

Notifiable diseases of gamebirds: Avian influenza and Newcastle disease

Notifiable diseases are those for which, by law, the authorities must be informed if present or even just suspected in your animals. These diseases are usually either a risk to human health and/or could or do have a large economic impact on the livestock or horse racing industries. There are 40 UK notifiable diseases, including rabies, bluetongue, BSE, bovine TB and foot and mouth disease, but only two affect birds - avian influenza (AI) and Newcastle disease (ND). These are both highly contagious diseases caused by viruses, both occur worldwide and affect many bird species, including gamebirds, poultry and wild birds. Both diseases could have a big impact on the UK's poultry industry, partly due to loss of birds and partly due to resulting trade bans.

AI is caused by a type-A influenza virus, of which there are many strains divided into two groups, low pathogenic (LPAI) and highly pathogenic avian influenza (HPAI). There are also many strains of the ND virus which vary greatly in their effects and, for both diseases, signs of infection in birds can range from none at all (asymptomatic) or only very mild disease to sudden severe disease causing high mortality, and sometimes even sudden high mortality with no prior signs of disease. Signs of the two diseases can be very similar – for both diseases, affected birds may have dullness and loss of appetite, gaping, coughing, sneezing, nasal discharge and diarrhoea. Laying birds may have reduced egg production or may produce thin-shelled or misshapen eggs. When severe both diseases can cause the head to swell. There can be signs of nervous system damage such as drooping wings, a twisted neck, circling, and paralysis that are typically more pronounced for ND than for AI. For both diseases, pheasants sometimes show less marked signs than do chickens.

The most recent outbreak of AI in the UK was of HPAI in laying hens near Banbury, Oxfordshire in June 2008, and several outbreaks of AI occurred in England, Scotland and Wales over the two years before that. The UK has been officially free of AI since November 2008. The most recent outbreaks of ND in the UK were both in gamebirds – in pheasants in Hampshire in July 2005 and in grey partridges in East Lothian in October 2006. The last outbreak of ND in chickens and turkeys in the UK was in 1997. Outbreaks of both diseases were confirmed in Northwest Europe in 2011 and there is a constant risk of either entering the UK via imported birds or wild birds.

Human infections by AI or ND are rare and typically occur only in people in direct contact with sick birds. Eating properly cooked poultry meat or eggs seems not to cause infection by either disease. For AI, symptoms in humans can range from conjunctivitis to influenza-like illness to severe pneumonia and death. During the 2007 outbreak of AI in Wales four people hospitalized with influenza-like illness were found to have LPAI. For ND, signs of infection are usually very mild, consisting of no more than conjunctivitis.

Spread of both diseases is by direct contact with respiratory discharges and especially droppings of infected birds, including wild birds. Both viruses can survive a few weeks in bird faeces or in environment, especially in warm and humid conditions, and can be spread by objects such as vehicles, shoes, clothing, equipment, feed or water that have been contaminated by infected birds.

Prevention can only be achieved by stopping your birds from becoming exposed to infected birds or their droppings – relatively easy in fully housed birds but less so in many gamebird husbandry scenarios. In practice, this means the best possible biosecurity, and quarantine of any imported birds for several weeks before they are placed with the rest of the flock. Routine preventative vaccination against AI is prohibited in the UK. Birds can be vaccinated against ND - the vaccine does not completely prevent infection but does reduce disease severity.

What will happen if your birds have AI or ND? If you think your birds may have either of these diseases you should immediately contact your local DEFRA AHVLA (Animal Health and Veterinary Laboratories Agency) office. Most likely, however, your veterinary surgeon would suspect one of these illnesses when investigating illness in your birds and would then contact the AHVLA. One of their Veterinary Officers would then be sent to investigate.

The Government's powers and the actions to be taken in the event of a notifiable disease outbreak are defined by EU Directives and UK legislation. In January 2012 DEFRA and the Welsh and Scottish Governments published the Notifiable Avian Disease Control Strategy detailing the measures that would be applied in the event of an outbreak. This can be downloaded from DEFRA's website. In summary, on suspicion of either disease, there will be restrictions on movement of birds, eggs, animals, people and vehicles to and from the premises and all birds on site must be housed or otherwise isolated until either the disease is eradicated or shown not to be present. If confirmed, the default position is that all birds on the premises would be culled and the premises will be cleaned and disinfected by AHVLA. A 3-km 'protection' and 10-km 'surveillance' zone will be declared around the premises, with restrictions on movement and increased biosecurity measures enforced within those zones. Birds on high-risk in-contact premises may also be slaughtered.

Obviously, an outbreak would be catastrophic for that year for an infected premises and possibly for surrounding premises, but these measures could also have a major effect on the game industry in the event of a widespread outbreak at the 'wrong' time of year. However, the control measures are designed with the 'bigger picture' in mind as both diseases could have drastic effects on the UK's poultry industry and DEFRA's control strategy aims to restore the UK's disease-free status as quickly as possible by eliminating the outbreak by compulsory slaughter of birds on infected premises and preventing spread of infection.

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