

## **Economic impact of infectious bronchitis virus on Canadian poultry industry**

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**Introduction:** Infectious bronchitis is a common, highly contagious, acute, and economically important viral disease of chickens caused by infectious bronchitis virus (IBV), a gammacoronavirus. It affects the respiratory system, reproductive organs, and kidney. Mortality can reach 30% while egg production drops by up to 50% or more. Emerging IBV variants have led to outbreaks in vaccinated flocks due to lack of cross-protective immunity, which represents a concern for producers. We could not find a study of economic impact of IBV on the Canadian poultry industry.

**Objectives:** Vaccination to prevent IB in poultry layers has net positive economic benefits for Canadian poultry producers.

**Materials and methods:** A classical benefit-cost analysis approach was applied. We examined economic impact of IBV using three revenue classes of layer poultry producers under a range of IBV infection scenarios while considering possible control and response options. Initial analysis used secondary data (Agriculture and Agri-Food Canada); model relevance will be improved with primary data from a questionnaire that will be circulated with the Canadian layer poultry producers.

**Results/Discussion:** Preliminary results indicate high benefit-cost ratios (1.5-5.0) from adopting IBV vaccines, suggesting use of vaccines as a preventive strategy would be highly cost effective.

### **Conclusion**

The study will clarify the value of vaccinating as a preventive and/or response strategy as well as part of a long-term biosecurity programme reducing potential losses from IBV.

Understanding better the risk of economic losses will inform the development of timely and cost-effective disease control and preventive measures. The results can be used in formulation of mitigation strategies with a view of minimizing the impact of IBV on egg and chicken production and fertility.