The information was obtained from a survey of the clinical impressions of practicing veterinarians between Feb 1st, 2019 to April 30th, 2019, and laboratory data from the Animal Health Laboratory, with input from poultry specialists. It is the intent of this program to advance and protect the health of poultry in Ontario

Ontario Animal Health Network (OAHN)
Producer Report - OAHN Q2 2019

Quarter 2, 2019 (February 1st, 2019 - April 30th, 2019)

Infectious coryza recently reported in Pennsylvania poultry flocks

Pennsylvania has been dealing with infectious coryza infections in commercial breeder, layer, and broiler flocks since March 2019. Introduction of this bacterium into Ontario poultry flocks via infected northeastern U.S. flocks is possible. Vigilance should be heightened across poultry industry stakeholders, because both chronically infected and healthy carrier birds can serve as bacterial reservoirs.

Infectious coryza is caused by the bacterium *Avibacterium paragallinarum* and is predominantly an upper respiratory infection. Chickens of all ages are susceptible to this bacterium; however, older chickens tend to be more commonly infected with more severe infections.

The bacterium is typically disseminated through the flock via sneezing and coughing of infected birds, and occasionally through the ingestion of contaminated feed or water. Movement of people, infected and carrier chickens, and equipment also can aid in the spread of this bacterium between barns and farms, which highlights the importance of an effective biosecurity program on every poultry farm. Farm biosecurity protocols should be well thought-out, stringently implemented, and continuously followed.

If you have any concerns regarding the health status of your flock, contact your veterinarian immediately.

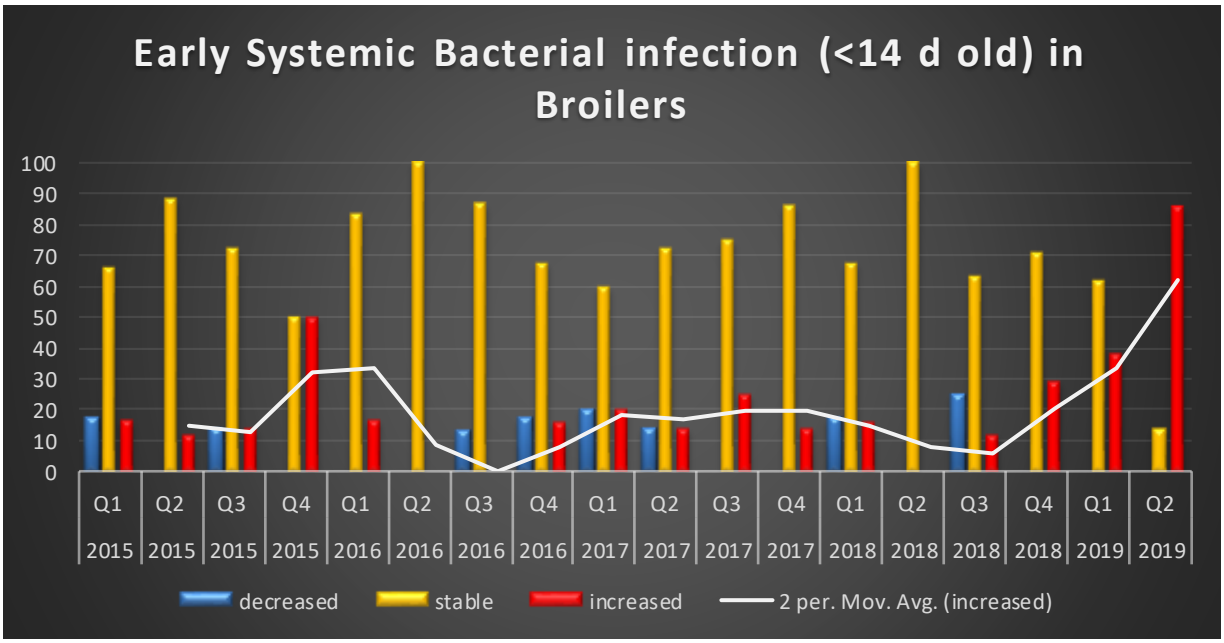
For more information on infectious coryza, please refer to the article entitled:" Avian Coryza": produced by PennState Extension at: https://extension.psu.edu/avian-coryza

Poultry Veterinarian Survey Highlights

Broilers

- The increase in **early systemic bacterial infections** (<14 d old) **(Fig A)** identified in the previous quarter (Q1 2019) is continuing to increase in this quarter. *Escherichia coli* was commonly identified from these cases.

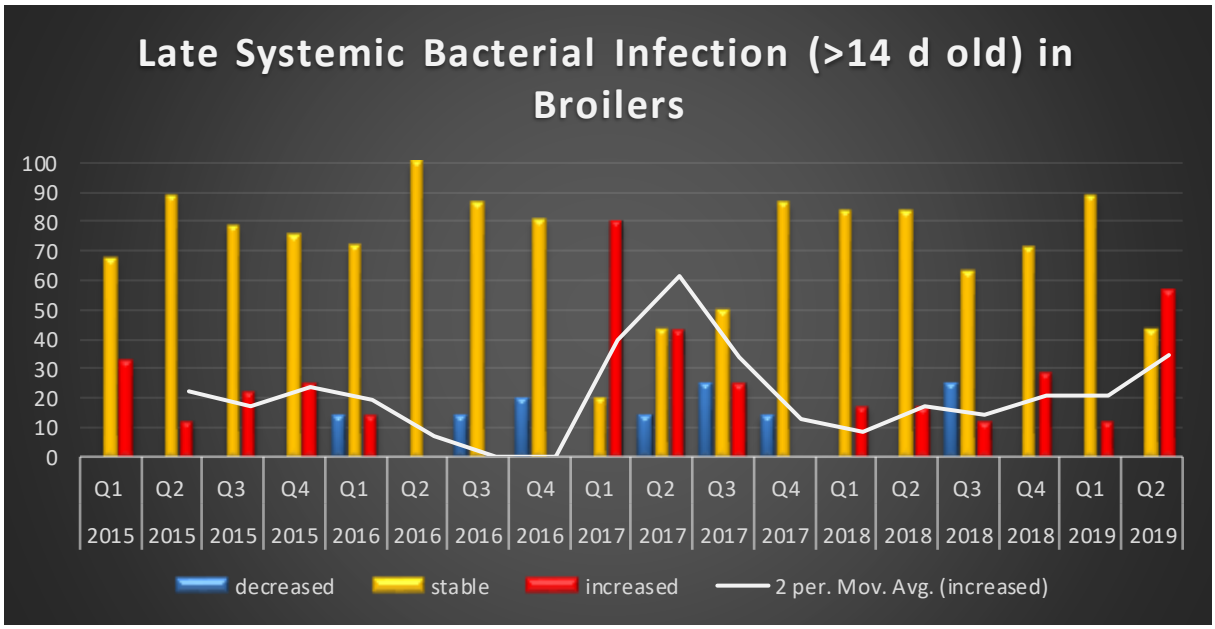
Fig A) Trend of early systemic bacterial infections in broilers between January 2015 and April 2019 based on the clinical impression survey of Ontario poultry veterinarians. [a)]



a) The bars represent the proportion (%) of veterinarians who report the number of cases seen in a quarter as decreased, stable, or increased compared to historical expected numbers of cases.

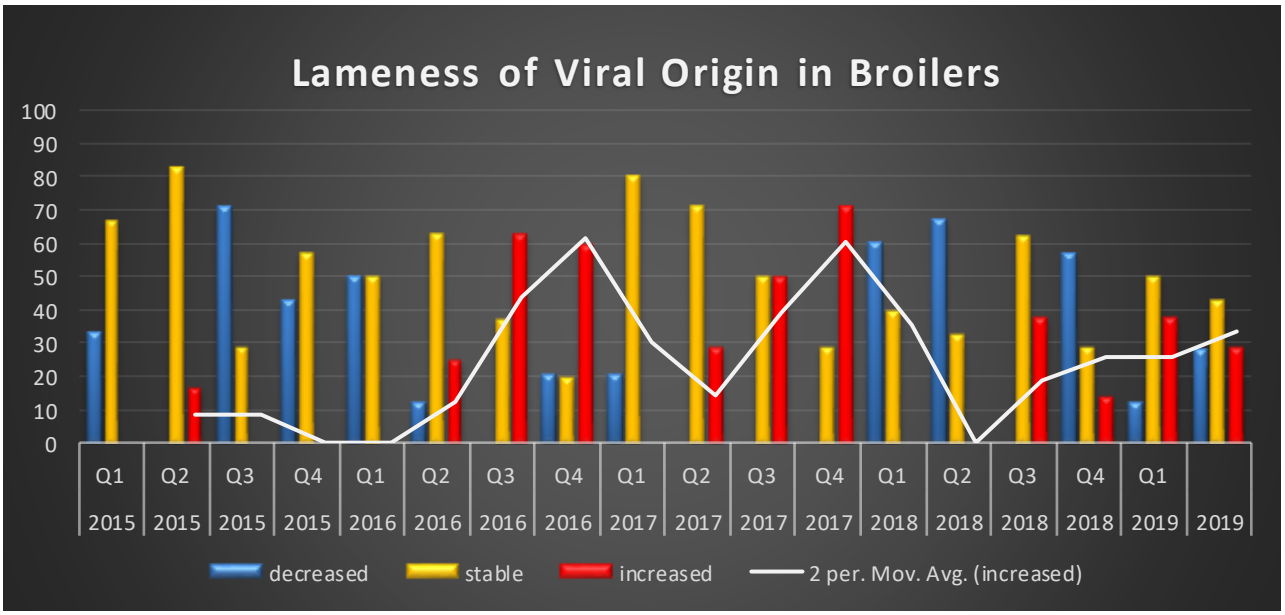
- **An increase in late systemic bacterial infections** (>14 d old) was observed (**Fig B**). Mainly *Escherichia coli*, was detected with bacterial cultures. Underlying infectious bronchitis virus infections and cold wet weather are thought to be contributing factors. Occasionally, *E. coli* septicemia with secondary *S.* Kentucky or *S.* Mandaka involvement has been identified.

Fig B) Trend of late systemic bacterial infections in broilers between January 2015 and April 2019 based on the clinical impression survey of Ontario poultry veterinarians.



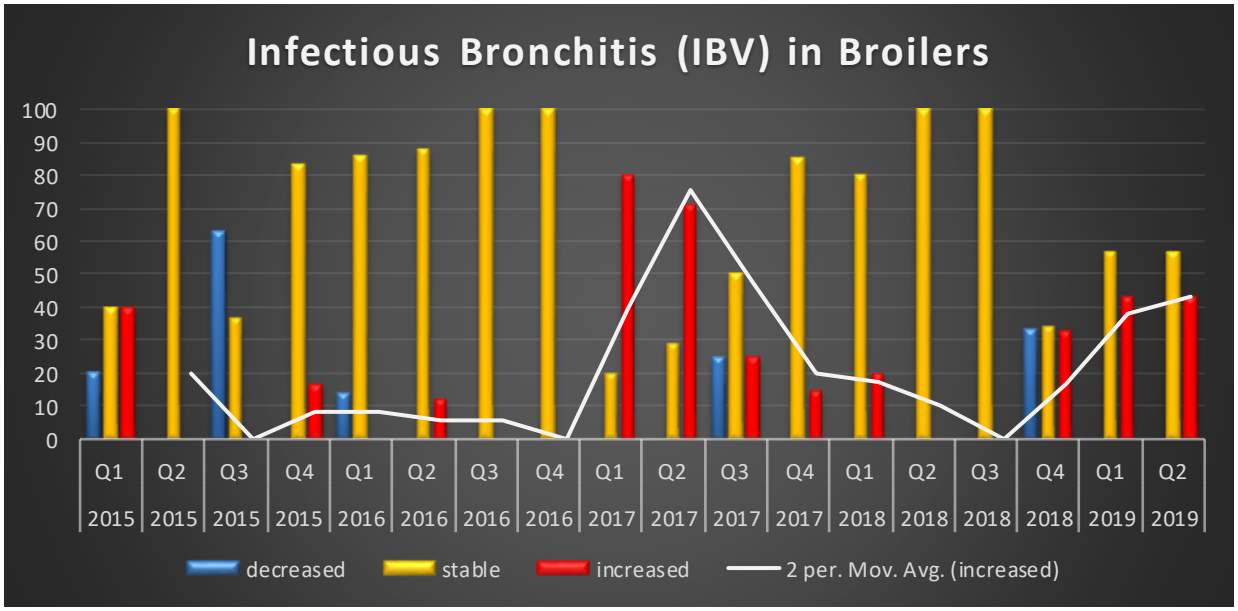
- **Lameness of viral origin** caused by reovirus was stable to increased this quarter (Q2 2019) (**Fig C**) compared to the previous quarters (Q4 2018, Q1 2019). Reovirus variants Ontario classic strain and KR_K738-2014 were reported from the affected flocks. The pathogenic Group D variant strain was not reported.
  Vaccination of the Ontario broiler breeder flocks with autogenous reovirus variant D strain started in July 2018 and the placement of the first broiler chicks from these flocks started in early October 2018. Currently, more than 30 % of total chick volume in Ontario originates from the vaccinated breeder flocks.

Fig C) Trend of reoviral-associated lameness in broilers between January 2015 and Apr 2019 based on the clinical impression survey of Ontario poultry veterinarians



- **Lameness of nutritional origin** was stable this quarter. A few cases of **rickets** were reported.
- **Lameness of bacterial origin** was stable in this quarter. The majority had *E. coli* involvement.
- **Lameness of developmental** cause was stable. One practitioner reported TD.
- **Coccidiosis** and **necrotic enteritis** were stable to increased this quarter. Multiple cases of small intestinal and cecal coccidiosis were diagnosed by the AHL.
- **Inclusion body hepatitis (IBH**) cases reported by poultry veterinarians this quarter were stable however the number of cases identified by the Animal Health Lab were increased from the previous quarter and some of those cases also had FAdV PCR testing with 9 cases of species D (most common Canadian serotypes are 2 and 11) and 5 cases of species E (most common Canadian serotype is 8) detected. Domestic breeder flock vaccination with reformulated autogenous vaccine containing serotype 8 and 11 strains of fowl adenovirus began in August 2018.
- The increase of **IBV infections** identified in the previous quarter (Q1 2019) is continuing. (Fig D). Primarily the **DMV strain** was isolated from the affected flocks; however, no significant clinical signs or losses were observed.

Fig D. Trend of infectious bronchitis cases in broilers between January 2015 and Apr 2019 based on the clinical impression survey of Ontario poultry veterinarians



- **Infectious bursal disease virus (IBDV)** was stable this quarter.
- **Runting and stunting syndrome** (RSS) continues to be seen at consistently low levels in Ontario broilers.
- The practitioners were asked to specifically provide feedback regarding prevalence of proventricular dilation over the last quarter and two cases of proventricular dilation at processing and another case on farm were reported. Fowl adenovirus has been associated with gizzard erosions/ulcerations but this is an uncommon finding in Ontario broilers.
- Two cases with mild **inhaled foreign body pneumonia** associated with peat moss bedding, and two cases with low numbers of yellow-brown refractile particles resembling peat moss particles in the lungs were reported.
- **Condemnation** issues remained stable. Late systemic *E. coli*, sometimes with IBDV or IBV were associated with condemnations.

Broiler-Breeders

- **Early bacterial infections (<14 d old)** were stable this quarter**.** A few cases, primarily in males, were reported. Most commonly, *E. coli* was isolated with only occasional cases where a mixture of bacteria including *E. coli* and/or *P. aeruginosa* were isolated. One case of septicemia also had concurrent tenosynovitis and variant *S. typhimurium* and *E. coli* were identified. Other cases of early mortality included starve out, dehydration with urate nephrosis, visceral and articular urate deposition, and trauma from pecking.
- **Intestinal intussusceptions** are occasionally seen and there has been a shift to affecting younger flocks. This quarter, the AHL lab diagnosed 6 cases, 3 at 4 weeks. 1 at 5 weeks, 1 at 7 weeks and 1 at 9 weeks. It is not unusual to find dark red fluid and blood-stained litter in the crops of affected chickens and this is considered to be part of the clinical picture of intestinal intussusceptions.
- **Necrotic enteritis** and **coccidiosis** remained stable for this quarter. AHL lab data indicates mostly cecal coccidiosis cases were identified. One case of FDN (focal duodenal necrosis) was identified. This is a condition most commonly associated with table egg layers.
- **Bacterial lameness** cases, especially in males, increased this quarter. Can be associated with even short bouts of poor litter quality. Footpads seem less resilient. Arthritis and tenosynovitis with *Staphylococcus aureus* alone or mixed with *E. coli* or *E. cecorum* were noted in breeder flocks. *P. multocida* can be also detected in some joint infections. In one case, an unusual isolate, *Staphylococcus agneti* was recovered from a spinal abscess of immunosuppressed broiler breeders. The recent literature indicates that, in 2015, *S. agneti* was identified in broiler chickens with bacterial osteomyelitis, and more recently this bacterium has also been associated with bacterial endocarditis and septicemia in broiler breeders.
- **Developmental lameness** cases were stable. In males, twisting of toes, reflective of changes in weight bearing secondary to metatarsal and digital pododermatitis, has been noted. A few males with TD and lameness caused by multifactorial causes (gut integrity, bone health) has been described by practitioners.
- Cases of i**n-lay bacterial septicemia** were stable this quarter. Mostly *E. coli*, sometimes *S. aureus* or only *S. aureus* were reported from these cases.
- **IBV infections** remained stable this quarter. Out of the same barn sequentially, during the same flock, an untypable, a Delaware 072, and a DMV strain were isolated reaffirming that exposure of a flock to one variant does not preclude the subsequent entry of another variant. The California strain was isolated from another premises.
- **Disease-related hatchability issues** remained stable**.** A few **white chick syndrome** cases continue to be seen.
- One case of **cutaneous fowlpox** was reported by a practitioner. No health issues other than scabs were noted.
- A low percentage of ***Salmonella* isolations** on routine environmental monitoring was noted. *Salmonella* Kentucky, *S*. Heidelberg, *S*. Typhimurium var Copenhagen, *S*. Putten, and *S*. Livingstone were the most commonly reported serovars.
- **Male aggression** has been stable in breeder flocks.

Layers

- The disease pressure on laying hens has been low this quarter.
- **Bacterial peritonitis / salpingitis** due to *E. coli* remained stable.
- **Early systemic bacterial infection** (<14 d old) was stable to increased and this increase could be linked to the season. *E. coli* alone or with *S. aureus* were isolated from these cases.
- **Infection bronchitis** causing production drop/abnormal eggs or respiratory issues remained stable. The DMV strain is still the predominant strain in layer flocks; however, Delaware 2 has also been detected. The impact of IBV on the flocks is much reduced in comparison with previous years with small transient drops in production and a few reports of false layers.
- **Bone deformity** of unknown origin was reported from a flock. Small percentage of birds within the flock were affected, but their lesions were dramatic.
- **Heterophilic enteritis** with unknown etiology was reported by a practitioner.
- One case of ***Mycoplasma synoviae*** was identified in a layer flock.
- One case of **mycotic pneumonia**, resembling *Aspergillus fumigatus* was diagnosed at the AHL.

Turkeys

- **Early** (<14 d old) **and late systemic bacterial infections** (>14 d old) remained stable. Mainly *E. coli* was the predominant bacteria in the early systemic bacterial infections. In older birds, one case of *Trueperella pyogenes* causing bacterial septicemia was reported. Other causes of early mortality included dehydration and brooding errors.
- This is the second quarter in a row with **increased reports of erysipelas** by a couple of practitioners and supported by increased numbers of cases reported by the AHL.
- **Fowl cholera** was also diagnosed in a flock.
- **Hemorrhagic pneumonia** associated with *S. aureus* and pneumonia, pleuritis, airsacculitis and septicemia with *E. coli* and *S.* Agona were also reported.
- Three cases of **turkey viral hepatitis** have been diagnosed in turkey flocks 17-19 days of age.
- One case of **cecal cryptosporidiosis** was detected in a turkey flock.
- ***Salmonella*** isolations in turkeys were slightly increased, *S*. Heidelberg being the most common serovar. Other serovars isolated were: *S*. Schwarzengrund, *S*. Uganda, *S*. Mbandaka, *S*. Senftenberg, *S*. Infantis, *S*. Montevideo, and *S*. Agona.
- **Necrotic enteritis** and **coccidiosis** were slightly increased.
- One case of **low pathogenic H1N1** was reported by a practitioner.
- Swollen head has been reported by a single practitioner.
- Intestinal roundworm infestation was reported by a practitioner.
- One case of breast blisters has been detected in a turkey flock.

We thank the following poultry veterinarians who completed the veterinary survey: Dr. Elizabeth Black, Dr. Peter Gazdzinski, Dr. Shahbaz Ul Haq, Dr.Genevieve Huard, Dr. Mike Joyce, Dr. Anastasia Novy, Dr. Mike Petrik, Dr. Cynthia Philippe, Dr. Joanne Rafuse, Dr. Fernando Salgado-Bierman, Dr. Kathleen Sary, Dr. Ben Schlegel, Dr. Lloyd Weber, Dr. Alex Weisz, and Dr. Jessalyn Walkey.

Updates and Resources

- Upcoming **Poultry Industry Council events**: https://www.poultryindustrycouncil.ca/poultry-industry-events/2019-06/
- **Poultry Health Research Network** lectures can be accessed on the PHRN website or on the PHRN YouTube channel: https://www.youtube.com/user/PoultryHRN

Your OAHN Poultry Network Team:

Practitioners: Dr. Fernando Salgado-Bierman, Dr. Mike Petrik, Dr. Cynthia Philippe, Dr. Alex Weisz
Animal Health Lab: Dr. Marina Brash
OMAFRA: Dr. Csaba Varga (Network co-lead), Dr. Tim Pasma, Al Dam
Ontario Vet College: Dr. Michele Guerin
Network Coordinator: Dr. Kathleen Todd