Infectious Bursal Disease (IBD), also known as Gumboro disease, is an acute, contagious, viral infection that causes subclinical immunosuppression in susceptible chickens three weeks of age or younger and clinical disease in susceptible older birds. IBD, characterized by inflammation and atrophy of the bursa of Fabricius, hemorrhages in skeletal muscle and increased mortality, is one of the major causes of economic loss in young chickens due to immunosuppression, morbidity and mortality. IBD virus (IBDV) is in the genus Avibirnavirus, family Birnaviridae, and consists of two double-stranded RNA segments designated A and B. Since IBDV is endemic in the United States, vaccination is common practice for certain types of flocks.

A more virulent strain of IBDV, described in Asia, Africa, Europe and South America as “very virulent” IBDV (vvIBDV), was identified for the first time in North America in a commercial flock in northern California in December 2008. Since then, several other California backyard and commercial facilities have had flocks affected by the same strain and other unique (previously unseen) strains of IBDV. California was the first state to undertake a voluntary surveillance project to determine the geographical prevalence of vvIBDV in the state. Based on data from 500 separate laboratory submissions, representing approximately 1,500 birds from over 200 commercial and backyard facilities, these unique strains appear to be limited to a few north coast commercial flocks and several northern and central California hobby or specialty flocks. Genomic sequencing of targeted regions of segment A and segment B revealed three distinct types of IBDV. One type is genetically and pathologically consistent with vvIBDV; the other two types have only a segment A region consistent with vvIBDV.

Researchers and veterinarians from UC Davis, The Ohio State University, the United States Department of Agriculture, the California Department of Fish and Game and the California Department of Food and Agriculture (CDFA) formed a vvIBDV working...
group studying the molecular biology, ecology and epidemiology of the California strains of IBDV to better understand disease management.

In addition to the targeted genome sequencing results, notable observations include:

a. The field mortality of the three IBDV subtypes is higher in layers (5-30%) than in broilers (<1%).

b. IBDV vaccination appears to mitigate the 5-30% mortality rates that otherwise occur in layer operations; therefore vaccinating flocks that are geographically clustered with previously positive facilities may be beneficial. In an unprotected immature flock, vvIBDV could cause significant mortality and leave the survivors more susceptible to other diseases.

c. Composting of litter material does not appear to inactivate the virus since the virus has reappeared in a previously affected broiler facility doing in-house litter composting/windrowing between flocks.

d. Since IBDV is one of the more difficult viruses to eliminate from a facility, consistent biosecurity practices, vaccination, replacement flock management and rigorous cleaning and disinfection between flocks are essential for minimizing potential disease spread.

e. Wildlife do not appear to be a significant factor in the spread of the disease based on testing of wildlife and spatial and temporal clustering analyses.

While IBDV is endemic in the United States, vvIBDV and its subtypes pose a new and more difficult management threat to poultry health. Active surveillance is necessary to identify these new and emerging IBDV strains; continued surveillance in California and throughout the U.S. is encouraged.

**Veterinary Poultry Pre-purchase Recommendation**

If buying hatching eggs or chicks and raising chickens, always request the supplier to provide information on the breeding flock disease testing program, disease control measures and testing program results.

**Peer-reviewed articles on vvIBDV in California include:**

