

Avian Influenza Spotlight:

Exploring AI

November 2022

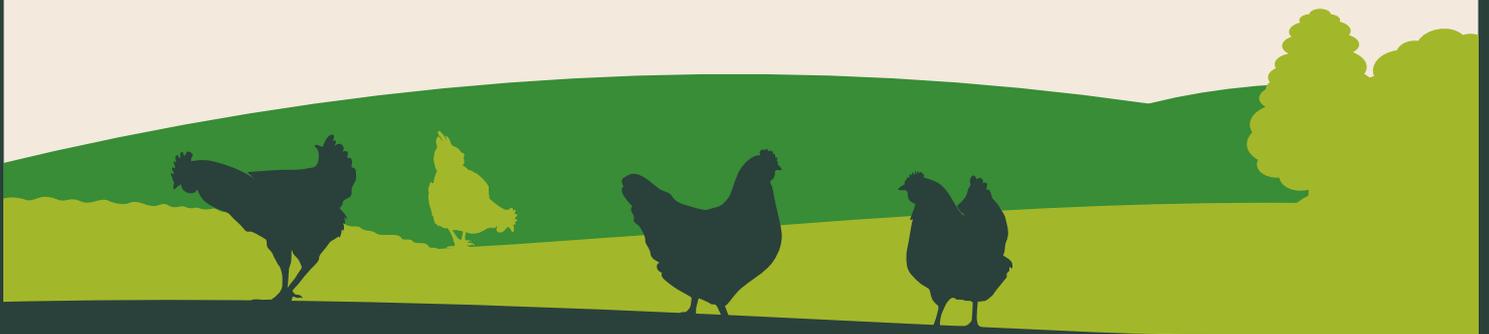


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Contents

What is avian influenza?	3
Avian influenza in the UK	4
Types of avian influenza	5
Signs of avian influenza	6
Virus survivability	8
What to do if avian influenza is suspected	9
Where did avian influenza come from?	11
How Livetec can help	12



What is avian influenza?

Avian influenza (AI), commonly known as 'bird flu' or 'avian flu', is a disease caused by infection with Influenza A viruses.

Avian influenza is highly contagious and often causes severe illness and death in infected individuals, with chickens known to have a mortality rate of between 90-100% once infected.

On rare occasions, the disease has also been known to infect humans and other mammals.



Avian influenza in the UK

Prior to 2020, the UK had only experienced sporadic outbreaks of avian influenza.

This changed last year, with the 2020/2021 season seeing four AI variants circulating in the country. Following control activities, surveillance work and cleansing and disinfection of all of the infected premises, the UK gained avian influenza free status on 3rd September 2021.

However, showing the resilience of the disease and its efficient mutation process, it has since reappeared on an even greater scale.

Since October 2021, bird keepers across the UK have been battling the biggest outbreak of HPAI ever recorded. The H5N1 strain has been sweeping through both the wild bird population and through a range of premises across the UK, since the start of the outbreak and up until October 2022, more than 200 cases have been confirmed.

In October 2022, H5N1 was detected at 88 premises and the wild bird population, which suffered millions of deaths due to the disease during 2020 to 2021, continues to be severely impacted.

On 31st October 2022, the Department for Environment, Food & Rural Affairs (DEFRA) and Animal and Plant Health Agency (APHA) announced that housing measures for all poultry and captive birds would once again be introduced to all areas of England from 00:01 on Monday 7 November.

The housing measures legally require all bird keepers to keep their birds indoors and to follow "stringent biosecurity measures" to help protect their flocks from the disease, regardless of type or size. More outbreaks were detected in England in the week between the announcement and the measures coming into force.



Types of avian influenza

There are different subtypes of influenza A viruses - 18 'H types' and 11 'N types'.

All these combinations of AI viruses differ in their ability to cause disease, and the way that they showcase infection. They are additionally classified on this ability as either Highly Pathogenic (HP) or Low Pathogenic (LP) avian influenza.

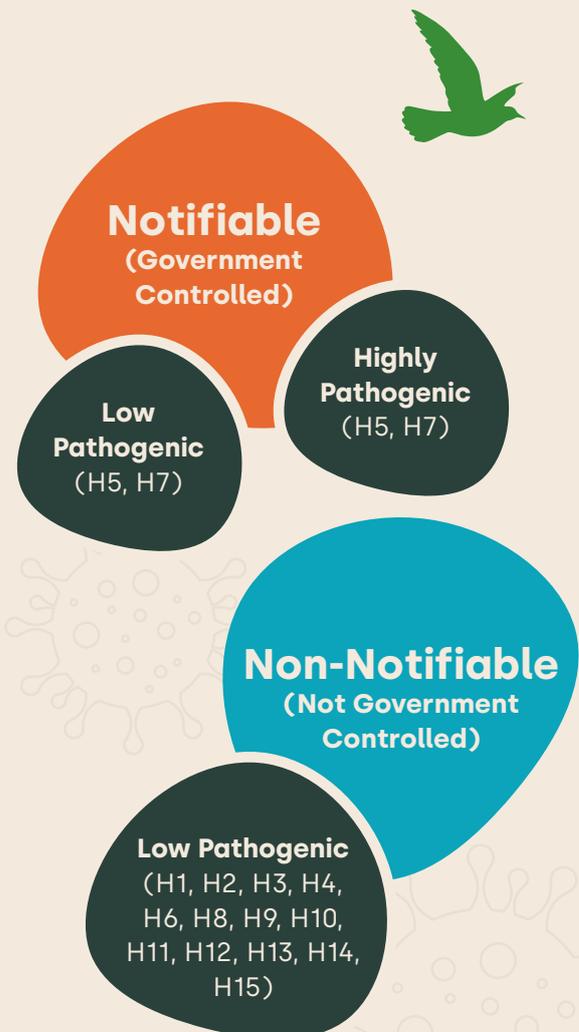
Whilst LPAI is typically less serious and a more mild disease, if left untreated it can mutate into HPAI, which can completely depopulate a premise within a matter of days, as there is no cure.

Highly pathogenic avian influenza (HPAI) is the more serious type, often fatal in birds.

Low pathogenic avian influenza (LPAI) is usually less serious: it can cause mild breathing problems but affected birds will not always show clear signs of infection.

Sometimes, LPAI is only spotted when an infected bird picks up a different illness due to a compromised immune system. Reports on previous outbreaks in the UK show that LPAI may have originated in outdoor flocks, with few clinical signs, but then mutated into HPAI when it infected indoor birds.

Where avian influenza falls into the notifiable disease category, legally should someone suspect the disease in poultry, captive or wild birds, they must immediately report it to the Department for Environment, Food and Rural Affairs (Defra).





Signs of avian influenza

Definitively identifying avian influenza can be challenging without lab confirmation, because not all species react the same way to infection.

Gallinaceous poultry, including turkeys, hens, chickens, and quail, are highly susceptible meaning severe clinical disease and death can develop rapidly within just a few days of infection. Whereas, domestic waterfowl, such as ducks and geese, may show minimal clinical signs.

The age of the infected bird will also influence whether obvious clinical signs are displayed. With older birds, the clinical signs may be so mild that they are not noticeable, while in younger birds, the infection can be more acute and therefore clinical signs more obvious.



When looking for key symptoms in individual birds, indicators of an avian influenza infection include:

- Sudden death
- Swollen head
- Closed and runny eyes
- Lethargy and depression
- Lying down and unresponsiveness
- Lack of coordination
- Head and body shaking
- Drooping of the wings
- Dragging of legs
- Twisting of the head and neck
- Swelling and blue discolouration of comb and wattles
- Haemorrhages and redness on shanks of the legs and under the skin of the neck
- Breathing difficulties such as gaping (mouth breathing), nasal snicking (coughing sound), sneezing, gurgling, or rattling
- Fever or a noticeable increase in body temperature
- Discoloured or loose watery droppings



When looking for signs of the disease across a flock, look out for:

- A slight increase then decrease in water consumption
- Lethargy developing across the flock
- Reduction in feed consumption
- Reduction in noise, sometimes known as "Cathedral Silence"
- Reduction in egg production (for layers and breeders)



Further complicating matters is the fact that each of these symptoms individually could also be attributable to other infections.

However, if avian influenza is present in the local area, or if Zones have been designated by the Animal and Plant Health Agency, the presence of one or more of these symptoms within a flock could indicate an AI infection. A designated vet should be called to conduct further investigations if you suspect this.

The incubation period for avian influenza in an individual bird is 1 to 3 days. However, across a flock it could take as long as three weeks for an infection to become apparent.

Calling in an Animal Health Specialist as soon as the first signs are spotted can help to curb infection as tests on faeces and respiratory secretions will confirm the presence of avian influenza within just a day or so of infection.



Virus survivability

As with most other viruses, the avian influenza can survive outside of its host for long enough to spread.

However, the length of survival of the virus particles is impacted by the environment within a poultry shed. Survivability can be affected by:

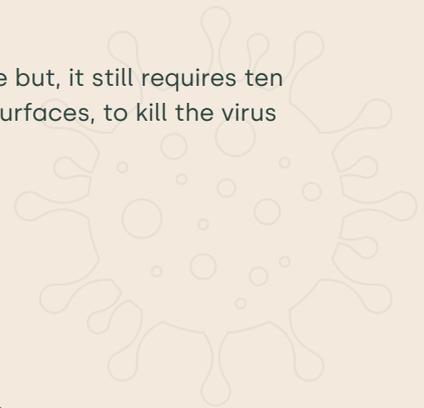


The virus that causes avian influenza is known to be capable of surviving at low temperatures for around three months, especially when temperatures are around 4°C and are coupled with standing water. At higher temperatures of around 20°C, the virus can survive for a much shorter period of around six weeks.

It is important to keep in mind that viruses mutate. Mutation changes how they behave and can also have a bearing on survivability times, too. 2020's H5N8 strain of the virus is shown to have survived 50% longer at 4°C than 2016's H5N8 strain.

The type of material the virus sits on is also a factor. Commonly present in poultry sheds, feathers and egg residue are favourable to the virus and allow it to reproduce.

Clean plastic and metal materials are not as supportive but, it still requires ten minutes of disinfection, even on those less favourable surfaces, to kill the virus and halt its spread.



What to do if avian influenza is suspected

Avian influenza in the most recent cases, have all been classed as a notifiable disease.

This means that confirmed or suspected cases must be reported immediately, which can be done by calling the Defra Rural Services Helpline on 03000 200 301 in the UK. In Wales, call 0300 303 8268. In Scotland, people should contact the local Field Services Office. Failure to report confirmed or suspected AI is a legal offence so this must be done as soon as possible.

All outbreaks of HPAI are controlled by the Government. While control for some LPAI strains may be left to the responsibility of the producer, they can mutate into HPAI so are often also dealt with by APHA.

If avian influenza is suspected amongst birds, more stringent biosecurity measures must be imposed as soon as possible to limit the spread of disease.

Measures include:

- Ensure that anyone leaving the farm thoroughly cleans and disinfects their footwear and changes their outer clothes
- Restricting visitor access
- Keeping clear records of all movement of animals, vehicles, and people on and off farm
- Contact tracing as quickly as possible
- Increased cleansing and disinfection measures
- Enhanced housing maintenance
- Minimise contact between poultry and wild birds
- Enact vermin control measures



Whether the case is suspected, or the premises is located in a Protection or Surveillance Zone, robust biosecurity protocols and elevated standards of biosecurity are essential to provide a line of defence against disease incursion and prevent any additional spread in the event of an outbreak.

The UK's Chief Veterinary Officer, Christine Middlemiss advises that **"Implementing scrupulous biosecurity has never been more critical. You must regularly clean and disinfect your footwear and clothes before entering enclosures, stop your birds mixing with any wild birds and only allow visitors that are strictly necessary. It is your actions that will help keep your birds safe."**



What happens to a premise located in a Controlled, Restricted, Protection or Surveillance Zone?

Where AI is suspected or confirmed, APHA will impose a:

- **Controlled Zone:** Avian influenza has been confirmed
- **Restricted Zone:** A 1km zone imposed around a confirmed case of LPAI
- **Protection Zone:** A 3km zone imposed around a confirmed case of HPAI
- **Surveillance Zone:** A 10km zone imposed around a confirmed case of HPAI
- **Minimise contact between poultry and wild birds**
- **Enact vermin control measures**



In all of these Zones, a higher level of biosecurity is a requirement. Those in a Protection Zone must keep visitor records and may be required to keep their birds inside. Those in a Surveillance Zone must monitor their flocks closely for signs of avian influenza.

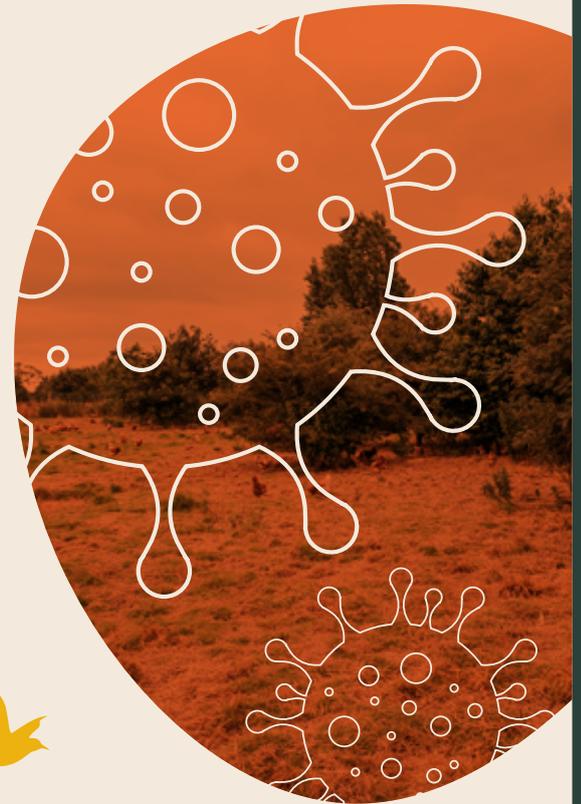
Stopping any further spread also relies on those affected to quickly provide visitor records including movements on and off farm, so the individuals involved in managing the outbreak can see where the disease could have also spread to.

Regardless of the zone, imposing stricter biosecurity measures is highly recommended to safeguard flocks from the threat of disease.



Where did avian influenza come from?

The first documented cases of AI date back to 1878 in Northern Italy, when it was described as a contagious disease with a high mortality rate in poultry - although at the time it was referred to as 'fowl plague' or 'fowl cholera'.

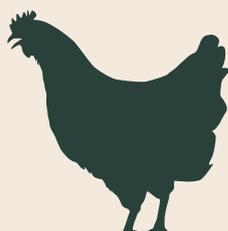


In 1955, it was finally identified as a disease caused by a type A influenza virus. In the 36 years between 1959 and 1995, a total of 15 HPAI outbreaks were recorded in poultry, with mild losses.

Through the 1990s, however, large commercial poultry farms had become more widespread across the world - with a 23% rise in developed countries and a 76% in developing countries.

This increase, with huge numbers of birds now living in close proximity to each other, would have a lasting impact on the outbreaks of bird flu around the globe: in just 12 years (between 1996 and 2008), 11 outbreaks of HPAI were recorded - with four cases affecting millions of poultry.

The disease also spread from domesticated poultry to wild birds, who in turn became vehicles of transmission, infecting domesticated birds at different locations.





How Livetec can help

Biosecurity planning and maintaining high levels of biosecurity throughout the year are the most effective way to mitigate against disease incursion.

Livetec are building the future of biosecurity protection, fuelled by years of scientific research and a presence at every notifiable disease outbreak due to our partnership with DEFRA and APHA.

We call upon more than a decade's worth of biosecurity know-how to deliver bespoke solutions including contingency planning, biosecurity advisory services, consultation and training, as well as Farm Health Guardian, a unique biosecurity management software.

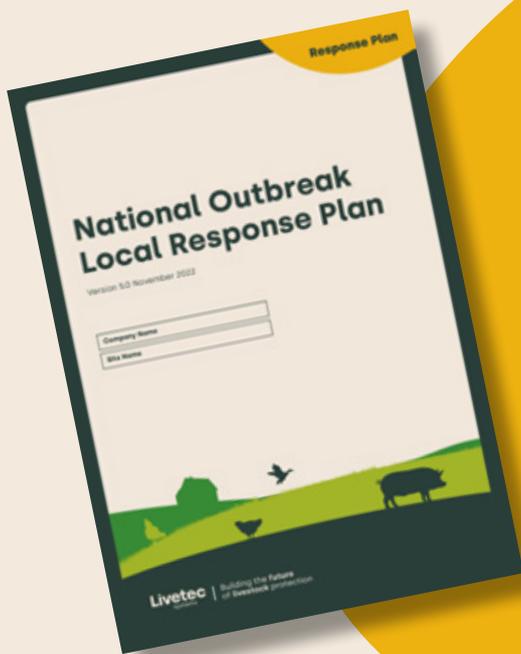
Farm Health Guardian is a cost-effective, accessible biosecurity system that can be deployed across farms of all sizes. It empowers farmers and their teams to manage biosecurity related processes from any location, using any handheld device, including regular smartphones, and existing tablets.



Farm Health Guardian replaces inefficient paper-based systems. This means that on busy farms, disease prevention measures can be implemented more efficiently and effectively.

In addition to the convenience and speed of instant messaging, it can automate the process of visitor registration for example, keep truck movement records up to date and easy to access, digitise logbooks and maintain real-time movement reports so swift action can be taken where necessary in the event of an outbreak.

In addition to these services, we have recently launched our National Outbreak Plan to help bird owners protect the health and well-being of their flocks. The plan gives farmers up-to-date, trusted, and accurate information to guide swift action should they find themselves in a Protection Zone, in a Surveillance Zone, or dealing with an outbreak on their premises.



The National Outbreak Plan includes:

- A how-to guide for disease declaration
- Information reporting when zones are implemented
- Explanation of movement restrictions
- Movement licensing and their conditions of use
- Zone definitions and their requirements
- How to deal with the media
- Farming related support services and mental health planning
- A guide on how to change or update the CPH number
- Updates of the Governments exotic diseases control and AI policy
- An acronym glossary to quickly define key terms

Avian influenza is here to stay, but risks to your flock can be reduced and your livelihood and your livestock protected with robust, appropriate biosecurity planning and proven biosecurity measures.

Whether you need a biosecurity plan, an infected premises response plan, or want to use our bespoke biosecurity advisory service, Livetec can help. Get in touch to find out more.

Livetec plans help protect your livelihood and livestock:



Biosecurity advisory service

Our biosecurity advisory service provides you with an on-farm visit with a biosecurity expert. Our full on-farm discovery sessions make us a supportive partner, helping you to minimise risks and know how you can better protect your farm from disease incursion.

Contingency plan

Our contingency plans encompass every aspect of farming businesses, predicting scenarios, risks and emergencies that could arise in the future and designing strategies that help to manage the impact of these concerns. Supported by a range of plans, this also helps make you compliant and insurable.



Biosecurity plan

Without a biosecurity plan in place, you are leaving your business and animals highly susceptible to disease incursion. Our biosecurity plans encompass and outline all of the measures that must be followed by every single person on and off farm to prevent the introduction of deadly pathogens.

Infected premises response plan

An infected premises response plan significantly enhances your preparedness. Designed to cover everything that APHA needs from you if and when they visit your farm business. This plan holds all of the critical information they need, in one place, allowing you to be less stressed and make your processes smoother.



National outbreak plan

Our national outbreak plan has been designed to comply with the regulations and requirements set by the UK government, providing bird owners with a wealth of information of everything you need to know should you be impacted by zones or a disease outbreak.

Cleaning and disinfection plan

A critical part of farming includes the ability to undertake thorough and comprehensive cleaning and disinfection of your premises. Our cleaning and disinfection plan is designed to give you the framework for all of the measures you need to take, with clear instructions that show compliance to APHA.



To find out more about how our plans can help your farming business, please visit www.livetecsystems.co.uk/plans or email us for more information info@livetecsystems.co.uk