

Virulence assessment of chicken astrovirus (CAstV) isolated from outbreaks of White Chicken Syndrome (WCS) in Western Canada

Victor A. Palomino-Tapia¹, Darko Mitevski², Tom Inglis³, Frank van der Meer¹,
Mohamed Faizal Abdul-Careem^{1*}

¹Department of Ecosystem and Public Health, Faculty of Veterinary Medicine, University of Calgary, Calgary, AB T2N4N1, Canada

²Poultry Health Services, Airdrie, AB T4A2G8, Canada

³The Institute of Applied Poultry Technologies, Airdrie, AB T4A2G1, Canada

In the last 5 years, chicken astrovirus (CAstV), the causative agent of a condition known as White Chicken Syndrome (WCS), has emerged as an economically important disease across Western Canada. CAstVs were isolated from liver and intestinal samples of affected chicks and embryos following inoculation of samples in chicken embryo liver cells (CEL).

To evaluate the virulence of a CAstV clinical isolate, two ages of embryonated eggs, namely 14 & 18 days of embryonation (DOE) were infected by the *in ovo* route at three different titers $10^{1.0}$, $10^{2.0}$, $10^{3.0}$ TCID₅₀ per embryo. At 14 DOE, the site of deposition would be the yolk sac, while at 18 DOE, it would be embryo/amniotic sac. Once hatched, the birds were placed on floor pens and monitored daily for clinical signs for a 7-day observation period. Cloacal swabs were obtained at day of age from all birds (including unhatched embryos), and at 7 days of age. The samples of liver, gut, and kidneys were collected for quantitative polymerase reaction (qPCR) and histopathology. Results will be discussed in detail at the conference.