



Ref: VITT1200/ND-SW

# NEWCASTLE DISEASE IN SWEDEN

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## 1 Summary

Sweden reported an outbreak of Newcastle disease (ND) in a flock of laying hens in the Östergötland region on 21 July. Decreased feed intake and egg production was seen on 9 June. Following confirmation of the disease by the national laboratory, the flock was depopulated on 21 June 2004. The European Community Reference Laboratory in Weybridge confirmed the presence of ND on 20 July 2004.

Sweden reported that the outbreak was confined to this single flock. There are no reports of the disease outbreak in commercial poultry. Sweden has taken control measures for ND in line with EU rules. The UK has not imported live birds or hatching eggs from Sweden during the estimated risk period.

While an outbreak of ND disease in any Member State is of concern, the Veterinary Directorate considers the risk of ND spread from this outbreak to UK through trade to be negligible. This event, however, highlights the background risk to commercial poultry from feral pigeons and wild birds as potential carriers of ND.

## 2 NEWCASTLE DISEASE - SWEDEN

### 2.1 Disease Report

Sweden notified an outbreak of Newcastle disease (ND) in a flock of laying hens in the Östergötland region (Fig.1) on 21 July 2004. Another poultry farm, located approximately 500 meters from the index farm was also affected. All poultry from the affected farms were culled on 21 June 2004.

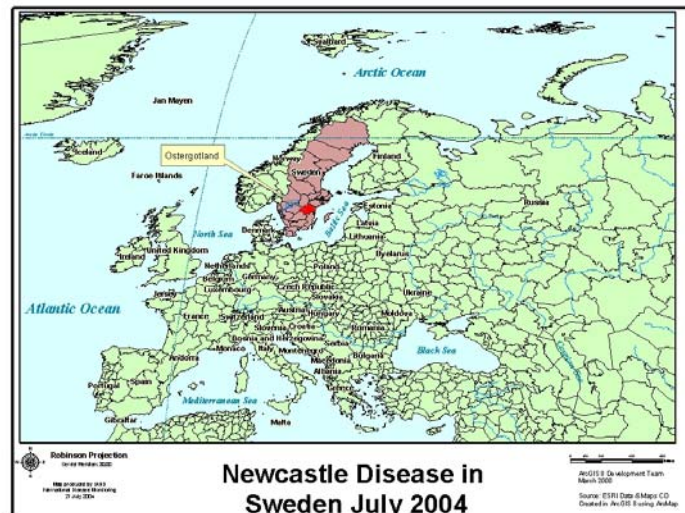


Fig.1. Sweden – location of ND outbreak

The index flock had been under investigation from 9 June 2004. Disease control measures were applied on 18 June. Following laboratory results indicating presence of ND from the national laboratory, the Sweden's authorities depopulated affected flocks on 21 June 2004. Further testing at the European Community Reference laboratory in Weybridge, UK, confirmed the presence of ND virus with an intracerebral pathogenicity index (ICPI) of 1.45 on 20 July 2004. According to EU rules, this virus pathogenicity means that this outbreak must be reported and controlled as outbreak of ND.

Although the source of infection still remains unknown and is under investigation, the authorities consider that the disease was probably introduced by contact with infected wild birds.

## 3 LEGAL TRADE – CURRENT SITUATION

### 3.1 Live birds

TRACES, the European Commission electronic system for notification of movements of live animals, their products and germplasm within the European Union has no records of imports of live poultry or other birds from Sweden to the UK after 15 April 2004. This is approximately six weeks before

9 June 2004, the date when disease was first seen in Finland. Six weeks is twice the maximum incubation period for ND, as specified by the OIE and is assumed to be the risk period.

### **3.2 Meat/meat products**

Intra Community trade in poultry meat is not subject to border inspection controls or electronic notification of consignments. In the case of ND outbreaks, affected Member States are required to impose EU rules, including the protection and surveillance zones around outbreaks (refer to Annex 2).

Customs estimate that 200 tonnes of poultry meat and meat products are exported from Sweden to the UK per annum. This trade is subject to EU animal health rules.

### **3.3 Hatching eggs**

TRACES has no records of imports hatching eggs from Sweden to the UK after 15 April 2004. This is six weeks before 9 June 2004, the date when the disease presence was first suspected in Finland. Six weeks is twice the maximum incubation period for ND, as specified by the OIE and is assumed to be the risk period.

### **3.4 Table eggs**

Table eggs from ND infected holdings are destroyed. Intra-Community trade rules minimise the risk of mechanical transmission of the virus on eggs, packaging or means of transport.

Customs estimate that 200 tonnes of eggs and 150 tonnes of egg products are exported from Sweden to the UK per annum. This trade is subject to EU animal health rules.

## **4 NEWCASTLE DISEASE RESTRICTIONS IN PLACE**

### **4.1 Situation in Sweden**

Sweden reported that there are in total four commercial poultry holdings, including the affected two farms within a 3km zone. These flocks have been depopulated. Apart from seven hobby flocks, there are no other poultry farms located within a 10km zone.

Sweden prohibits the use of vaccination against ND. Following the initial laboratory tests in June 2004, the Swedish authorities have applied the ND

control measures (a 3km protection zone, within a 10km surveillance zone) required under national and EU legislation. These measures include transport restrictions for live poultry, hatching eggs, fresh poultry meat and poultry manure. The authorities consider that there has been no disease spread from the affected farms.

## **4.2 EU rules**

EU rules (refer to Annex 2) prevent trade in poultry and other commercial or pet birds from areas under restriction or in meat derived from such birds. Poultrymeat products can be traded only if they are first subjected to treatment sufficient to destroy the virus. Table eggs can be traded from holdings not under suspicion of being infected, subject to normal community hygiene rules.

# **5 ASSESSMENT OF THE RISK TO THE UK**

On the basis of current information on the outbreak of ND in Sweden, the Veterinary Directorate presently considers that with regard to:

## **5.1 Legal trade in:**

### **5.1.1 Live poultry/birds**

- The risk is negligible as no live poultry or birds have been imported from Sweden in the past three months.

### **5.1.2 Poultry meat/meat products**

- The risk is negligible because the two infected farms produced eggs and did not keep meat (broiler) birds. There was no evidence of disease in the neighbouring broiler farms. Trade in poultry meat or meat products must comply with EU animal health rules.

### **5.1.3 Hatching eggs**

- The risk is negligible as no hatching eggs have been imported from Sweden for the past three months.

#### 5.1.4 Table eggs

- Although it is possible that infected eggs were produced and consigned to the UK, the level of trade is low and the risk to our domestic poultry is negligible.

##### **Comments:**

- Customs data shows a small import trade in table eggs from Sweden (200 tonnes per annum).
- In addition, 150 tonnes of egg products are imported. The treatments applied to these should destroy ND virus.
- ND virus can be found in eggs laid by infected birds (Alexander, 2003). It is possible that infected eggs were produced in the period between infection entering the affected farms (likely to be early June but possibly May) and disease restrictions being applied on 18 June.
- Two laying flocks were affected.
- Infected birds stop laying eggs, as was seen in this case where flock production rapidly dropped to 5%.
- It is therefore unlikely that infected eggs were brought to the UK but we cannot be certain that they were not.
- Any infected eggs would have been intended for human consumption so should have been cooked in a kitchen or commercial plant. This would destroy the virus.
- Any waste from commercial processing plants or catering kitchens is subject to strict controls. It must be stored, handled and disposed of in accordance with animal by-products regulations which effectively ensure that domestic poultry would not have access to it.
- Any egg waste from domestic kitchens is likely to be small in quantity and is unlikely to be fed to poultry.
- Waste may be disposed of to landfill where it is possible that wild birds could be exposed to infection. However, this would be diluted by and buried under a large quantity of other waste.

#### 5.2 Wildfowl

- The risk of the introduction of the Sweden's ND strain to the UK by (i.e. wildfowl) is difficult to quantify. However, the type of risk posed is unlikely to exceed the level of the existing (and unmanageable) background risk posed by wild birds migrating to, or through, the UK.

## 6 CONCLUSION

Sweden reported that an outbreak of ND in June 2004 was detected in two commercial poultry farms. Two affected and two other farms located within a 3 km zone have been depopulated. There are no reports of further disease spread. Sweden has taken control measures in line with EU rules during investigation of the suspected case and following confirmation of the disease.

The Veterinary Directorate continues to monitor the situation and will reassess the hazard if new information becomes available.

This outbreak poses a negligible risk to UK animal health. However, this outbreak highlights the background risk to commercial poultry posed by feral pigeons and wild migrating birds as potential carriers of ND.

## 7 References

Alexander, D.J. (2003) Newcastle disease, Other Avian Paramyxoviruses and Pneumovirus infections: *Newcastle disease*. In Diseases of Poultry 11th edition. Y.M. Saif [ed in chief] Iowa State University Press USA, pp 64-87.

## **8 Annex 1. Background note on Newcastle Disease**

Newcastle disease (ND) is a viral disease affecting a wide range of bird species including domestic poultry and many wild and migratory birds in which a long term carrier state may exist. It is an endemic disease in a number of countries throughout the world. The last outbreak in the UK occurred in 1997 and the most recent in the EU occurred in Denmark in 2002

ND causes respiratory and/or nervous signs with gasping and coughing, drooping wings, dragging legs, twisting of the head and neck, circling, depression, inappetence and complete paralysis. There may be swelling of the tissues around the eyes and in the neck and a partial or complete cessation of egg production. Eggs from diseased birds may be misshapen, rough-shelled, thin-shelled and contain watery albumen. The birds may have a greenish watery diarrhoea.

The degree to which birds become affected and the mortality within a flock depend on virulence of the virus strain, degree of vaccinal immunity, environmental conditions, and condition of the flock .

Like avian influenza (to which the Newcastle disease virus is NOT related), the disease is primarily spread by contact with faeces or respiratory secretions from infected birds. Contaminated feed or water may also spread the disease. It is the movement of contaminated people, vehicles and things between flocks that is most likely to spread disease. Flock owners should always follow the principles of good biosecurity already published on the Defraweb <http://defraweb/animalh/biosecurity/farmguidance/poultrybiosec.pdf>

Unlike avian influenza, an effective commercial vaccine is available. Because of the constant threat of introduction of disease by wild birds, breeding flocks and commercial egg laying flocks (which have a life expectancy of some 60 – 72 weeks) are invariably vaccinated. Broiler flocks tend not to be for two reasons: first the cost and effectiveness of vaccination set against their relatively short life; second, the potential adverse effect on bird health of adding to the list of vaccines these birds are already subject to and which have to be given when they are newly hatched.

To a large extent, therefore, the National flock has a good degree of protection against incursion of disease. There are a number of Newcastle Disease vaccines authorised for use on the market in the UK and there are no restrictions on their use in accordance with any Marketing Authorisation.

## **9 Annex 2. ND – Detailed EU rules**

The Council Directive (92/66) defines control measures against ND in poultry, racing pigeons and other birds in captivity. It does not apply if ND is detected in wild birds.

### **9.1 Initial investigation**

Following a suspicion of ND, an affected holding is quarantined and movement of poultry, poultry meat, animal feed and litter/manure from the affected holding is prohibited. During this phase, transport of eggs destined for further processing in an approved establishment may be allowed. These measures remain in place until the disease is either ruled out or confirmed.

### **9.2 ND confirmation**

If ND is confirmed (any PMV1 with an intracerebral pathogenicity index in day-old chicks greater than 0.7), the following measures apply:

#### **9.2.1 Protection zone**

A Protection zone must be established around the infected holding. This zone has a minimum radius of 3km.

#### **9.2.2 Affected holding**

All birds on the affected holding must be killed and destroyed. The meat of slaughtered poultry during the presumed incubation period must be traced and destroyed. The same applies to hatching eggs and table eggs. Poultry that have already been hatched are subject to official surveillance. Table eggs may be exempted from destruction if proper disinfection was carried out. Any waste is subject to traceability and appropriate treatment to destroy the virus. If that is not possible, such waste is destroyed. Cleaning and disinfection of the holding, equipment and transport vehicles must be thoroughly carried out. Any neighbouring and other identified traceforward holdings may be subject to the above measures.

If the virus has an intracerebral pathogenicity index (ICPI) of  $>0.7$  and  $<1.2$ , the holding may be exempted from above measures if the European Community Reference laboratory considers that an outbreak was caused by a vaccinal strain of the virus. In these cases, the affected holding is placed under official surveillance for 30 days, and remains quarantined with restrictions imposed on all movements. Appropriate cleaning and disinfection is required. Poultry may be sent to slaughter, however they must be kept and slaughtered separately. Meat of such poultry is given a special health mark and must be subjected to a specified heat treatment, or sold only on the national market.

### **9.2.3 Surveillance zone**

The surveillance zone that surrounds a protection zone must be established taking into account geographical, administrative, ecological and epidemiological factors relevant to ND. This zone includes the protection zone and has a radius of at least 10km from the affected holdings.

All poultry holdings within surveillance zone must be subjected to clinical examination and laboratory testing. Movement restrictions must apply to poultry handlers, poultry, poultry meat, hatching eggs, litter/manure, and transport vehicles. Poultry may be sent directly to slaughter at an approved establishment. This poultry meat is subject to a special health mark and must be subjected to a specified heat treatment, or sold only on the national market. Cleaning and disinfection activities must be carried out under official supervision. Fairs, markets, shows or other gatherings of poultry and other birds are prohibited.

Vaccination of poultry and commercial pigeons is subject to authorisation of the competent authority.