



Livestock Notifiable Disease

Factsheets

Newcastle Disease

If you suspect signs of any notifiable disease, you must immediately notify a Defra Divisional Veterinary Manager.

Introduction

Newcastle disease is a highly contagious disease of birds caused by a para-myxo virus. Birds affected by this disease are fowls, turkeys, geese, ducks, pheasants, guinea fowl and other wild and captive birds, including ratites such as ostriches, emus and rhea.

In Great Britain, isolated cases of this disease were first reported in the 1930s. From 1947 outbreaks occurred here over the next 30 years, and there were further isolated cases in 1984 and 1996-7.

This disease does however remain a problem world-wide. Recent serious outbreaks of Newcastle disease occurred in Denmark in 2002, and in California in 2003.

Most recent outbreak in this country

Newcastle Disease last occurred in 11 cases in 1997, four in broiler chickens and seven in turkey rearing flocks, between January and April. All the birds on the infected premises were slaughtered, the carcasses destroyed and the premises cleansed and disinfected. The movement of poultry and poultry products within the protection zone (a 3km radius) and surveillance zone (based on a minimum 10km radius) around each infected premises, was prohibited in accordance with EU Directive 92/66/EEC.

The surveillance zone movement restrictions were maintained for at least 30 days after depopulation and preliminary cleansing and disinfection of each infected premises. In some cases, the disease had taken several weeks to spread through a unit and become apparent as a significant cause of abnormality or increased mortality. The most frequent clinical signs reported in the infected flocks were lameness, paralysis of the wings (wing droop), ataxia or recumbency. Diarrhoea was reported as a significant sign in only three outbreaks. Morbidity/ mortality in affected flocks varied from less than 5% in some turkey flocks to more than 30% in the worst affected broiler chicken flocks.

The C1 strain of virus isolated in these outbreaks was the same as that occurring in mainland Europe in 1996. It seems likely that in some cases infection was spread by the movement of people or equipment between infected farms, in some cases for the purpose of thinning out the flocks of growing birds. The pattern of spread highlighted the need for strict hygiene procedures when entering or moving equipment between poultry units.

Main aspects of disease control

(i) Infected Premises

Prohibition on movements of animals, litter and vehicles into or out of the infected place. Cleansing and disinfection of premises and vehicles. Schedule 3 of the Animal Health Act

1981 provides for the compulsory slaughter of diseased poultry and poultry which are suspected of being infected or which has been exposed to the infection of disease. Eggs must also be destroyed.

(ii) Infected Area

Keepers of poultry/ Hatcheries/ Slaughterhouses: Movement restrictions on Poultry and Hatching Eggs within a 3 km and 10 km radius. Poultry must be kept in their living quarters. Markets, Fairs and Shows are prohibited

Waste disposal contractors: Used litter or poultry manure may not be removed or spread

Hauliers: Cleansing and disinfection of any vehicle used for the conveyance of poultry, carcasses, poultry offal or feathers, or eggs.

(iii) Other Control Measures

The Secretary of State may order the vaccination of any species of poultry in a vaccination area. These measures may be applied for a period of 3 months and may be extended by additional periods of 3 months.

(iv) Minimum duration of controls

An infected premises may not be re-stocked until at least 21 days after disinfection. Protection zone controls apply for at least 21 days after the cleansing and disinfection of the infected premises and when they become part of the surveillance zone. Surveillance zone controls apply for at least 30 days after cleansing and disinfection.

(v) Compensation

Schedule 3 of the Animal Health Act 1981 states that compensation for poultry which are not diseased shall be the value immediately before slaughter

Further Detail

Restrictions and slaughter provisions apply to domestic fowls, turkeys, geese, ducks, guinea fowls, quail, pigeons, pheasants and partridges reared or kept in captivity for breeding or the production of meat or eggs for consumption or for restocking supplies of game.

An infected area comprises of an inner protection zone of at least 3 kilometres radius and an outer surveillance zone of at least 10 kilometres radius. Poultry must be isolated, and poultry and hatching eggs may not be moved from the holding except under licence for specified purposes.

Poultry and Hatching eggs may not be moved from a premises in the surveillance zone except under licence. Eggs and their packaging must be disinfected before despatch

Clinical signs

The clinical signs in affected birds can be very variable. The disease can be present in a very acute form with sudden onset and high mortality or as a mild disease with respiratory distress or a drop in egg production as the only detectable clinical signs. A sub-clinical (asymptomatic) form of Newcastle disease and many intermediate forms of the disease can also occur. The clinical signs include depression, lack of appetite, respiratory distress with beak gaping, coughing, sneezing, snicking, gurgling and rattling, yellowish green diarrhoea and nervous signs. In laying flocks a sudden drop in egg production with a high proportion of eggs laid with abnormal (soft) shells is often an early sign of disease. Young birds are particularly susceptible and mortality can be heavy, with survivors often exhibiting permanent nervous signs.

Post-mortem

When lesions are present they may include haemorrhages (minute blood spots) in the lining of the glandular stomach, gizzard, intestines, heart, inner surface of the chest wall, some skeletal muscles and air acculitis/pericarditis.

Vaccination

Both dead and live attenuated vaccines are available to protect poultry by building up immunity to the disease. These are administered by a variety of routes, starting at day-old.

Legislation

The Diseases of Poultry Order 2003.

The Avian Influenza and Newcastle Disease (England and Wales) Order 2003 which extends to these two diseases new powers introduced by the Animal health Act 2002, allowing a preventative or firebreak cull of poultry, providing powers of entry to test and sample, and allowing the slaughter of vaccinated poultry, with compensation. The powers were sought as part of our Emergency Preparedness Programme in the light of increased concerns about the Spring 2003 outbreak of Avian Influenza in the Netherlands and Belgium and in advance of the autumn migratory season, given that these diseases could be introduced by waterfowl.

Council Directive 92/66/EEC introducing Community measures for the control of Newcastle disease.

REMEMBER - Report any suspicion of disease at once to the Defra divisional veterinary manager.

Pictures of the disease



Bird unable to stand.
(Photo credit: New South Wales Agriculture, Australia.)



Swelling & haemorrhage in the reflected lower eyelid.
(Photo credit: USA Animal Health Association)



Bird with twisted neck and unable to stand.
(Photo credit: New South Wales Agriculture, Australia.)

Information current of June 16, 2005