

The information was obtained from a survey of the clinical impressions of practicing veterinarians between November 1st, 2017 to January 31st, 2018, 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) Poultry Expert Network Quarterly Veterinary Report

Quarter 1, 2018 (November 1st - January 31st 2018)

Avian Influenza Update

In March 2018, the United States Department of Agriculture detected low pathogenic avian influenza (AI) in commercial poultry farms in Missouri and Texas. These are the first cases of AI in the U.S. since March 2017. Missouri is located within the Mississippi flyway – the same flyway that extends into northwestern and southwestern Ontario. Considering the presence of current avian influenza cases in the US, there is an increased risk of re-emergence of avian influenza in Ontario. Poultry farmers and service providers can help prevent the introduction of the influenza viruses into their flocks and also avoid spreading the virus within and among farms by following strict biosecurity practices and through early detection of infection.

Flocks experiencing spikes in mortality or mortality that continues to rise should be tested for avian influenza. If you are a poultry sales specialist please consult the SALES SPECIALISTS' POULTRY FARM VISIT BIOSECURITY GUIDE & CHECKLIST.

Wild bird migration plays a role in disseminating avian influenza viruses. If you find dead wild birds (cluster of three small birds or one large wild bird) on a poultry farm, contact the Canadian Wildlife Health Cooperative (phone #: 1-866-673-4781) to request testing of these birds.

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

An advisory on avian influenza prevention for poultry farmers has been developed by OMAFRA. Please share with your contacts:

<http://oahn.ca/news/poultry/omafra-avian-influenza-reminder-for-poultry-farmers/>

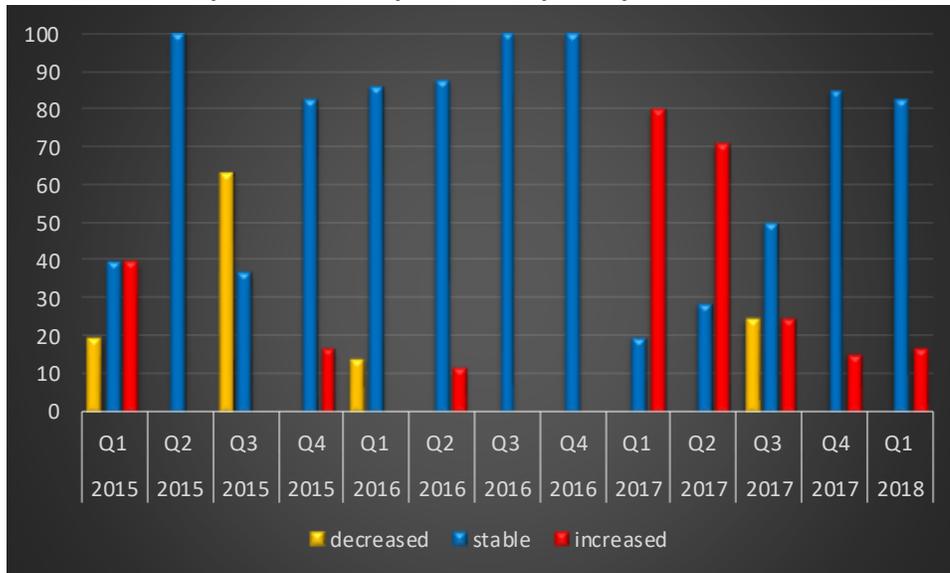
A podcast on avian influenza has been produced by OAHN Poultry. Please share with your contacts.

<https://oahn.podbean.com/e/avian-influenza-information-for-commercial-producers-with-dr-tom-baker/>

Infectious Bronchitis Virus Update

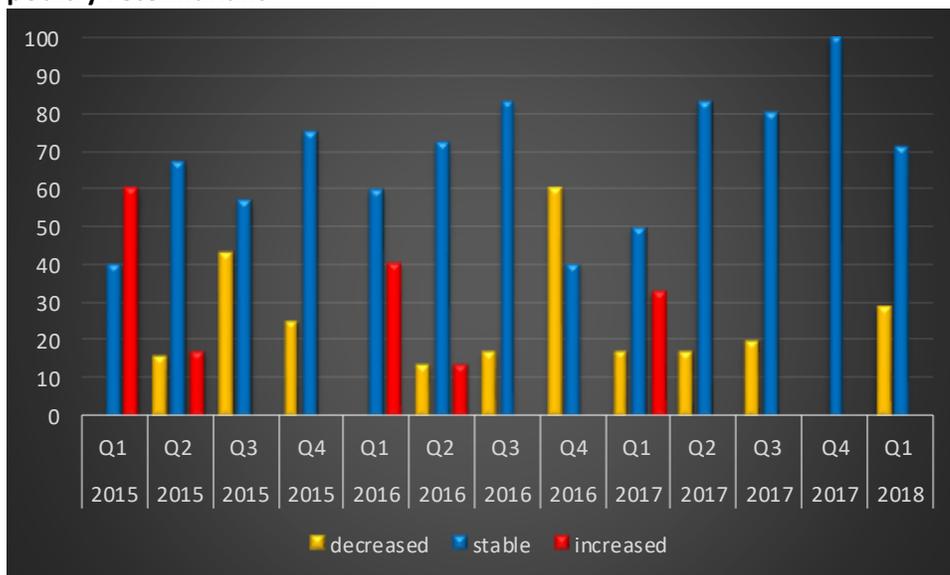
Infectious bronchitis virus (IBV) infections decreased or were stable this quarter (Q1 2018) in broiler, broiler breeder, and layer sectors (**Figure A, B, and C**). Genotyping results of 2017 isolates show that the Delmarva (DMV) strain emerged as the predominant strain. Properly implemented biosecurity is the poultry producers' first line of defense against infectious bronchitis. Farm biosecurity protocols should be well thought-out, stringently implemented, and continuously followed. For suggested biosecurity measures to prevent disease incursion and spread, refer to: Biosecurity recommendations for Ontario poultry farms (page 3).

Fig A) Trend of Infectious bronchitis virus (IBV) infections in broilers between January 2015 and January 2018 based on the clinical impression survey of Ontario poultry veterinarians ^{a)}



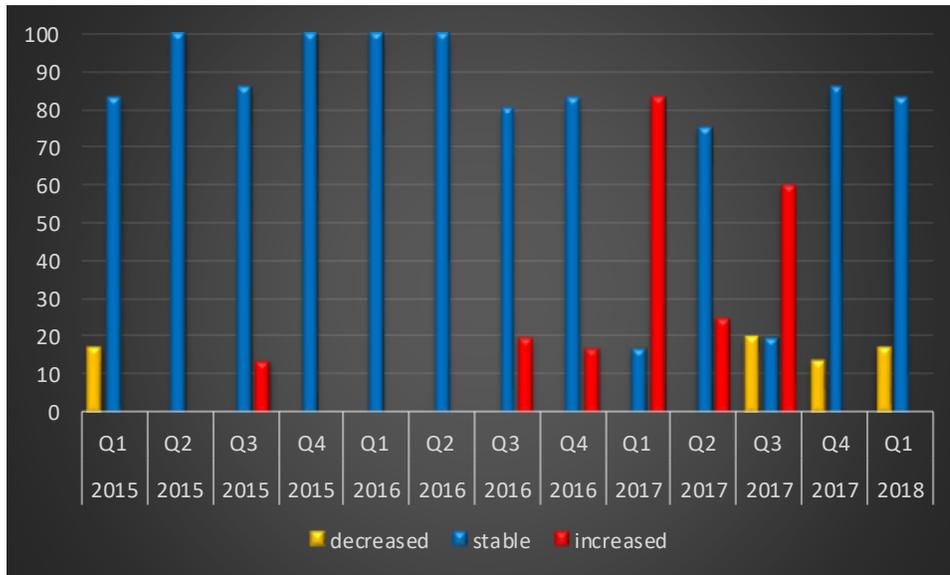
^{a)} The bars represent the proportion (%) of veterinarians who reported the number of cases seen in a quarter as decreased, stable or increased compared to historically expected numbers of cases.

Fig B) Trend of Infectious bronchitis virus (IBV) infections in broiler breeders causing production loss, abnormal eggs, and increased mortality between January 2015 and January 2018 based on the clinical impression survey of Ontario poultry veterinarians ^{a)}



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

Fig C) Trend of Infectious bronchitis virus (IBV) infections in layers causing production loss, abnormal eggs, and respiratory disease between January 2015 and January 2018 based on the clinical impression survey of Ontario poultry veterinarians^{a)}



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

Biosecurity recommendations for Ontario poultry farms

The following is a list of **suggested biosecurity measures** for Ontario poultry farms:

- Each farmer, employee and every person entering any poultry barn must put on clean footwear, protective clothing, and follow all biosecurity protocols.
- Minimize visits to other poultry production sites and avoid any co-mingling of birds.
- Avoid exchanging equipment with other poultry production sites.
- Ensure all vehicles/farm equipment that access the barn vicinity are clean and that the laneway is restricted/secured.
- If possible, have a pressure washer or a hose available to wash tires and equipment, and make this available to all service vehicles and visitors.
- If possible, “heat treat” the barn/litter after cleanout and introduction of new bedding, and in advance of bird placement (to 32°C or 90° F for a minimum of 2-3 days). Note the floor under the bedding must reach 32° C for this technique to be effective. The temperature should be measured with an appropriate thermometer (consider an infrared thermometer) at multiple locations along the inside perimeter of the barn at least 3 times a day.
- The barn floor should reach 32°C at least 4 days prior to placement in order to ensure at least 24 h are available to create a stable barn temperature at an optimal chick range.
- **Before spreading manure** from an IBV infected flock or suspect flock, it is important that it is properly **composted** to neutralize the virus. Pile and compost the litter inside the affected barn or in a

designated and contained facility/area. You need to check the temperature of the compost pile 3 times a day and ensure the temperature of the compost pile is at least 32°C or 90° F for a minimum of 3 days.

- Do not spread used untreated litter within at least 1 km of a poultry barn. Avoid spreading on very windy days.
- Have an effective **insect** (e.g. darkling beetle) and **rodent control program** as vermin can be vectors of pathogens, act as reservoirs and can transmit pathogens to subsequent flocks.

Additional information on biosecurity, composting, and darkling beetle control is available at:

- <http://www.omafra.gov.on.ca/english/livestock/poultry/facts/16-047.htm>
- <http://www.omafra.gov.on.ca/english/engineer/facts/09-017.htm>
- <http://www.omafra.gov.on.ca/english/livestock/poultry/facts/16-053.htm>



Poultry Veterinarian Survey Highlights

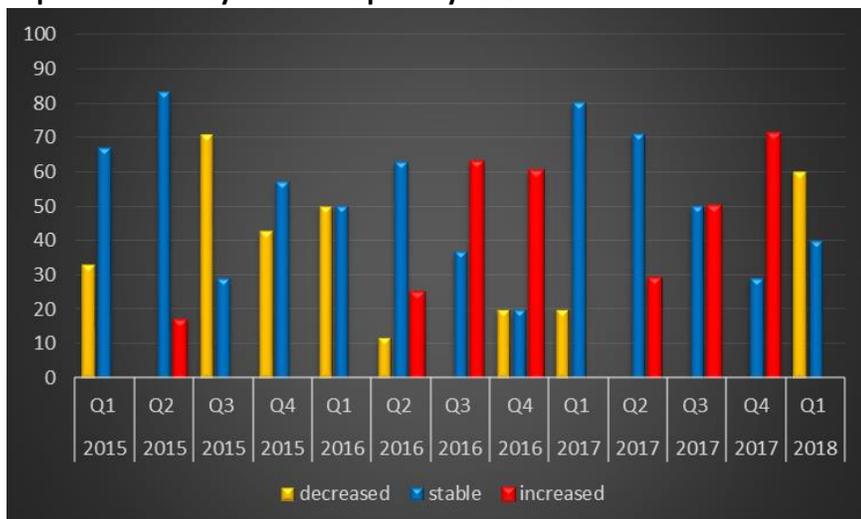
Broilers

Reovirus Update

A decrease in the number of reovirus cases was reported by poultry veterinarians between November 2017 and January 2018 (**Fig D**). The clinical signs reported in this quarter are less severe than previously experienced with variant D virus strains.

In 2017, there was a shift in the genetic composition of the variant reovirus strains. New reovirus strains show low similarity to vaccine virus strains and historical avian reoviruses. In 2017, variant D emerged as the most prevalent strain. The variant D virus strain is highly virulent and can spread through the infected flocks quickly, causing severe clinical signs. For suggested biosecurity measures to prevent disease incursion and spread, refer to: Biosecurity recommendations for Ontario poultry farms (page 3).

Fig D) Trend of reoviral associated lameness in broilers between January 2015 and January 2018 based on the clinical impression survey of Ontario poultry veterinarians ^{a)}



- **Inclusion body hepatitis (IBH)** cases have significantly increased this quarter. Mortality of affected flocks ranged from 10 to 20 %. For some affected flocks, it is known that affected birds were from different breeder flocks, and infections were not repeated in subsequent flocks. All Ontario broiler breeder flocks are vaccinated for IBH. The increased expression in severity of signs could be related to Vit E conservation and repair functionality of the liver.
- **Lameness of viral origin** caused by reovirus has greatly decreased compared to the previous quarter (Q4 2017), but still more than "normal". Reovirus cases are primarily seen in barns with previous history. The decision has been made to commence autogenous reovirus variant D strain vaccination of the Ontario broiler breeder flocks, and it is anticipated that the first broiler chicks from these flocks will be placed on Ontario farms in the fall. Refer to Reovirus Update above for further details.
- The number of **IBV** infections remained stable for this quarter. A number of flocks were serologically positive. Clinical signs (respiratory signs and stalling out) were less severe than last year.
- **Late systemic bacterial infections** (>14 d old) and **early systemic bacterial infections** (<14 d old) with *E. coli* involvement remained stable. Normal seasonal increase in November and December, and a few more cases in January have been observed, which may be related to occasional severe weather, insufficient ventilation, and high humidity in barns during the winter.
- **Lameness of bacterial** origin including Femoral Head Necrosis with *Enterococcus cecorum* and *E. coli* involvement continues to be reported.
- Intestinal conditions including **coccidiosis** and **necrotic enteritis** were reported in flocks raised without antimicrobials.
- Some flocks repeatedly had elevated titers to **infectious bursal disease virus (IBDV)** indicative of wild virus challenge. Disinfection and vaccination are useful strategies.
- A couple of cases of spiking mortality were reported.
- Condemnation issues remained stable for this quarter; cellulitis, and late IBV / IBDV challenges are the main causes.

Broiler-Breeders

- An increase in **early bacterial infection (<14 d old)** cases, primarily in males, has been reported this quarter. Most commonly, *E. coli* was isolated, and the most frequent diagnoses were yolk sac infections and peritonitis.
- **IBV** infections in broiler breeders were stable. Clinical signs of affected birds are not as severe as in previous quarters, even in flocks where IBV DMV strain has been identified.
- A few cases of early mortality due to dehydration/starve out have been reported, which is expected in the winter.
- **Bacterial, viral, and developmental lameness** cases remained stable. **Bacterial lameness** cases were mostly reported from older birds. Pododermatitis was the most common diagnosis, which was caused primarily by an injury with secondary bacterial infection with *E. coli*, *Staphylococcus* and *Enterococcus cecorum*.
- **In-lay bacterial septicemia** has remained stable. Birds in peak lay or late lay were mostly affected. Peritonitis or bacterial peritonitis were the most common signs and primarily *E. coli* was isolated from the lesions.
- A few reports of **cecal coccidiosis** were noted, which were well controlled with early treatment. *Eimeria maxima* coccidial infection was also noted in the clinical impressions survey. In two flocks, post coccidial intestinal intussusceptions were reported.
- **Mycoplasma synoviae** infection was detected on a single farm.

- **Disease related hatchability issues were stable.** A few cases of **white chick syndrome (WCS)**, and one **IBV** California strain causing thin egg shells were associated with these issues. With the WCS infections, significant short-term hatch decreases, but no egg production decreases, were reported. This is considered to be a clean barn disease so we will continue to experience WCS as there is no commercial vaccine available.
- **Male aggression** decreased this quarter. Proper management and good sex ratios in barns decreased aggression. One case with cannibalism due to bright lights in a new barn was reported.
- One case of **mycotic pneumonia** caused by ***Aspergillus spp*** in a 4-week-old flock has been reported. Old straw as litter in combination with weeping knee wall due to poor insulation was the most probable cause of disease. Affected birds were isolated in the pen with the dampness issue despite shared airspace.

Layers

- Cases of **IBV infections** in mature laying flocks were stable in this quarter. When diagnosed, IBV had a minimal effect on production. Only one case of false layer/cystic oviduct was reported.
- **Infectious laryngotracheitis (ILT)** was diagnosed in 2 commercial layer flocks that were previously vaccinated. Vaccination failure or rolling reaction was suspected. A third flock, vaccinated with recombinant vaccine had peracute clinical presentation of ILT and were found to have laryngeal plugs. There was no effect on production.
- **Bacterial peritonitis/salpingitis** due to *E. coli* remained stable.
- Several flocks became **hysterical** around 10 weeks and resolved after sexual maturity began.

Turkeys

- **Early (<14 d old) and late systemic bacterial infections (>14 d old)** were stable. *E. coli* was the predominant bacterium in the late systemic bacterial infections.
- Two practitioners reported increased numbers of **erysipelas** cases including one case of **erysipelas** in 22 week - old turkeys. In one case, the pathological presentation was unusual in that there was not the typical marked splenomegaly but there was pneumonia. This is the second consecutive quarter reporting an increase in erysipelas infections.
- Increase in **ORT** cases was reported in this quarter. This condition in turkeys is not as uncommon as erysipelas.
- Two practitioners noted an increase in the prevalence of **coccidiosis** in turkey flocks and resistance to coccidiostats was suggested by one practitioner. Necrotic enteritis secondary to coccidiosis was also noted by a practitioner.
- Gangrenous dermatitis was indicated by one practitioner as a concern. This condition is caused by *Clostridium septicum* which exists in the environment as a spore, and effective disinfection between winter flocks is difficult as moisture and heat are both required.
- Blepharitis in mature turkeys was reported by one practitioner and was thought to be secondary to elevated environmental ammonia levels as the outside temperatures were very low at the time.
- **Salmonellosis** cases were stable for this quarter. The most common serovars isolated were: *S. Senftenberg*, *S. Schwarzengrund*, *S. Uganda*, *S. Heidelberg*, and *S. Munchen*.

We thank the following poultry veterinarians who completed the veterinary survey: Dr. Elizabeth Black, Dr. Peter Gazdzinski, Dr. Shahbaz Ul Haq, Dr. Kathleen Long, Dr. Rachel Ouckama, Dr. Mike Petrik, Dr. Cynthia Philippe, Dr. Joanne Rafuse, Dr. Fernando Salgado-Bierman, Dr. Ben Schlegel, Dr. Lloyd Weber, and Dr. Alex Weisz.

Updates

- The federal government made regulatory changes to address antimicrobial resistance. By December 2018, growth promotion claims will no longer be allowed on the labels of veterinary products containing antimicrobials that are important to human medicine, and veterinary prescription will be required for the purchase of antimicrobials that are important to human medicine. Antimicrobials in mixed feed will still be available at feed mills and will also require a veterinarian prescription. Antimicrobials listed in the MIB for mixed feed will be available at feed mills and will also require a veterinarian. Since November 13, 2017, no medically important antimicrobials have been authorized for importation for own use. Ionophore products and coccidiostats are NOT affected by this change. OMAFRA is proposing to make changes to Regulation 730 under the Livestock Medicines Act (LMA), including the removal of medically-important antimicrobials from the list of drugs available for sale from provincially licensed Livestock Medicines Outlets.
The Canadian Animal Health Institute developed a poster that lists all medically important antimicrobials requiring a veterinary prescription as of December 1, 2018. You can access it at: [https://www.cahi-icsa.ca/uploads/userfiles/files/CAHI_MIA_Poster_Feb27_2018_website%20ENG\(2\).pdf](https://www.cahi-icsa.ca/uploads/userfiles/files/CAHI_MIA_Poster_Feb27_2018_website%20ENG(2).pdf)
- Upcoming Poultry Industry Council events: April 4th – 5th, 2018 - **National Poultry Show**; London, Ontario May 2nd, 2018 - **Research Day**, Stratford, Ontario.
- 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:

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