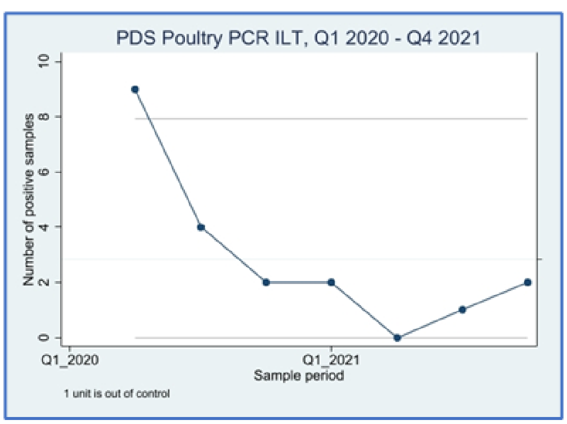
Commonly reported conditions:

- **Egg yolk peritonitis:** Reported Commonly (N = 2) to Very frequently (N = 1), and rated Stable by all practitioners completing this part of the survey.
- **Aggression and cannibalism:** Reported Commonly by 3 practitioners, and rated Stable by all practitioners completing this part of the survey.

Less frequently reported conditions:

- **ILT:** Reported Commonly by 1, and rated increasing (N = 1), decreasing (N = 2), or Stable (N = 3 practitioners).





- **Note:** The sector of production from which the positive cases/samples originated (i.e. commercial vs small flock) is unclear from the dataset.

- **Decreasing egg production, cause unknown:** reported Commonly by 2 practitioners; 1 suspected mycotoxin (mold in feed) although this could not be supported by laboratory diagnosis.

Overview of five Clinical Impressions Surveys:
Layers:

- **ILT:** after being rated increasing by 2 or 3 practitioners in the last 2 datasets, it was rated as increasing by 1, stable by 1 and decreasing by 2 practitioners in Q4 2021.

ILT:
SK:

- Saw novel case with pullets being imported from out of province, mixed with naïve ones.
- Now - flock is a multi-stage production site, which did not use de-population or down time.
- Placed more pullets in Dec; still using same hatchery.
- Currently necropsying deads every week, now every 2 weeks
- Lesions are not consistent with ILT.
- However this will change the way ILT is dealt with in SK.
- Now people will be interested in vaccinating commercially.

BC:

- Seeing increase in BC; outbreak since very dense populations Fraser valley
- Any breech biosecurity -> can spread via wind/ aerosols
- See increase in layer pullets only, not older birds
- Most rec ILT recomb at hatchery; TOC prior to lay

COMMENT: Still active ILT outbreak over last 2 yr, animals diagnosed are also shipped, and so transport the disease as well.

d) Turkeys:

Clinical Impressions Survey and Laboratory Data:

Commonly (defined for purposes of this report as 3 or more individual practitioners out of 6 reporting a syndrome diagnosed once or twice a month, or more frequently, in the practitioners' survey) reported:

Commonly reported conditions:

- **Early systemic bacterial infection:** Reported Commonly by 3 practitioners, and associated with AMR and rated increasing by 1 practitioner.
- **Late bacterial infection:** Reported Commonly by 4 practitioners, and rated increasing by 1.
- **Roundheart:** Reported diagnosed Commonly (N = 4) to Very frequently (N = 1) , and categorised Stable by all practitioners completing this part of the survey.

Less frequently reported conditions:

- **Enteritis and Necrotic Enteritis:** Both reported seen Commonly by 2 practitioners, and both rated increasing by 1 practitioner.
- **Coccidiosis:** Reported Rarely by 4 practitioners, and rated increasing by 1 practitioner.

Overview of five Clinical Impressions Survey: Turkeys

1. Histomoniasis: categorised Stable by 4, and decreasing by 1 practitioner, after reportedly increasing diagnosis by one or more practitioners previous 2 quarters.

BC outbreak:
In 2019: 6 cases
In 2020 20 cases
In 2021 month of July 13 cases
2022: 3 cases so far, which is unusual
Generally July - October

2. *Salmonella* Typhimurium in turkey hatchery

- Nature of contract allows for 0 *S.* Typhimurium
- Hens were able to be slaughtered; toms were too heavy and were slaughtered and buried.

COMMENT:

- PDS has the capacity to type *Salmonella*, if required, for fast turnaround.
- The official *Salmonella* serotyping by sequencing turnaround time is two business days. Please contact the lab and they will do our best to expedite the testing if possible (can be done same day if there is a very pressing priority, but it is usually more efficient to batch samples and do sequencing runs on a weekly basis).

e) Smallholders:

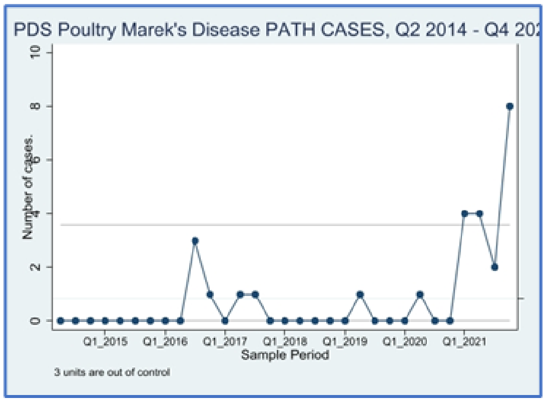
Clinical Impressions Survey and Laboratory Data:

Commonly (defined for purposes of this report as 3 or more individual practitioners out of 6 reporting a syndrome diagnosed once or twice a month, or more frequently, in the practitioners' survey reported:

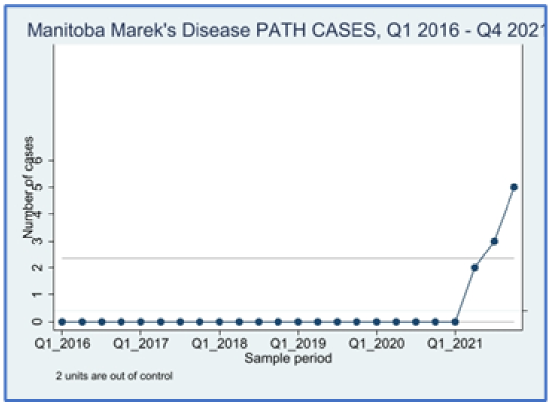
Commonly reported syndromes:

- **Marek's Disease:** Reported commonly by 4 practitioners and decreasing by 1.

Laboratory data



- Trend to increasing number of pathologic diagnoses of MD at PDS and Manitoba VSDL, over small number of submissions.



QUESTION: If the prevalence of MD reflects lack of vaccination at hatcheries, how does this work? I.e. what kinds of hatcheries are used by small flocks? Commercial hatcheries? Private small incubators?
A: Sources and nature of vaccine gaps varies.

- small hatcheries: don't vaccinate all batches of chicks
- some small flocks acquire mail order chicks with unknown vac status
- some people buy and sell fertilised eggs and incubate them in their own small incubators

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3. Scan

Promed: HPAI in Canada: 24th February

- Another case of highly pathogenic avian influenza (HPAI), subtype H5N1, was confirmed at a mixed farm in western Nova Scotia, which includes poultry and products for local sale. According to a press release from the Canadian Food Inspection Agency (CFIA), the case was confirmed on [9 Feb 2022]. The size of the flock was not disclosed, nor were the species involved.
- This latest case follows confirmed detections of the same strain of HPAI in Newfoundland and Labrador and more recently in wild birds, a backyard flock, and a commercial turkey farm in Nova Scotia, where 11 800 turkeys were affected.
- To control any potential spread of the disease, the CFIA has imposed movement restrictions and is recommending enhanced biosecurity for other farms within the area. At this time, some countries have applied temporary import restrictions with variable implications on products and regions in Canada, primarily limited to the export of some poultry products from Nova Scotia.
- Affected producers and industry associations, as well as federal and provincial departments, are cooperating in the ongoing investigation with a common goal to protect human health, protect the health of Canadian poultry and, in the process, maintain market access for Canadian poultry products.
- CFIA announced the latest case of HPAI on the same day the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) announced the virus had been detected in a commercial broiler flock in Fulton County, Kentucky, and a backyard flock in Fauquier County, Virginia.
- An earlier case of HPAI was confirmed in a commercial turkey flock in Dubois County, Indiana. In that flock, 29 000 turkeys were affected. Also, HPAI has been confirmed in wild birds in New Hampshire, Delaware, Virginia, Maryland, North Carolina, South Carolina, and Florida.
- For more information: https://promed.org

Food and Agriculture Organization of the United Nations (FAO)

- On 22 December 2021, Canada reported its first H5N1 HPAI poultry outbreak on an exhibition farm in the Eastern Province of Newfoundland and Labrador. This was the first report of the H5N1 HPAI virus in the Americas since June 2015. Following the outbreak, additional HPAI events were reported in the Province including six wild bird detections and four H5N1 HPAI outbreaks in poultry. Since then, the disease spread further South to Nova Scotia where four outbreaks in poultry farms and several cases in wild birds were reported. [CFIA, 2022] On 3 March 2022, British Columbia and Prince Edward Island both reported a single detection of H5 HPAI virus in a wild Bald Eagle (Haliaeetus leucocephalus).

Maintaining and improving flock biosecurity has never been more important, as western Canada prepares for the spring migration of wild birds along the Pacific, Central , and Mississippi flyways, along which both the Pacific (BC) and Mississippi (MB) flyways contain recent reported detections of HPAI.