

# NewScientist

## Faulty pipe blamed for UK foot and mouth outbreak



**EARTH** 7 September 2007

By [Andy Coghlan](#)

A faulty drainage pipe was the most likely source of an outbreak of foot and mouth disease in Britain on 3 August, official investigators concluded today.

The pipe connected two world class research facilities on the same **Pirbright facility in Surrey**. One, **Merial Animal Health**, is a manufacturer of foot and mouth and other animal vaccines. The second, the **Institute of Animal Health** (IAH), is the world's foremost reference laboratory for identifying and monitoring outbreaks of foot and mouth.

The Health and Safety Executive (HSE) has revealed that the two labs spent years haggling over who should pay for replacement of the ageing pipework, which now looks likely to have allowed the virus to escape. Ironically, the IAH had [advertised for a new plumber](#) just days before the outbreak.

"The drainage system was crucial to what happened," says Brian Spratt of Imperial College London, whose report on biosafety was issued at the same time as the HSE report into the incident itself.

The faulty pipe identified by the HSE transmits treated effluent from the **Merial factory** to a sterilisation tank on the IAH site containing sodium hydroxide.

### Chain of contamination

Heavy rains in July probably overwhelmed the drainage system, washing live virus into the open through poorly sealed drain covers, concludes the HSE.

Lorries owned by contractors working on the Pirbright site probably picked up the mud-borne virus on their wheels and left traces of it on a road adjacent to the farm where the first of the two cases identified was confirmed on 3 August. Tractors from the farm probably picked up traces of contaminated mud from the road, then deposited them on the farmland, exposing the animal to the virus.

Early identification of the virus from the infected animal demonstrated that the offending strain – O1BFS – can only have come from Pirbright, where it was being used both by Merial and by the IAH. But the precise source of the virus remains unknown. “We were unable to discriminate between the Merial and IAH sources,” says Geoffrey Podger, chief executive of the HSE.

The HSE says that although Merial was producing 12000 litres of the virus at the time of the incident, compared with experiments using just millilitre-scale amounts at the IAH, it isn't possible to say with certainty that the virus originated from Merial.

## Biosecurity lapses

The official reports identifies lapses in biosecurity at the Pirbright site, and demands they be rectified. “There was a poor drainage system, which was poorly maintained, rarely inspected, and not fully contained,” says Spratt.

“There was poor communication about risk between the two facilities, and funding difficulties at IAH hindered repairs to the effluent system,” he adds.

The HSE report criticises the lack of oversight of contractors visiting the site. “We did find deficiencies in record-keeping, and difficulties accessing records of lorries that had access to the crucial part of the site,” says Podger.

Spratt also identifies a possible conflict of interest on the part of the government, which funds research at IAH, and is meant to regulate its activities.

## Independent reviews


In response, the government has set up two independent reviews, as demanded by the HSE and Spratt. One will investigate procedures at Pirbright for handling dangerous pathogens like the foot and mouth virus. The other will assess the scope for making a single body responsible for regulating and inspecting labs that handle animal, as well as human, pathogens.

At present, the HSE does this job for human pathogens, and the Department for Environment, Food and Rural Affairs (DEFRA) for animal pathogens. Spratt said HSE would be the ideal body to regulate both.

The outbreak itself is now fully under control, says government chief vet, Debby Reynolds. The surveillance zone will be lifted on Saturday, around 35 days after the outbreak began, but the UK will have to wait until November at the earliest to regain its status as a country free of foot and mouth disease, she said.

Agriculture minister Hilary Benn, meanwhile, stresses that there should not be a repeat of the Pirbright escape. “There can be no excuse for the foot and mouth virus to escape,” he says. “It must not happen again.”

Reproduced for educational purposes only. Fair Use relied upon.



**Animal Science Database**  
Supporting your research in animal production, welfare and health

[Other CABI sites](#)
[Home](#)
[About](#)
[Bookshop](#)
[Help](#)
[Contact](#)
[Mobile](#)
[Login](#)

Nutrition
Disease & Health
Aquaculture
Breeding and Genetics
Dairy Science & Technology
Welfare & Behaviour

Search Animal Science Database

Smart searches

Access to over 3 million abstracts, more than 166,000 full text documents, over 360 CAB Reviews and some 4,190 news articles

Enter keyword or phrase

Search within topic ▼

Filter by type ▼

Search

[Advanced Bibliographic Search](#) →

[Sign up](#) to receive our Veterinary & Animal Sciences eNewsletter, book alerts and offers direct to your inbox.

News Article

## Merial Resumes Production of Vaccines in Pirbright Labs, UK

---

**The drug company whose vaccines are linked to the inquiry into the recent outbreak of foot-and-mouth disease (FMD) in the UK has been allowed to re-start production.**

Merial Animal Health said it had the go-ahead from the UK's Veterinary Medicines Directorate (VMD) to use a non-live FMD virus. However, Merial will not be able to resume using live virus until the UK government has considered the two investigations into the source of the outbreak.

The company suspended vaccine production after an outbreak of foot-and-mouth disease that was confirmed on a farm near Guildford and no finished vaccine has been made since 8 August.

Merial shares the Pirbright laboratory complex in Surrey, with the Institute for Animal Health. An interim report has found that there was a strong probability that the complex was the source of the outbreak. The initial Health and Safety Executive report confirmed the strain of the disease found at the first farm hit by the outbreak was identical to that being worked on at both the Institute for Animal Health and Merial.

"Merial have operated at Pirbright for 15 years and in all that time there has not been a breach of bio-security from our operations," Merial said in a statement. "We are eager to learn the findings of the investigations into the cause of the foot-and-mouth disease outbreak, and we continue to work with the investigators as required."

"After continuous examination of our systems we have found no evidence that the outbreak in Surrey can be traced to any failure in our bio-security procedures or equipment."

---

[^ Top of page](#)

Article details

**Author(s)**  
M Djuric

**Date**  
31 August 2007

**Subject(s)**  
Veterinary medicine

**Keywords**  
[foot and mouth disease virus](#)  
[vaccines](#)  
[UK](#)