

Contents

Newcastle disease in Australia: follow-up reports	49
Foot and mouth disease in Guinea	51

NEWCASTLE DISEASE IN AUSTRALIA
Follow-up reports

FOLLOW-UP REPORT No. 1

Text of an e-mail received on 17 April 1999 from Dr Gardner Murray, Chief Veterinary Officer, Department of Primary Industries and Energy, Canberra:

End of previous report period: 13 April 1999 (see *Disease Information*, 12 [14], 47, dated 16 April 1999).

End of this report period: 17 April 1999.

New South Wales Department of Agriculture has decided to stamp out three* additional farms (farms Nos 2, 3 and 4) located within the surveillance zone. This follows increased mortality on these farms, with clinical signs consistent with virulent Newcastle disease.

These outbreaks were detected as part of the ongoing surveillance activities in the Mangrove Mountain infected and surveillance zones.

New outbreaks:

Location	No. of new outbreaks
Mangrove Mountain, near Gosford, State of New South Wales (33° 37' S - 151° 18' E)	2*

* Farms Nos 2 and 3 are contiguous and therefore considered as one unit.

Description of affected population in the new outbreaks: commercial broiler rearing units which have a total of 280,000 broilers.

Diagnosis:

- A. *Clinical signs:*** birds displaying sneezing, lethargy, paralysis, swaying of head from side to side and occasional diarrhoea.
- On farms Nos 2 and 3, mortality was normal until 12 April 1999. Then it increased, reaching a peak on 16 April. Swabs were taken from a number of sick birds and sent to the central New South Wales laboratory for investigation.
 - On farm No. 4 about 20% of birds in the affected shed showed nervous signs and pyrexia. A slight increase in mortality was detected on 15 April.
- B. *Laboratory tests performed:***
- Serological tests
 - Isolation of a Newcastle disease virus
 - Immunohistology
 - Gene sequence studies on PCR⁽¹⁾ showing a virulent cleavage sequence in the F⁽²⁾ protein
 - Death of chick embryos at 48-72 hours in primary isolation

- Chorio-allantoic membrane (CAM) antigen localisation test – results not yet available
- Determination of intracerebral pathogenicity index (ICPI) – results not yet available.

Epidemiology: these three farms are located within 1 km of infected farm No. 1 referred to in the emergency reports.

Farms Nos 2 and 3 share a common property boundary and from an epidemiological point of view are being considered as one enterprise.

Mangrove Mountain is a well defined wedge-shaped ridge area, about 18 km long by 10 km wide, bounded on the east, south and west by deep ravines, and on the north by National Park/State Forest. There is no evidence of infection elsewhere in Australia.

Control measures during reporting period:

- Destruction of birds commenced on 17 April 1999.
- The restricted area (OIE "infected zone") has been extended to encompass the previous surveillance zone covering all of the Mangrove Mountain Ridge.
- A comprehensive surveillance programme has been instituted and further control measures applied to the movement of live birds and poultry products from the Mangrove Mountain area.

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FOLLOW-UP REPORT No. 2

Text of an e-mail received on 23 April 1999 from Dr Gardner Murray, Chief Veterinary Officer, Department of Primary Industries and Energy, Canberra:

End of previous report period: 17 April 1999 (see above).

End of this report period: 23 April 1999.

The disease has now been confirmed on a total of seven farms (farms Nos 1 to 7) within a 5 km radius. Farms Nos 5, 6 and 7 were declared infected on 22 April 1999. Furthermore, the disease is suspected in two more farms in the vicinity.

New outbreaks:

Location	No. of new outbreaks
Mangrove Mountain, near Gosford, State of New South Wales (33° 37' S - 151° 18' E)	3*

* Farms Nos 5, 6 and 7.

Description of affected population in the new outbreaks: the farms in the infected zone are predominantly broiler farms with a number of small non-commercial enterprises.

Diagnosis: laboratory diagnosis from tissue samples from sick birds.

Epidemiology: avirulent to low virulence strains of Newcastle disease virus have been present in Australia since the late 1960's. These strains have caused little to no production problems and no vaccines have been used to control these naturally circulating strains of the virus. Extensive molecular characterisation of these endemic strains has been undertaken over these years, concentrating on the genes encoding the F⁽²⁾ and HN⁽³⁾ proteins.

Nucleotide sequencing of the F⁽²⁾ gene, and particularly the HN⁽³⁾ gene, clearly demonstrated that the outbreak virus strains were closely related to a known Australian strain of low virulence for chickens. This suggested that the outbreak viruses were derived from this Australian strain of Newcastle disease virus rather than from an imported strain.

Control measures during reporting period:

- Farm No. 1 (see Emergency Report): stamping out and first disinfection have been completed and the farm remains in quarantine pending further disinfection and placement of sentinel birds.

- Farms Nos 2, 3 and 4 (see Follow-up report No. 1): stamping-out has commenced.

- As a precautionary measure, all domestic birds on a total of 32 farms (including initial infected farm of 1 April 1999) and a number of small, non-commercial enterprises in the proclaimed infected zone will be stamped out (estimated 1,500,000 domestic birds). Depopulation has commenced, with priority being given to flocks showing suspicious clinical signs.

- (1) PCR: *polymerase chain reaction*.
- (2) F: fusion.
- (3) HN: hemagglutinin-neuraminidase.

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* *

FOOT AND MOUTH DISEASE IN GUINEA

EMERGENCY REPORT

Translation of a fax received on 22 April 1999 from Dr Daouda Bangoura, Head of the Veterinary Services Division, National Directorate for Animal Production, Ministry of Agriculture, Animal Production and Forests, Conakry:

Date of initial detection of animal health incident: 15 March 1999.

Outbreaks:

Location	No. of outbreaks
Kandebalandougou district, Dialokoro subprefecture, Mandiana prefecture (in the eastern part of the country)	1

Description of affected population: herd in transhumance from a neighbouring country. The herd in the infected zone consists of some 300 animals.

Total number of animals in the outbreak:

<i>species</i>	<i>susceptible</i>	<i>cases</i>	<i>deaths</i>	<i>destroyed</i>	<i>slaughtered</i>
bov	approx. 300	3	1	1	...

Mode of spread: transhumance and trade.

Control measures during reporting period: quarantine and movement control inside the country.

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