

# Letters

## AVIAN VIROLOGY

### Newcastle disease: a continuing threat to UK poultry

AT the end of 2010 and beginning of 2011 several Newcastle disease outbreaks in unvaccinated poultry associated with pigeon paramyxovirus type 1 (PPMV-1) infection were officially reported by two northern European countries (OIE 2010, 2011a, b, c). Infected wild birds were suspected to be the source of the virus, presumably coming into contact with poultry, or gaining access to poultry houses, during the severe winter conditions.

PPMV-1 is a virulent 'pigeon variant' Newcastle disease virus (of avian paramyxovirus genotype 4b/V1b) and the cause of the continuing panzootic that began in racing and feral pigeons more than 30 years ago. PPMV-1 strains are also fully capable of infecting domestic poultry, and in the past 12 years a number of outbreaks in poultry, usually backyard or unvaccinated birds, have been recorded in the EU (Alexander 2011). These PPMV-1 viruses meet the internationally recognised virulence criteria of Newcastle disease. Therefore, when PPMV-1 is found in any domestic poultry species, under EU legislation the infection must be regarded as Newcastle disease, with resultant sanitary and other disease control measures being implemented.

The two most recent Newcastle disease outbreaks in the UK (in 2005 and 2006) occurred in gamebird flocks, initially detected by Veterinary Laboratories Agency regional laboratory scanning surveillance activities. The origin of the Newcastle disease outbreak affecting pheasants (*Phasianus colchicus*) during 2005 was traced to the movement of poults from France. In 2006, PPMV-1 infection was detected in grey partridges (*Perdix perdix*) in Scotland (Aldous and others 2007, Irvine and others 2009).

These Newcastle disease outbreaks serve as a reminder of a number of existing threats to UK poultry, specifically:

- Virulent Newcastle disease viruses, including PPMV-1, pose a continuing risk of avian notifiable disease incursion to poultry populations, including gamebirds.
- PPMV-1 is frequently isolated from pigeon lofts and is endemic in feral Columbiformes. These populations represent sizeable reservoirs with potential for spillover to domestic poultry.

■ The clinical signs of Newcastle disease in gamebirds in the UK were different from the classical presentation of an acute, severe disease typically seen in chickens. Such variable disease signs appear to be typical of Newcastle disease in infected gamebirds, especially pheasants (Aldous and Alexander 2008). Therefore, early detection based on observation of clinical signs through scanning surveillance may be impaired.

■ An estimated 30 to 35 million gamebird poults are reared during the gamebird season in the UK, approximately 80 per cent of them pheasants and 16 to 17 per cent red-legged partridges (*Alectoris rufa*). This includes the movement of approximately 10 million pheasants and the majority of red-legged partridges from France (Canning 2005).

Some of the risk pathways relating to possible incursions of Newcastle disease into poultry may be mitigated by ensuring good biosecurity, in common with preventive measures for other avian notifiable and infectious diseases. Following consultation with the Animal Health and Veterinary Laboratories Agency (AHVLA), the Game and Wildlife Conservation Trust has taken forward messages regarding disease awareness with game sector groups.

It is suggested that any clinical presentation in gamebirds that includes progressive CNS signs coupled with unexplained, persistent or rising mortality and/or production problems should prompt consideration of an avian notifiable disease as a differential diagnosis. Vigilance for disease problems is advised, with prompt investigation and reporting to the veterinary authorities as appropriate.

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#### References

- ALDOUS, E. W. & ALEXANDER, D. J. (2008) Newcastle disease in pheasants (*Phasianus colchicus*): a review. *Veterinary Journal* **175**, 181-185
- ALDOUS, E. W., MANVELL, R. J., COX, W. J., CEERAZ, V., HARWOOD, D. G., SHELL, W., ALEXANDER, D. J. & BROWN, I. H. (2007) Outbreak of Newcastle disease in pheasants (*Phasianus colchicus*) in south-east England in July 2005. *Veterinary Record* **160**, 482-484

- ALEXANDER, D. J. (2011) Newcastle disease in the European Union 2000-2009. *Avian Pathology* (In press)
- CANNING P. (2005) The UK game bird industry – a short study. <http://archive.defra.gov.uk/foodfarm/food/industry/sectors/eggspoultry/documents/gamebirdindustry-study.pdf>. Accessed June 20, 2011
- IRVINE, R. M., ALDOUS, E. W., MANVELL, R. J., COX, W. J., CEERAZ, V., FULLER, C. M. & OTHERS (2009) Outbreak of Newcastle disease due to pigeon paramyxovirus type 1 infection in grey partridges (*Perdix perdix*) in Scotland in October 2006. *Veterinary Record* **165**, 531-535
- OIE (2010) Newcastle disease, France (immediate notification). WAHID Interface. Weekly Disease Information Vol 23, Number 51, December 23, 2010
- OIE (2011a) Newcastle disease, France (immediate notification). WAHID Interface. Weekly Disease Information Vol 24, Number 1, January 6, 2011
- OIE (2011b) Newcastle disease, Sweden (immediate notification). WAHID Interface. Weekly Disease Information Vol 24, Number 6, February 10, 2011
- OIE (2011c) Newcastle disease, Sweden (immediate notification). WAHID Interface. Weekly Disease Information Vol 24, Number 7, February 17, 2011

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