Worthwhile Operational Guidelines & Suggestions

LEG LESIONS/TRIMS DUE TO VIRAL ARTHRITIS

Processors often complain about excessive leg lesions/trims due to the enlargement and inflammation (thickened, discolored/hemorrhagic joints) of the hock joints in broiler chickens. Often, these lesions can be attributed to handling damage or mycotoxicosis (see WOGS, November 2006). However, many of the joint lesions in recent years have been characterized as infectious tenosynovitis or viral arthritis (VA).

Symptoms range from excess synovial fluid (cloudy if bacteria or mycoplasmas are also involved), to petechial hemorrhages on synovial membranes, to erosions on articular cartilage, to adhesion between the tendons, fibrosis, and finally to rupture of the gastrocnemius tendon.

In many instances, flocks exhibit birds with early onset splayed legs, poor growth and uniformity, and accompanying myocarditis. Avian reoviruses are considered ubiquitous in commercial poultry operations. Therefore, their frequent isolation from various tissues does not indicate a cause/effect relationship in the etiology of a problem. Clinical outbreaks can occur when virulent reoviruses infect unprotected flocks (breeders and broilers). However, the preventative use of live and inactivated vaccines have been effective in dealing with more commonly observed low or none pathogenic strains. Reovirus immunization programs target pullets and cockerels to stimulate maternal immunity to be transferred to the broiler progeny, as chicks are most susceptible immediately after hatching.

Conventional reovirus vaccines are based on S1133 strain, which may not be as protective against more virulent strains. Autogenous vaccines may be necessary in those instances when the cross protection from vaccine strains is not adequate. In addition to VA, reoviruses have been at least co-associated with syndromes such as malabsorption, running and stunting, viral enteritis, immunosuppression, and hepatitis. VA must be differentiated from arthritis caused by M. synovia and S. aureus. Confirmation of viral arthritis diagnosis requires serological profiling and isolation of the virus.