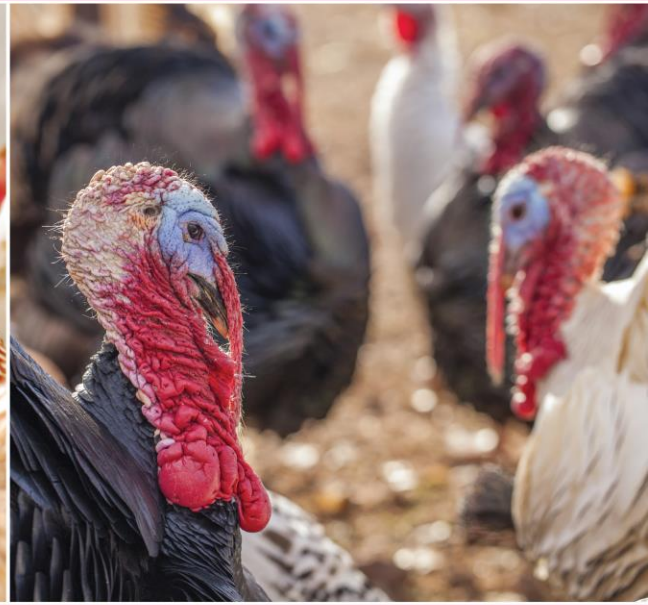
ST DAVID'S POULTRY TEAM

VETERINARY SURGEONS

Independence • Integrity • Innovation



www.stdavids-poultryteam.co.uk

The disease control challenge of non-notifiable LPAI which causes significant disease

DR. DANA SIMPSON DVM MRCVS

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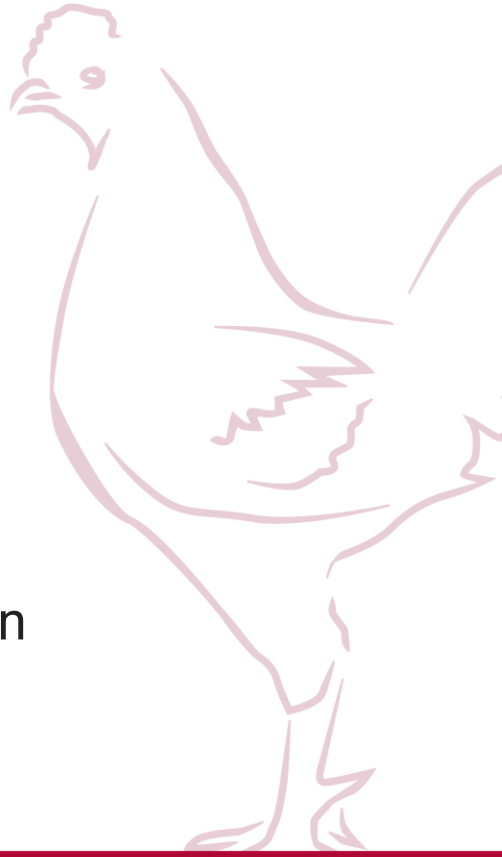
Avian Influenza

- A highly contagious viral disease affecting the respiratory, digestive and/or nervous system of many species of birds.
- Notifiable disease
- HPAI and LPAI
- H 1-16 and N 1-9 subtypes
- H5 and H7 – considered high risk
- HPAI has significant trade implications
- Secreted in saliva, nasal discharge and faeces
- Infection through contact with infectious material
- Variable incubational time and clinical presentation



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Disease spread and transmission

The initial source of Avian Influenza is likely to come directly or indirectly from wild birds, particularly waterfowl.

However spread between commercial poultry farms is most often due to the movement of people, products, poultry manure or equipment.

Plumes caused by culling activities have also proven to be a risk

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Avian Influenza outbreak in Northern Ireland 2020

In January of 2020 Avian Influenza was confirmed in a commercial flock in Northern Ireland for the first time in 34 years.

Although the strain was found to be a low pathogenic avian influenza strain ,morbidity, mortality and production drops were significant

A total of 15 commercial sites from 5 different companies were confirmed positive

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Initial actions taken

As soon as AI was suspected the competent authority (DAERA) was notified.

Restrictions were applied to the flock premises with cessation of all movements of people, birds, manure, litter, eggs, etc. whilst a statutory investigation was carried out

A government veterinarian visited the site and collected samples for further testing at the National Reference Laboratory

Initially the samples were tested for the presence of the Avian Influenza Virus and once confirmed further tests were carried out to determine whether the virus detected was a H5 or H7 variant.

Virus was then sent on to APHA for typing and to determine pathogenicity

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Government involvement

HPAI cases

- Sample collection and testing
- Site restrictions
- AI prevention and surveillance zones
- Stamping out of positive flocks
- Certification for movement of eggs and litter
- Severe consequences for export

LPAI cases

- Sample collection and testing
- Site restrictions
- No further involvement once low pathogenicity is confirmed (unless H5 or H7 subtype)

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The first confirmed case

The virus was found to be a H6N1 low pathogenic Avian influenza strain (LPAI)

This meant restrictions were lifted and the depletion of the affected birds was not enforced by the government.

The responsibility fell to industry to manage quarantine of the flock and prevent the spread of LPAI.

The decision was made by the company responsible to deplete the whole site.

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Farm types affected

- Commercial layer units – both caged and free range systems
- Broiler Breeder units

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Commercial layer unit findings

- Loose droppings (green tinge)
- subdued behaviour
- sick birds
- increased number of seconds (weak shells, pale shells, jelly eggs)
- increased mortality
- severe drop in production (up to 90%)

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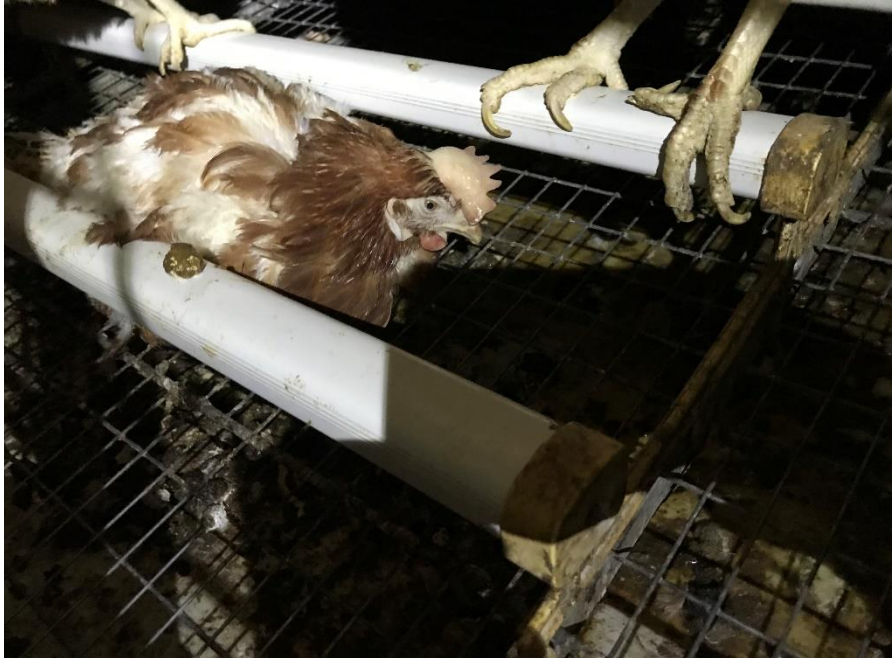

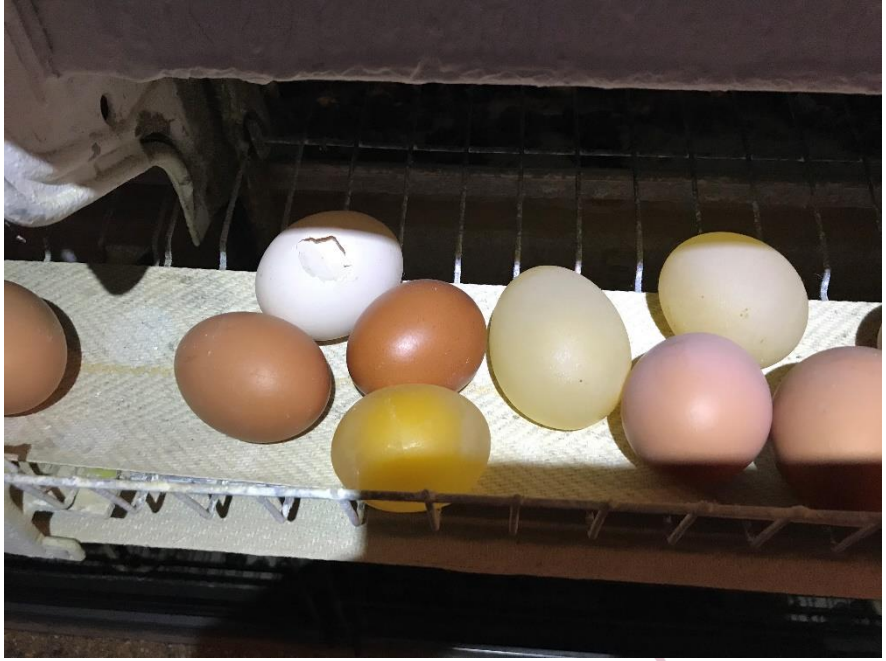

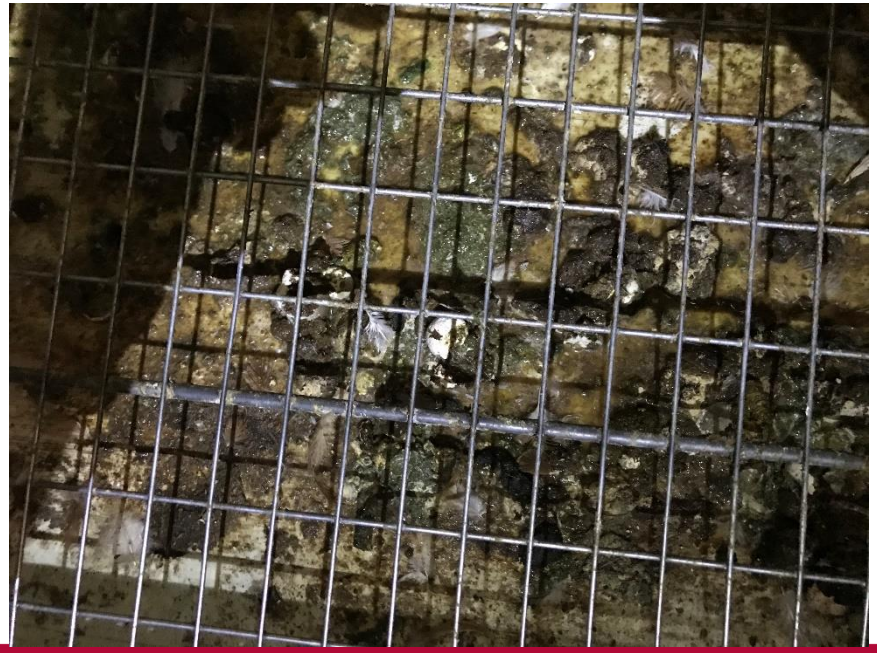

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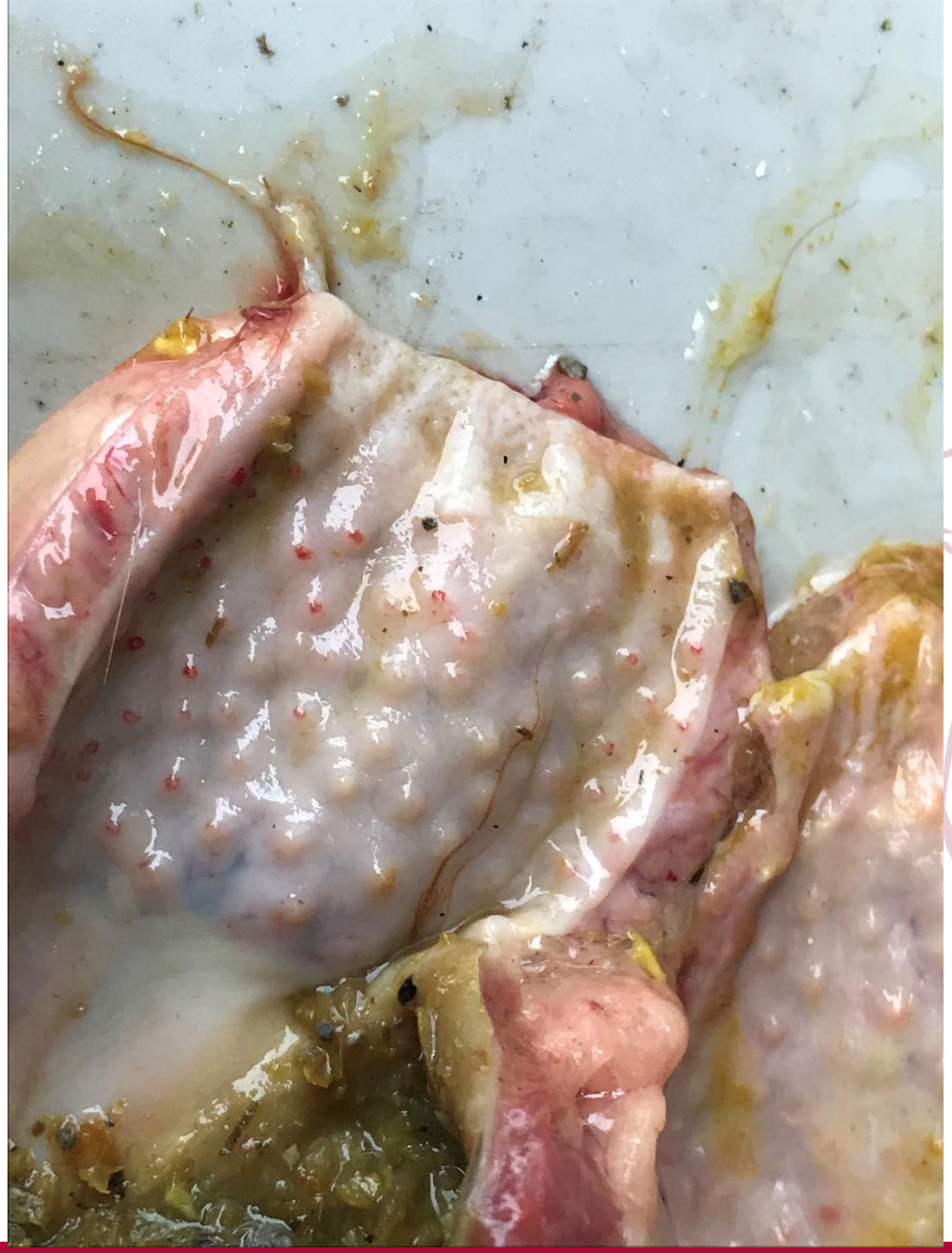

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Broiler Breeder findings

- sudden spike in mortality (often in the roosters initially)
- congested heads and wattles shortly after death
- swollen eyelids and redness around the eyes
- fever
- drop in feed intake
- production cessation
- mortality of up to 5-6% a day

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Challenges experienced

- **Varied clinical presentation in different bird types**

- Variation in spread through different housing systems

- Variation in clinical manifestation

- Variation in recovery time

- **Depletion optional (not enforced)**

- Initial cases were decided by site owners in conjuncture with the pvp's on a case by case basis

-Aim was to protect the greater NI egg and poultry meat industry

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- **Cost of depletion**

- Cost was borne by the individual companies
- very costly (transport of equipment, gas canisters, catching teams etc)

- **Logistics of on farm depletion**

- Small number of available culling firms in Europe
- Limited supply of gas canisters available
- Shortage of catching crews
- Stand down period of personnel following depletion (72 hrs)

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- Viral spread through contaminated material during on farm depletion

- Windy days

- Feathers , dust and litter

- Large number of farms affected

- Affected the whole industry (export, egg numbers, broiler numbers, restocking, stand down of personnel involved…)

- Traumatic experience for the farmer

- Mentally and financially

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- Industry took voluntary action to depopulate the initial few affected flocks.
- When the number of affected flocks continued to increase industry requested assistance from the government.
- recognising the potential impact on the NI poultry industry DAERA made the decision to assist with depopulation ensuring it was carried out in a timely and bio secure manner, safeguarding bird welfare.
- In return it provided DAERA with an opportunity to train staff and exercise procedures that would be used in the event of any future HPAI incursions.
- a total of 10 sites were depopulated by DAERA using both whole house gassing and CGU methods.
- DAERA also carried out extensive epidemiological investigations to identify risk pathways and disease spread as well as make recommendations on enhanced bio security measures.

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Mitigation strategies

✓ Early detection was key

DAERA, NI poultry industry representatives and the PVP's (Parklands vets and St Davids Poultry team) worked together to get the relevant information out to farmers, farm workers and back yard flock owners

Farmers were asked to be vigilant and report any early signs of disease

✓ Communication and cooperation

DAERA, PVP's and Industry representatives shared information and worked extremely well together to protect the whole industry

✓ Reducing the risk of spread during on farm depletion with CGU's

Disinfectant spray was used to prevent potential contaminated plumage and dust blowing away.

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- ✓ Reducing the risk of spread through movement of contaminated litter

Litter remained on site for minimum of 60 days and sprayed with disinfectant

Litter moved in covered and secure vehicles and C&D carried out

- ✓ Extensive C&D carried out on affected sites
- ✓ Only essential visits to all other sites carried out
- ✓ Stand down period implemented

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Lessons learned

- Different AI strains can have a different clinical presentation in different bird species and types

- During the migratory period AI should always be considered a possibility

- Some LPAI strains can clinically present as a HPAI

- Inter farm movements of people , litter, equipment etc. are a high risk factor in the potential spread of AI

- Plumage and dust are high risk factors during on site cull operations using CGU's in the potential spread of AI

- whole house gassing and the retention of litter on site for a minimum of 60 days appeared to significantly reduce the spread of AI

- communication and cooperation between stakeholders are paramount

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Through excellent communication and teamwork Government, Industry and the private veterinary practitioners have managed to minimise the potentially devastating effect the 2020 Avian Influenza outbreak could have had in Northern Ireland.

Further information is available in a policy document the BEIC has produced outlining the handling of non-notifiable Low Pathogenic Avian Influenza in Lion Code registered laying flocks (and pullet rearing flocks) as well as on the government website www.gov.uk

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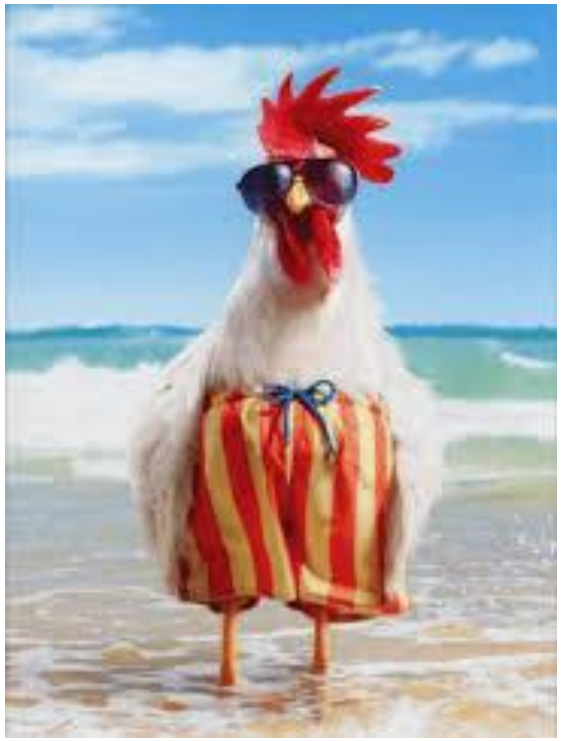
Thank you for your attention



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