

Avian Flu in Maryland Game Bird Farm

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In November 1993, 3 subtypes of avian influenza (AI) virus were isolated from pheasants and waterfowl on a large game bird farm in Centreville, Maryland. Infection was detected when the owner began losing about 100 pheasants per day. Virus isolates from these birds were identified as AI virus subtypes H5N2 and H11N2. The diagnosis triggered a prompt response from state and federal poultry health authorities because an H5N2 AI subtype was responsible for the large-scale 1983 outbreak in Pennsylvania and Virginia. The situation was of particular concern because Centreville is within the Delmarva Peninsula, which has a tremendous broiler industry.

The game bird farm was quarantined by the Maryland Department of Agriculture. As soon as H5N2 AI virus isolation was confirmed, arrangements were made to have all birds destroyed, including about 34,000 pheasants, quail, turkeys, ducks, geese, and swans. The owner was paid indemnity by the State and the local poultry association.

Inoculation of chickens with the game bird farm H5N2 isolate revealed that it was not pathogenic to chickens. Molecular analyses of the virus showed that it was similar to other non-pathogenic AI viruses isolated previously and different from the pathogenic strains of H5N2 AI viruses. Nevertheless, extensive research on H5N2 AI viruses has shown that even strains with low pathogenicity have the potential to become virulent by mutation or selection; therefore, Maryland had good reason to be cautious about this virus.

During depopulation, a third AI virus, subtype H3N2, was isolated from captive ducks on the premise, and there was serological evidence that this H3N2 virus also infected the pheasants. Waterfowl are well-known reservoirs for AI viruses, and non-pathogenic strains of H5N2 AI virus also have occurred sporadically in live poultry markets. The source of infection at the Centreville game bird farm cannot be determined. Nevertheless, the combined production of captive waterfowl and pen-raised upland game birds could lead to a greater risk of AI virus infections and is a management practice that should be avoided.