

The Impact of Infectious Coryza on Poultry Health and Production: A Comprehensive Review

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DESCRIPTION

Infectious coryza, a highly contagious bacterial disease affecting chickens, presents a significant challenge to the poultry industry worldwide. Characterized by acute respiratory distress, facial swelling, and nasal discharge, this malady is caused by *Avibacterium paragallinarum*, a Gram-negative bacterium. Infectious coryza not only undermines poultry health and welfare but also imposes economic burdens on producers through decreased productivity and increased veterinary expenditures. Understanding the etiology, clinical presentation, and preventive measures against infectious coryza is most important for safeguarding poultry populations and maintaining industry sustainability.

Etiology

Infectious coryza is caused by *Avibacterium paragallinarum*, a bacterium belonging to the *Pasteurellaceae* family. This bacterium thrives in the upper respiratory tract of chickens, where it elicits pathological changes, disrupts mucosal integrity, and instigates clinical disease. *Avibacterium paragallinarum* is transmitted through direct contact between infected and susceptible birds, as well as through fomites and aerosols. Factors such as overcrowding, poor ventilation, and stress predispose chickens to infection, exacerbating disease dissemination within flocks.

Clinical manifestations

The clinical manifestations of infectious coryza are characterized by a constellation of respiratory and systemic signs, each contributing to the disease's diagnostic complexity. Affected birds exhibit acute respiratory distress, manifested by dyspnea, gasping, and rattling sounds. Facial swelling, particularly around the infraorbital sinuses and wattles, is a hallmark feature of the disease, often accompanied by conjunctivitis and mucopurulent nasal discharge. Depression, anorexia, and decreased egg production further underscore the systemic impact of infectious coryza on poultry health and productivity.

Economic implications

Infectious coryza exacts significant economic tolls on poultry producers, compromising flock performance, and profitability. Respiratory distress and decreased respiratory efficiency undermine feed conversion rates, impairing growth trajectories and exacerbating production inefficiencies. Furthermore, morbidity and mortality rates escalate in affected flocks, necessitating increased veterinary expenditures and treatment costs. Diminished egg production, coupled with inferior eggshell quality and increased embryonic mortality, further exacerbates the economic losses associated with infectious coryza. Collectively, these factors underscore the imperative for proactive disease management strategies to mitigate its impact on poultry enterprises.

Preventive measures

Effective management of infectious coryza hinges on the implementation of comprehensive preventive measures aimed at interrupting disease transmission and strengthening flock immunity. Rigorous biosecurity protocols constitute the cornerstone of disease control, encompassing measures to prevent pathogen ingress and dissemination. Enhanced sanitation practices, including regular cleaning and disinfection of housing facilities and equipment, mitigate environmental contamination and pathogen persistence. Moreover, strict quarantine procedures for incoming birds, coupled with stringent testing regimens, safeguard against the introduction of *Avibacterium paragallinarum* into poultry flocks. Vaccination against prevalent serotypes of *Avibacterium paragallinarum* confers protective immunity, bolstering flock resilience and mitigating disease incidence.

Treatment

The treatment of infectious coryza primarily entails antimicrobial therapy targeting susceptible strains of *Avibacterium paragallinarum*. However, indiscriminate antimicrobial usage fosters the emergence of antimicrobial-resistant variants, exacerbating therapeutic challenges and compromising treatment efficacy. Judicious antimicrobial selection, guided by susceptibility testing and

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epidemiological considerations, is imperative to mitigate antimicrobial resistance and preserve therapeutic options. Concurrent supportive care, including fluid therapy, nutritional supplementation, and environmental optimization, alleviates clinical signs and enhances recovery outcomes. Furthermore, timely intervention and proactive disease surveillance are essential to curtail disease dissemination and minimize its impact on poultry populations.

Infectious coryza emerges as a formidable threat to poultry health, welfare, and productivity, necessitating concerted efforts to mitigate its impact on poultry enterprises. By encouraging

collaboration between industry stakeholders, veterinary professionals, and regulatory authorities, proactive disease management strategies can be devised to combat this insidious pathogen. Embracing a multifaceted approach encompassing stringent biosecurity measures, vaccination, and judicious antimicrobial stewardship is indispensable in safeguarding poultry health and industry sustainability. Through collective vigilance and concerted action, the poultry industry can fortify its defenses against infectious coryza, ensuring the resilience and productivity of poultry populations worldwide.