Real World Evidence: Economic Assessment of the Impact of Q1-like Infectious Bronchitis Variant in a Broiler Productive Zone in Peru

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Infectious Bronchitis Virus (IBV) is known to cause mild to severe respiratory signs in poultry. In Peru, IBV has been present since the late 1960s, and IBV variants were detected in 2009 in poultry farms with severe respiratory and renal lesions. Previous epidemiological studies have shown the presence of a diversity of variants in the Peruvian territory, with the Q1-like being the predominant one. In Peru, vaccination against IBV is performed in 100% of hatched broilers. However, the only approved serotype is Massachusetts, which confers limited protection against the real Peruvian IBV field challenge. Birds vaccinated with Mass-type vaccines that experience field challenges with variant strains of IBV may present a variety of clinical signs or develop a subclinical infection. This subclinical infection underestimates the real impact of IBV in the poultry industry because in these challenged flocks (that generally express lower performance), IBV usually stays undetected. Finally impacting the economic benefit of the company. Therefore, the objective of this study was to monitor IBV in a poultry production zone during a specific period and to compare the performance of challenged vs. non-challenged flocks to determine the economic impact of IBV variants in Peru. The monitoring of sanitary conditions was performed with serology at slaughter age, qRT-PCR of cloacal swabs at 35 days of age, and sequencing of positive samples. For the statistical data analysis and data visualization, the Python programming language coupled with Numpy/Scipy modules was used. The “Ceva Economical Calculator” software was used to the assessment of the overall economic impact. Our results show that IBV variants economically impact broilers production in Peru.