

Avian Flu and Captive Birds

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An outbreak of Avian Flu in the United States has great potential to cause the loss of valuable breeding stock and rare bloodlines of captive birds. This is not because Avian Flu will devastate captive bird facilities. It is because there is likely to be an overreaction to the presence of avian flu as a result of media hype and unwarranted public fear. The biggest threat to our captive birds during the Avian Flu scare will not come from the virus itself, but from government officials who are likely to react to its presence by calling for the euthanasia of every bird within a specified radius of any Avian Flu case in order to appear like they are doing something about a perceived human health threat.

Avian Flu can become a Human Flu with the proper genetic changes. This change is what epidemiologists are concerned about with the H5N1 flu virus. But what we don't often hear in media reports is that once the flu becomes a human flu, it is humans that will be spreading the virus not birds. It is very difficult to catch Avian Flu from birds because the virus is adapted to avian biology. Once the virus becomes adapted to human biology and gains the ability to be transmitted from human to human, birds will no longer be a factor in its spread. As long as the virus is an AVIAN flu, it will only infect humans on very rare occasions under extreme contact with infected bird body fluids.

Avian Flu exists in many strains and is endemic to wild waterfowl with local rates of up to 60% positive for some waterfowl, such as mallards, but nearly all other varieties of birds have a low rate of Avian Flu incidence. The presence of Avian Flu in wild bird populations does not mean that the birds are diseased. Because wild waterfowl commonly harbor these viruses they have developed resistance over many millennia. They rarely suffer illness from Avian Flu viruses. Instead, they act as the natural reservoir of Avian Flu viruses. Migrating waterfowl can spread the virus over vast distances. Although wild waterfowl regularly harbor avian flu, they do not come in close enough contact with humans or with most captive birds in this country to pose a serious threat to human or captive bird health.

Avian Flu does pose a serious threat to the poultry industry and it is one of the reasons for an effective biosecurity program on poultry ranches. Avian Flu in poultry can result in anything from decreased egg production to significant mortality. The disease was first described over 125 years ago and periodic outbreaks of avian flu in poultry have frequently occurred around the world, including the United States. Since 1997, for example, more than 16 outbreaks of H5 and H7 influenza have occurred in poultry within the United States. When Avian Flu is identified in poultry, the infected flock is quickly culled to prevent the virus from spreading to additional poultry facilities.

Most Avian Flu strains are not highly lethal, but Influenza viruses undergo frequent mutations that change the pathogenicity of the virus strains. There are two categories of pathogenicity; Highly Pathogenic Avian Influenza (HPAI) and Low Pathogenic Avian Influenza (LPAI). HPAI outbreaks can cause mortality in wild waterfowl and can also cause significant losses to domestic poultry. If poultry is infected with LPAI they will be culled to prevent the opportunity for the virus to mutate to HPAI.

Commercial poultry flocks are maintained in high density environments of genetically similar birds. When this is coupled with the close contact these birds have with fecal and other secretions, it allows for rapid viral transmission and dispersal through the flock. The lack of genetic variation in domestic poultry contributes to their susceptibility to disease and increases their mortality rate. If a virus can easily infect one chicken on a facility, it is likely to be able to infect the rest since their immune systems will be genetically very similar.

Exotic and native captive birds are kept under very different circumstances than domestic poultry. The density, or number of birds per square foot, is much lower. Non-poultry avian immune systems are also much more capable of fending off a viral infection. This does not mean that birds other than poultry are immune to the virus, but that they are less likely to suffer the losses that poultry will if exposed to avian flu. Proper biosecurity can easily prevent avian flu from infecting our birds.

Birds that are housed indoors are extremely unlikely to become exposed to the virus since they are not in contact with wild waterfowl. Outdoor captive bird facilities are not likely to become exposed provided biosecurity practices are in place and due to the fact that these birds do not leave their enclosures to commingle with wild waterfowl. Sunlight and fresh air also inhibit the ability of the virus to survive long enough to infect a new host.

All imported birds must go through USDA quarantine. During quarantine, the birds are tested for Avian Influenza, among other diseases. In the many years that testing has been performed on exotic birds in USDA quarantine, there has been only one isolation of Pathogenic Avian Influenza in an exotic bird (a Pekin Robin with H7N1), *ref: Dennis Senne et al. in Avian Diseases 40:425-37(1996)*. The isolated strain was not pathogenic to poultry or humans. Imported and domestic exotic birds have never been a source of HPAI infections in the United States. Exotic birds are not a significant public health risk for Avian Influenza.

There is a good chance that H5N1 Avian Flu could make it here to the United States via migrating waterfowl. The threat this poses to our birds must be kept in perspective. Avian Flu, of one variety or another, arrives every year in the United States via migrating waterfowl. We do not see Avian Flu infections of captive birds as a result. H5N1 is no more likely to infect our captive birds than any other strain of Avian Flu.

Proper biosecurity should always be in place to protect our birds from the various health threats that are omnipresent. The possibility of the arrival of H5N1 flu should serve as a reminder to practice proper biosecurity, but it should not be something to panic about.

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