NVAP Reference Guide: Exotic Newcastle Disease

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Animal Identification

END is a contagious and fatal disease affecting all species of birds. Previously known as velogenic viscerotropic Newcastle disease, END is one of the most infectious diseases of poultry in the world. The mortality in unvaccinated birds can reach 100 percent, and birds may die without any clinical signs of disease. Though recommended and widely used, vaccination does not fully protect against END and may obscure the disease, resulting in further spread.

Identifying Affected Birds

END affects the respiratory, digestive, and nervous systems. The incubation period ranges from 2 to 15 days. An infected bird may exhibit some or all of the following signs:

- Sneezing, gasping, nasal discharge, coughing;
- Greenish, watery diarrhea;
- Depression, muscular tremors, droopy wings, opisthotonus, circling, and complete paralysis;
- Partial to complete drop in egg production and thin-shelled eggs;

- Swelling of tissues around the eyes and in the neck;
- Sudden death; and
- Increased flock mortality.

Epidemiology

END is spread primarily through direct contact with droppings and nasal, ocular, or oral secretions of infected birds. The virus is present in high concentrations in body fluids and discharges and spreads rapidly through birds in confinement. The virus can be carried from one premises to another on contaminated shoes and clothing of service crews and visitors and their contaminated vehicles. END virus survives for several weeks in a warm and humid environment on feathers and in manure and other materials and can survive indefinitely in frozen material. It is rapidly destroyed by dehydration and ultraviolet rays. Smuggled psittacines, especially Amazon parrots from Latin America, pose great risks for introducing the virus into the United States. These parrots are asymptomatic carriers and can carry the virus for up to 400 days.

Biosecurity Measures on the Farm

Veterinarians should work with poultry producers to strengthen biosecurity practices. Established and enforced biosecurity protocols will help prevent introduction of END and other infectious agents. Recommend biosecurity measures include:

- Establishing an “all-in, all-out” flock-management policy;
- Protecting against exposure to wild birds or water or ground contaminated by wild birds;
- Closing bird areas to nonessential personnel or vehicles;
- Providing employees with clean clothing and disinfection facilities and directions for their use;
- Thoroughly cleaning and disinfecting equipment and vehicles (including tires and undercarriage) when entering or leaving the farm;
- Banning the borrowing or lending of equipment or vehicles;
- Banning visiting other poultry farms, exhibitions, fairs, and sales or swap meets (if visits must occur, direct workers to change footwear and clothing on their return); and

- Banning bringing birds in slaughter channels back to the farm.

Reporting Suspicious Diseases and Illegal Bird Movements

Veterinarians may receive information regarding illegal introductions of birds from countries at risk for END. All such incidents should immediately be reported to both the Assistant District Director (AD) and the State Animal Health Official. Once END has been introduced, the only way to eradicate it is through depopulation, cleaning and disinfection, and strict quarantine. Practitioners are encouraged to educate their poultry clientele and pet bird owners to report all signs of disease. If signs of disease resemble END or cannot be diagnosed, they should immediately be reported to the AD or State animal health official.

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