

Avian Influenza Prevention in Game Bird and Ratite Facilities

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Avian influenza, or bird flu, is a virus that infects wild birds and domestic poultry such as chickens, turkeys, ducks, and geese. Infection can decrease production or kill large numbers of birds. In 2014 an avian influenza outbreak in the Midwest resulted in the deaths of about 48 million birds at a cost of \$1.2 billion.

Avian influenza refers to infection with a specific type of avian influenza virus. Viruses of this type can be subdivided into two groups — low pathogenic avian influenza (LPAI) viruses and highly pathogenic avian influenza (HPAI) viruses — based on the ability of the virus to produce disease and the severity of the illness. Mild forms (LPAI) can persist and spread, largely undetected. Some strains mutate into HPAI viruses that spread rapidly and have a high death rate in birds.

The avian influenza virus occurs naturally in wild aquatic birds and is transmitted easily to other birds. The most recent avian influenza outbreak involving poultry flocks in Tennessee, Alabama, Kentucky, and Georgia originated from contact with migratory waterfowl that sometimes carry the virus to the United States during seasonal migrations.

Symptoms and Treatment

The most common sign of infection in birds is respiratory stress. Reduced feed and water consumption, diarrhea, decreased egg production, and discolored or misshapen eggs are other signs of the disease. No specific medications are available to treat avian influenza. Because of the large number of virus strains, vaccination plans have been difficult to implement within the poultry industry.

Game Bird and Ratite Exposure

Egg producers can use strict confinement procedures to prevent contact with infected poultry. Certain

practices necessary for production of game birds and ratites (ostriches, emus) make it difficult to keep stock away from potential carriers, increasing the risk of infection. For example, it is common for game birds to be placed in flight pens to condition them for release. Although they are typically screened enclosures, small birds and rodents can slip through to come in contact with the stock. Ratite producers increase exposure to the virus by giving animals access to open range. In this type of operation, it is nearly impossible to isolate stock from other avian species. Some game birds and ratites have already been infected.

Biosecurity Practices

Though it may be impractical to strictly confine all stock, you can limit the spread of disease with basic biosecurity practices. You should isolate stock from potential carriers, reduce the number of visitors, and clean and disinfect facilities often. Set up foot baths to sanitize footwear at the entrance to your facilities and change into boots worn only on the farm.

Other ways to prevent or limit the spread of the avian influenza virus in game bird and ratite facilities:

- Move or locate new facilities away from ponds and waterways used by migratory fowl such as ducks and geese. Do not allow these fowl to feed in or near your facilities. Do not walk around ponds or allow pets to enter the water where migrating waterfowl may congregate.
- Reduce the number of visitors to your farm as much as possible. When tours are necessary, permit access to only a few stock and keep these birds isolated. Provide visitor parking away from the rest of the farm.
- Repair holes or tears in flight pen screening to keep sparrows, starlings, and other such birds from entering.

- Game bird farms that sell hatching eggs or one-day-old chicks should maintain all breeders in confinement rather than allowing access to an outside range.
- Food provided to ratites in open pens is attractive to birds. Reduce feed spillage as much as possible. Dispose of old feed properly so other birds are not drawn to your facility.
- Open “birdhouses” used by ratite producers are a popular nesting place for small birds such as sparrows and starlings. Do not allow these birds to establish nesting areas in the huts or around nearby farm buildings.
- Separate birds by age if possible. Separate breeding stock from offspring. Daily, farm workers should visit the most valuable birds first, then move to the less valuable ones. Do not reverse the process during the day unless you bathe and change to clean clothing.
- Be a good neighbor. Stay away from other poultry, game bird and ratite farms.
- Post warning signs at all entrances to the farm property to indicate your concern about diseases. Keep all facilities locked when possible.
- Know the source of any new stock that you introduce to the farm. Quarantine new stock for at least four weeks. Do not accept birds from farms known to be infected by avian influenza. At this time, it is unwise to accept game birds or ratites that you suspect may have been through Mexico.
- Equipment that leaves the farm should be cleaned and disinfected before it returns.
- Practice good waste management. Avian influenza is spread through the feces of infected birds. Manure must be stored where people or vehicles do not come in contact with it. Carcasses should be disposed of properly by burial or incineration.
- Place foot baths containing disinfectant at the entrance to all rooms or pens.
- Discourage rodents and other animals from entering the premises by keeping debris away and maintaining baited poison stations.
- Game bird producers should not release infected stock for hunting preserves. Diseases can be transferred to local wildlife and reduce populations.
- Isolate sick birds from remaining stock.
- Maintain records of all transactions for tracking purposes in case of a disease outbreak.
- Submit sick or dying birds to a laboratory for diagnosis. Contact the Diagnostic Laboratory at the Kansas State University College of Veterinary Medicine, 785-532-5650 or 785-512-5650.