



VIRAL DISEASES

Marek's Disease (Visceral Leukosis)

Marek's disease is characteristically a disease of young chickens but older birds can also be affected. In contrast to the lymphoid leukosis tumor response, Marek's disease may be observed in more diverse locations.

Marek's disease is caused by a virus belonging to the Herpes virus group. Much is known about the transmission of the virus; however, it appears that the virus is concentrated in the feather follicles and shed in the dander (sloughed skin and feather cells). The virus has a long survival time in dander since viable virus can be isolated from houses that have been depopulated for many months.

The usual mode of transmission is by aerosols containing infected dander and dust. Young birds are most susceptible to infection by Marek's disease; however, since the incubation period is short, clinical symptoms can appear much earlier than in the case with lymphoid leukosis.

Marek's disease may produce a variety of clinical responses, all lymphoid in character. These are acute visceral, neural, ocular, skin or combinations of the responses that can be seen.

Marek's of the visceral type is characterized by widespread involvement with lesions commonly seen in gonads, liver, spleen, kidney and occasionally heart, lungs and muscles. The disease is often acute, with apparently healthy birds dying very rapidly with massive internal tumors. The disease may appear in broiler-age birds but the most severe losses occur in replacement pullet flocks prior to onset of egg production.

The neural type of Marek's is typified by progressive paralysis of the wings, legs and neck. Loss of body weight, anemia, labored respiration and diarrhea are common symptom. If lesions are present, they are confined to the nerve trunks and plexes enervating the paralyzed extremities. Frequently no gross lesions can be observed.

Ocular (eye) leukosis or "gray-eye" is usually seen in early maturity. Morbidity and mortality are usually low but may approach twenty-five percent in some flocks. It is characterized by the spotty depigmentation or diffuse graying of the iris in the eye. The

pupil develops an irregular shape and fails to react to light. Emaciation diarrhea and death follow.

Skin leukosis produces the most severe losses in broilers. The losses result from high condemnations at the processing plant. Enlargement of the feather follicles due to accumulations of lymphocytes is the typical lesion. This is the most infective virus since it is produced in the regions of the feather follicles and is shed with the skin dander.

Acute Marek's disease can be extremely rapid in its course, producing mortality in apparently healthy birds. However, in some cases the lesions may regress and clinically affected birds may make complete recoveries.

Diagnosis is based upon flock history and disease manifestations. Accurate diagnosis may depend on results of laboratory procedures. As is the case with lymphoid leukosis, there is no treatment for Marek's disease.

A vaccine is available that is extremely effective (90% +) in the prevention of Marek's disease. It is administered to day-old chickens as a subcutaneous injection while the birds are in the hatchery. Use of the vaccine requires strict accordance with manufacturer's recommendations in a sterile environment.