

Controlling Foot-and-Mouth Disease in the Netherlands (21 March to 22 April 2001)

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Preface

Foot-and-mouth disease was identified in the Netherlands on 21 March 2001 and was quickly followed by more cases. Thanks to stringent measures, the disease was quickly contained. The last case was identified on 22 April in an area where the most severe movement restrictions already applied. Although there were only 26 confirmed cases, the damage to the Dutch livestock sector was enormous. To stop the spread of the disease, almost 260,000 animals from more than 2,600 farms in infected areas were slaughtered. The blow to farmers and their families was emotional as much as financial. The recreation sector also suffered considerable loss of income, as nature areas were closed to the public.

Because there had been no new confirmed or suspected cases since 22 April, the European Union decided on 26 June to lift all remaining export restrictions applying to the Netherlands.

The outbreak of foot-and-mouth disease in the Netherlands

On 20 February 2001, the news that foot-and-mouth disease had been found in the United Kingdom sent shock waves throughout the European Union. France was the second country to be struck by the disease. On 13 March it was identified on a dairy farm close to a farm that had imported sheep from the United Kingdom in February. The pathogen responsible was foot-and-mouth virus type 0, the 'pan-Asiatic' strain.

A week later, on 21 March, foot-and-mouth disease was confirmed in the Netherlands. The authorities traced the source of the disease to a consignment of Irish calves imported into the Netherlands on 24 February 2001. These calves had stayed at a staging point in Baroche Gondoin in the French department of Mayenne on the night of February 23-24, together with British sheep which were later found to be positive in a serological test for the foot-and-mouth virus.

The first two cases in the Netherlands occurred on dairy farms in the province of Overijssel. The next 18 cases but one occurred in the province of Gelderland. Infection was ascribed to human contact, shipments of livestock or simply physical proximity to an infected farm. On 11 and 12 April, foot-and-mouth disease was identified quite unexpectedly on two dairy farms in the northern province of Friesland. These cases in Friesland were the only ones to occur outside the initial infected area. After 10 April, only three more cases were identified, on farms in Gelderland and Overijssel. The last case, the 26th, was identified on 22 April in Overijssel. Foot-and-mouth disease did not occur outside the provinces of Friesland, Gelderland and Overijssel.

Disease control

European Directive 85/511/EEC lays down measures that must be taken in the event of an outbreak of foot-and-mouth disease. This directive is incorporated in the national legislation of individual Member States. In the directive, one of the key strategies to control the disease is immediate isolation of the area in which the disease is found.

The measures adopted by the Netherlands to control the disease were much more far-reaching than those laid down by European law. These drastic measures were necessary because of the intensive nature of livestock farming in our country, which is characterised by high density of FMD susceptible animals, a high volume of animal transports and many person-to-person contacts. In addition, large numbers of animals are imported and exported.

The National Inspection Service for Livestock and Meat (RVV) was responsible for the implementation of disease control measures in practice. The organisation went into the highest alarm phase when foot-and-mouth disease was reported in the United Kingdom. There, the virus had had time to spread before it was identified. In view of the frequent movements of livestock between the two countries, there was a real risk that the virus had also been introduced here. It was decided that all susceptible animals introduced into the Netherlands from the United Kingdom during the incubation period of the virus would be slaughtered preventively. However, pigs imported from the United Kingdom were quarantined, inspected and tested but were not slaughtered. Afterwards, it turned out that none of these animals had carried the virus, but the move had been necessary in the Dutch strategy to always stay one step ahead of the disease.

After the first case in the Netherlands, the disease was combated with severe movement restrictions in infected and suspected areas, stamping out and emergency vaccination. The strategy was successful: the disease was under control after only 31 days.

Movement restrictions in infected and suspected areas

When foot-and-mouth disease was identified in the Netherlands, the European Commission passed Decision 2001/223/EC on 21 March 2001 laying down protective measures. In Annexes to this Decision, the Netherlands was divided into infected and suspected areas (Annex I areas) and not suspected areas (Annex II areas).

After the first outbreaks only the provinces Gelderland, Overijssel, Flevoland and Noord-Brabant figured in annex I. Due to a rapid increase in outbreaks, the whole territory of the Netherlands was placed in Annex I on 11 April. However, from 23 April, those parts of the country where no cases or suspect cases were found, were gradually put in Annex II.

In general:

Annex I areas comprised the provinces or parts of provinces where infected farms were found. Movements of live biungulate animals within and from Annex I areas were prohibited, and products of susceptible animals could only leave an Annex I area after having undergone a prescribed treatment.

Annex II areas were all areas not listed under Annex I. Here, too, a movement ban applied to biungulates and the export of products of susceptible animals was subject to strict conditions.

Near the end of the outbreak in the Netherlands, a third geographical category was created for areas where the possibility of foot-and-mouth disease could be ruled out with certainty. Export bans for susceptible animals in this region were gradually relaxed from 10 May onward.

Compartments

The Netherlands was subsequently divided into six compartments, with the aim of containing risk contacts within the compartment. The transport of biungulates and certain animal products such as milk and manure between compartments was strictly prohibited. Within a compartment, movements of animals were allowed only if there were no suspected farms in the compartment. Feed suppliers, milk trucks and so on were only allowed to visit farms within a compartment. Conveyances, i.e. trucks, trailers and containers, used on farm visits in one compartment were not allowed to be used for that purpose in another compartment. Trucks and trailers were registered and labelled with coloured stickers, so that enforcement officers could tell which compartment transporters were bound to.

Movement bans

When foot-and-mouth disease was identified in the United Kingdom, the European Commission banned the export of biungulates and products of these animals from the UK. The Netherlands announced a nation-wide movement ban for sheep and goats. Markets for all livestock - whether biungulate or not and including poultry - were closed and exhibitions and other events where animals are brought together were cancelled. After the outbreak in France, the Netherlands imposed a ban on all movements of biungulates.

When foot-and-mouth disease was confirmed in the Netherlands, a 72-hour general movement ban was laid down in all of the Netherlands for all transports of livestock, poultry and conveyances for transporting these animals. When the source of infection was established on 24 March (Irish calves imported via France), the general standstill order was lifted.

After this, severe restrictions continued to apply in the so-called restricted areas (where cases of the disease were suspected or confirmed). The compartmentalisation scheme remained in force. Within a compartment, strict conditions applied for transports of semen, embryos and ova of biungulate animals. Animal feed could be delivered to farms and milk could be picked up, provided the conveyances used were cleaned and disinfected before leaving the farm. Poultry transports were allowed only in the case of one-day chicks and slaughter animals. Visits to farms with livestock were prohibited, except in urgent cases requiring professional help from a veterinarian or technical expert. These visits were subject to stringent cleaning and disinfection procedures.

Stamping-out

Before the outbreak of foot-and-mouth disease in the Netherlands, the Government had already taken the precautionary measure of slaughtering all susceptible animals on farms where sheep and deer were present which had been imported from the UK. On farms which had imported pigs from the UK, clinical checks had been carried out and blood samples taken for analysis. Farms which had been in contact with these farms were blocked and clinically tested. The same system was applied in the case of biungulates imported from France.

When the first case of the disease was identified in Dutch territory, the Government adopted a strategy of immediate action. As soon as a new case was identified the farm concerned was blocked and all susceptible animals (cattle, sheep, pigs and goats) were slaughtered. Susceptible livestock on contiguous farms in a radius of one to two kilometres from the infected farm and on 'dangerous contact' farms were also preventively slaughtered. In principle, animals from infected farms were slaughtered on the basis of test results for foot-and-mouth disease. If there were strong clinical indications for foot-and-mouth disease, however, livestock was slaughtered without delay on the suspected farm, contiguous farms and dangerous contact farms.

Livestock was slaughtered on the farms themselves. So-called protection zones were imposed in a circle of three kilometres around infected farms. Within these zones, all transports were prohibited and clinical inspections were conducted on all farms with susceptible livestock. Outside the protection zone, a surveillance zone was imposed with a radius of at least ten kilometres around the infected farm. All transports were prohibited in this zone.

Emergency vaccination

The European Union has maintained a policy of non-vaccination since 1 January 1992. In cases of foot-and-mouth outbreaks, however, Member States may, under certain conditions and with explicit permission of the European Commission, carry out emergency vaccination. Emergency vaccination is restricted to susceptible animals earmarked for preventive slaughtering on farms within a certain distance from an infected farm. Emergency vaccination may be adopted when there is insufficient slaughtering or rendering capacity for the number of animals that need to be destroyed.

Emergency vaccination enables the authorities to carry out culling in phases, while preventing the disease from spreading further. One of the conditions of vaccination is that all vaccinated animals are identified by an indelible mark and are killed and destroyed within two months of vaccination.

In order to control the outbreak rapidly and effectively, the European Commission granted the Netherlands permission to carry out emergency vaccination on susceptible livestock in zones of 2 kilometres around an outbreak. However, in the most heavily infected zone at the borders of the provinces of Gelderland and Overijssel, emergency vaccination was allowed in a specifically defined and much bigger (up to 10 kilometres) area. The last vaccinated animals were slaughtered on 25 May 2001.

	Vaccinated and later culled	Total culled
Pigs	85,911	121,437
Cattle	62,495	85,186
Sheep	23,401	32,633
Goats	5,585	8,297
Other Biungulates	85	11,642

Outbreaks

In the period from 21 March to 22 April, 26 cases of foot-and-mouth disease were identified: twenty in the province of Gelderland, four in Overijssel and two in Friesland.

Vaccination

By the end of the foot-and-mouth period, a total of 177,474 animals on 1,931 farms had been vaccinated and later culled: 62,495 cattle, 85,911 pigs, 23,401 sheep, 5,585 goats and 85 other biungulates.

Culling

During the foot-and-mouth disease crisis, livestock on 2,655 farms was culled: 85,186 cattle, 121,437 pigs, 32,633 sheep, 8,297 goats and 11,642 other biungulates.

The end of the outbreak

When no new cases were suspected or confirmed after the case on 22 April, the European Commission decided on 10 May to lift some of the transportation restrictions. On 13 June, export restrictions were lifted in all parts of the Netherlands except the last surveillance zone in Gelderland.

On 25 June 2001, it had been thirty days since the slaughter of the last vaccinated animal on 25 May. There had been no new cases or suspected cases since 22 April. The European Commission therefore declared the Netherlands officially free of foot-and-mouth disease from 26 June. All remaining restrictions for transports of live animals or animal products to other Member States were lifted.

Improvements in the future

The outbreak of foot-and-mouth disease demonstrated the importance of minimising factors which could lead to a new outbreak in the future. Measures are therefore being adopted to restrict transports of susceptible animals to direct transports between the business of origin and the destination. Stopovers in transit should comply with strict conditions. The identification and registration system for livestock also needs to be improved. The system that is currently in place has been put under the direct supervision and responsibility of the national Government.

The OIE

Until this recent outbreak of foot-and-mouth disease, the Netherlands had been classified by the OIE as a foot-and-mouth disease free country where vaccination is not practised (Article 2.1.1.2). According to Article 2.1.1.6, a country can regain this status after an outbreak when it has gone through a no-incidents period of:

- a. three months after the last case, where stamping-out and serological surveillance are applied, or
- b. three months after the slaughter of the last vaccinated animal where stamping-out, serological surveillance and emergency vaccination are applied.

As emergency vaccination was applied (the last vaccinated animal was killed on 25 May 2001), point b of the OIE regulations applies, so that the Netherlands regains its status as a "foot-and-mouth disease free country where vaccination is not practised" from 25 August 2001.

Characteristics of the Dutch strategy

The Dutch strategy to control foot-and-mouth disease stood out in a number of ways:

Education

The National Inspection Service for Livestock and Meat (RVV) employs veterinary officers who are specially trained to recognise animal diseases such as foot-and-mouth disease. Continuous training and routine exercises help RVV veterinary officers keep their knowledge up to date. Private veterinarians also receive regular refresher courses on foot-and-mouth disease.

Experience

Because livestock farming in the Netherlands is intensive, both the authorities and the sector have a lot of experience with disease control operations. These experiences have been used to draw up contingency plans. Although the Netherlands had not had an outbreak of foot-and-mouth disease since 1984, the contingency plan had been continually adapted to incorporate new developments in the sector. A fully up-to-date contingency plan for the control of foot-and-mouth disease was therefore available in early 2001.

Exercises

Foot-and-mouth exercises are held each year. These exercises in 'peacetime' resulted in good agreements with organisations and businesses which are contracted to assist the authorities in the event of an outbreak of foot-and-mouth disease.

Crisis Control Centres

Local crisis control centres with responsibility for operational aspects are vital in implementing appropriate measures in the affected regions. In the 2001 outbreak, three crisis control centres were set up.

Information

Good information to the sector and the public facilitate disease control. Therefore, all measures were published immediately on the special foot-and-mouth page of the Internet site of the Ministry of Agriculture, Nature Management and Fisheries. A call centre was also set up and manned by competent staff seven days a week.

Speed

An important aspect of the Dutch strategy was the rapid response to every suspected or confirmed case of foot-and-mouth disease. When outbreaks of the disease occurred in other countries, Dutch authorities immediately checked which imports had taken place from those countries. Livestock was put under quarantine and preventively slaughtered or inspected on farms which had imported animals from the affected countries in a six-week period prior to the outbreak, as well as on contact farms.