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# Bronchitis update

## 2018 Egg & Pullet Farmers' Workshop

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# Key messages to Egg & Pullet Farmers

- **Maintain biosecurity**
  - Bronchitis virus evolves
  - Variant Bronchitis virus are actively circulating all over Ontario
- **Continue Day 1 Bronchitis vaccination** to induce active bronchitis immunity early
  - Early IBV infection before 2-3 weeks appears to be major risk factor for developing cystic oviducts

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# How Do Variant IBVs Emerge?

- Novel introductions
  - Can be legal or illegal, field virus or vaccine
- Recombination is a real phenomenon with IBV, BUT it is not how problem variants have emerged (so far)
- **Most all variants emerge from genetic drift**

Courtesy of Brian J. Jordan, U of Georgia, 2018

# Control of IBV is Vaccine Dependent

- Live-attenuated vaccines are the backbone of IBV control
- The sooner we can expose the bird, the more effective the protection will be

Courtesy of Brian J. Jordan, U of Georgia, 2018

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# Long Term Control of Variants

It all depends on replication….

- If we use a vaccine that masks clinical presentation but still allows the virus to replicate and transmit, selection and drift will occur
- If we use vaccines that will reduce the replication rate to the point where transmission does not occur, the variant virus will die out
- Displacement also plays a role in this scenario…as long as the displacing virus is stable

Courtesy of Brian J. Jordan, U of Georgia, 2018

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# Strategy of Cross-Protection

- Protection from IBV is serotype specific
  - No one IBV serotype vaccine can protect against another
  - You can have reduction in clinical signs, but not necessarily a reduction in viral replication. This will “hide” the presence of the virus

- Selection of vaccine(s)
  - to provide a broader level of protection reducing both lesions and transmission
  - To displace field virus with a stable virus

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# Canadian Novel Variant (formerly called DMV)

- New cases are stable (no increase) and most common report is higher titers with little to no respiratory signs/lesions

- Rare cases of cystic oviduct in both QC and ON in 2018
  - Ontario 2017, 24 cases
  - Ontario 2018, 1-2 cases ? … Low 90s peak

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# Bronchitis (IBV "DMV" serotype) prevalence and risk factors - Quebec 2018 – Eric Parent, AVIA meeting, October 2018

## PREVALENCE

- Sampled 52 commercial layer farms March-June 2018
- 18.9% of sites positive
- Distributed in 3 / 12 MRC

## RISK FACTORS

- Infection before 3 weeks of age
- Absence of maternal immunity
- High bird density region

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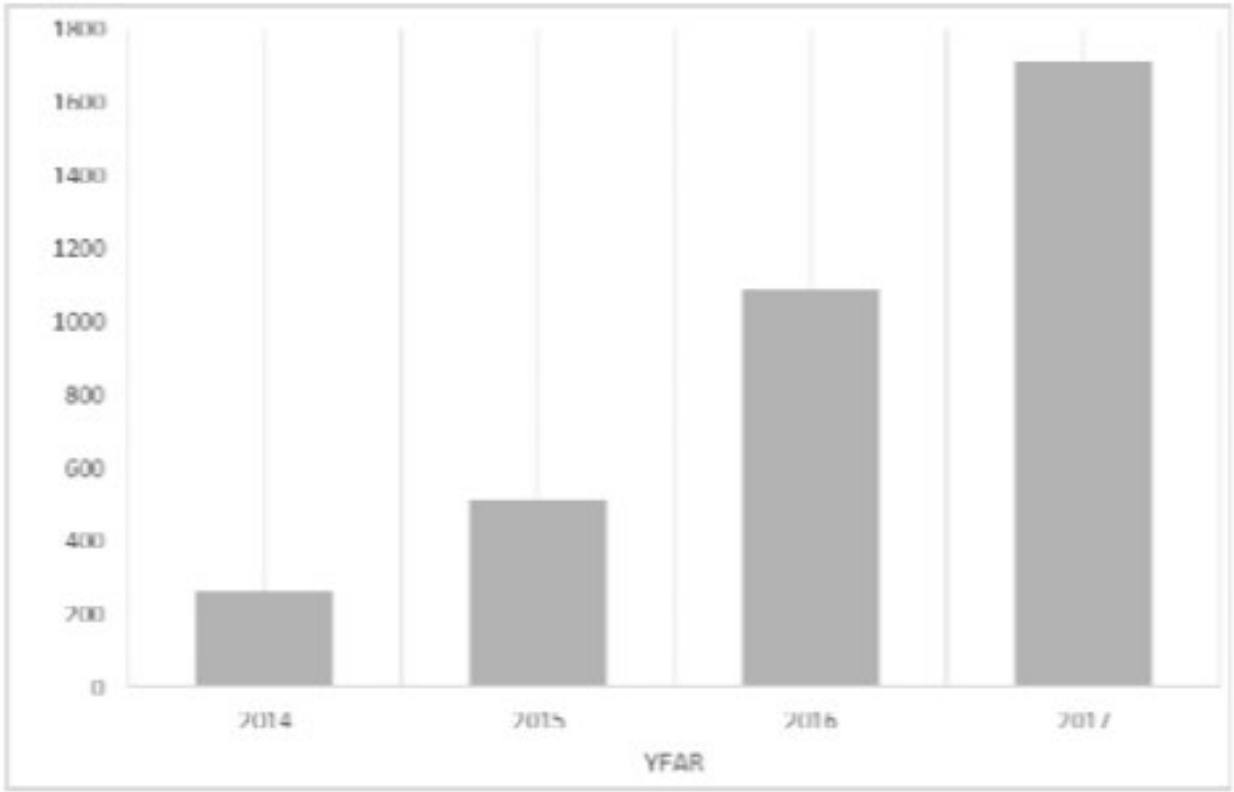
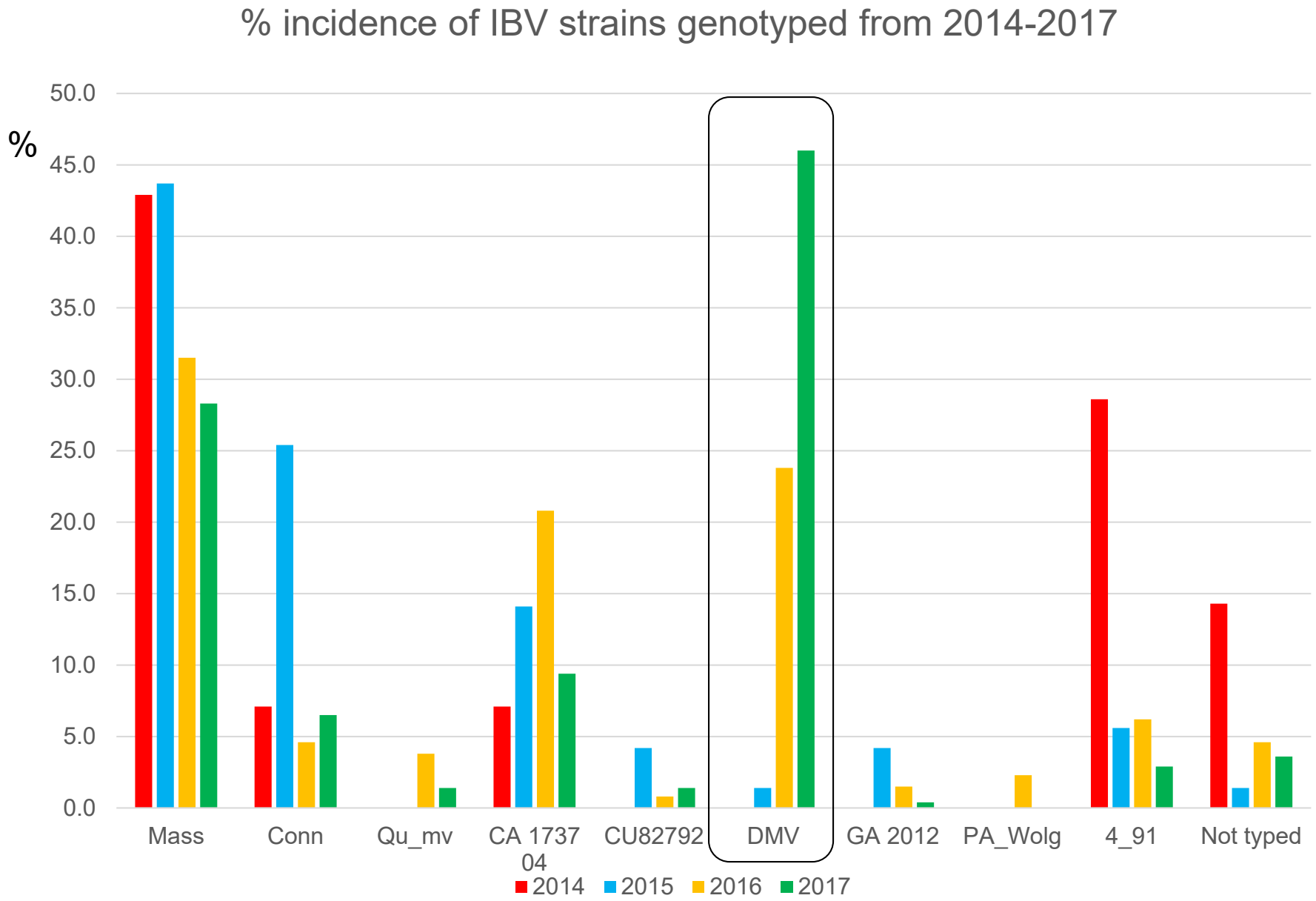
**Figure 1.** Number of samples submitted for testing for IBV by PCR from 2014-2017.




March 2018 AHL update report

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# Next steps

- Study planned in 2019 with Dr. Brian Jordan to validate hypothesis that early infection with Canadian bronchitis isolates induces cystic oviduct (false layer syndrome).

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