



## Ontario Animal Health Network (OAHN) Poultry Expert Network

### Special Report on Infectious Bronchitis Virus (IBV)

December 2016

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*This information is a professional communication for poultry stakeholders. The information was obtained by collating input from practicing poultry veterinarians and laboratory data from the Animal Health Laboratory, with input from poultry specialists. The OAHN aims to advance and protect poultry health in Ontario.*

#### What is IBV?

IBV is a coronavirus that affects broilers, broiler breeders, and egg-laying chickens. There is more than one IBV strain and multiple strains commonly co-circulate in one geographic region. The severity of disease and the body systems involved are influenced by the strain of the virus; the age, immune status, and diet of the chickens. Cold stress exacerbates the severity of clinical signs. Coronaviruses generally survive and thrive better in cold weather, so they are more commonly seen in the winter in Canada.

#### How is IBV spread?

IBV is shed by infected chickens in respiratory discharges and feces, and it can be spread by aerosol, ingestion of contaminated feed and water, and contact with contaminated equipment or clothing. Infectious bronchitis virus cannot be transmitted via eggs. IBV only affects poultry, and it is not a food safety concern.

#### New strains of IBV in Ontario, increased cases of IBV

There have been increasing reports of IBV cases in this last month from **layer, broiler, and broiler breeder** sectors. New strains have also been identified (see below on genotyping). The new strain(s) are showing up differently from previous reports: there appears to be a cluster in western Ontario in a short time frame.

##### Recently infected flocks show:

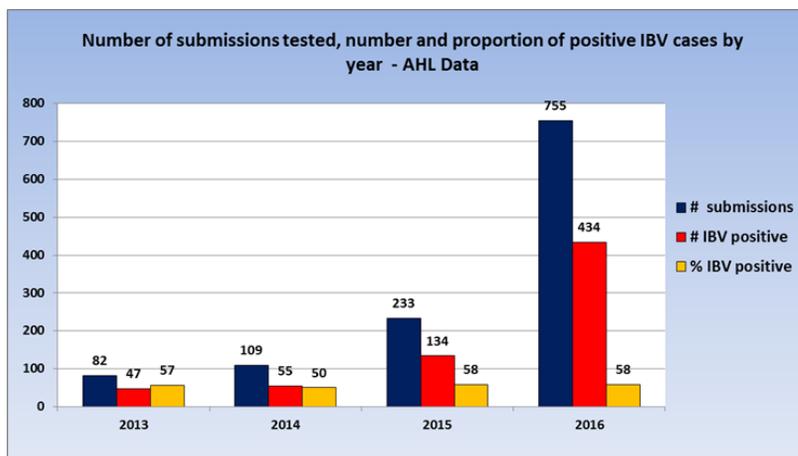
- Very wet litter
- In hens: a small increase in mortality for short length of time (for ~1 week)
- Decrease in egg production that is short lived (~ 1 week)
- In broilers: very high bronchitis titers noted at slaughter, and inconsistent reports of production target effects or mortality

##### Traditional signs of IBV :

- Chicks may cough, sneeze for 10–14 days.
- Chicks may appear depressed and huddle under heat lamps.
- Feed consumption and weight gain are reduced.
- Infection with strains affecting the kidneys can cause depression, ruffled feathers, wet droppings, greater water intake, and death.
- In layers, egg production may drop by as much as 70%. Mortality could reach 5%, although mortality rates are higher when there are other infections at the same time.

\*\*Note: wet litter may be an issue for shipping in this cold weather.

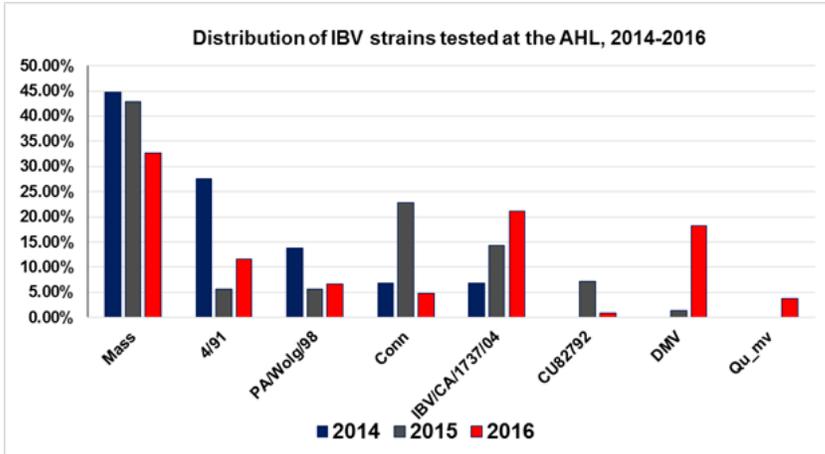
#### What do we know about the IBV strains circulating in Ontario?



In 2016, there have been more poultry submissions to the AHL for IBV testing than in previous years. Testing shows that across all poultry types, we have had more positive cases in 2016 and 2015 than in 2013 and 2014, however the annual percentage of positive cases remains fairly stable.

Break down by commodity (below) shows that there have been more submissions and positive IBV cases in broilers and broiler breeders than in any other commodity so far in 2016.

Poultry Type	2016			2015			2014			2013		
	# IBV Positive	# samples	% IBV Positive	# IBV Positive	# samples	% IBV Positive	# IBV Positive	# samples	% IBV Positive	# IBV Positive	# samples	% IBV Positive
Chicken, broiler	80	106	75	56	103	54	33	57	58	18	39	46
Chicken, broiler-breeder	59	87	68	44	59	75	16	31	52	18	22	82
Chicken, layer & layer breeder	37	59	63	17	33	52	4	11	36	7	12	58



In 2016, the proportion of strains (genotypes) of IBV have changed, and at least 1 new distinct strain has been identified.

**In the past 6-8 weeks, DMV (Delmarva) strain has been the predominant strain.** The distribution of the strains found is to the left. We have also learned that flocks can be infected with more than 1 strain.

### What is being done to look at this disease further?

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 Genotyping: As a result of veterinary practitioner responses and concern, many practitioners are requesting genotyping on samples that are positive for IBV. Speak to your flock veterinarian about whether to genotype positive samples on your farm. Note: there is an additional cost to perform genotyping. Turnaround time on genotyping is typically 7-14 days after the virus has been identified on PCR testing.
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 On a quarterly basis, anonymized counts of number of positives and strain types are being reviewed at OAHN meetings and will be released in OAHN producer reports each quarter. If a new threat to Ontario flocks is identified, a report will be issued sooner, as has this one.  
 SIGN UP TO RECEIVE OAHN REPORTS HERE: <http://oahn.ca/newsletter/>  
 OAHN also maintains a small flock veterinary listserv and call, and this information is circulated with this group also.
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 The Animal Health Laboratory, OAHN, private veterinarians in Ontario, OMAFRA, and the Ontario Association of Poultry Veterinarians are working closely to track the strains and geographical distribution of this disease.

### How can I protect my flock?

 Maintain biosecurity, review your biosecurity plan with your veterinarian, and ensure your suppliers and visitors know your farm's plan. Talk to your veterinarian about the strains found in your flocks to determine best health management measures. Infectious bronchitis virus is fragile, easy to kill if exposed to warmer temperatures or disinfectants, but it will survive longer if protected in organic material.

### Helpful resources

- Biosecurity poster: <http://oahn.ca/?s=poultry+biosecurity&x=0&y=0>
- OMAFRA resources: <http://www.omafra.gov.on.ca/english/livestock/poultry/health.html>
- OAHN producer reports: <http://oahn.ca/networks/poultry/>

**What should I do if I see clinical signs in my flock?** Call your veterinarian for clinical advice, and confirmatory testing.