

THE INVESTIGATION OF A SALMONELLA OUTBREAK IN GUERNSEY JUNE/JULY 1990  
THE "ISLAND FACTORS" INVOLVED

The Outbreak

During June and July 1990 there was a rapid and marked increase in the notifications of salmonella infections in Guernsey. Information regularly received from the Island's Pathology Laboratory confirmed this and disclosed a large number of otherwise un-notified cases. The outbreak ultimately comprised 125 cases of salmonella O-9 H-G all of which were eventually confirmed as being phage type 4. Appendix A. shows the onset and notification details which display the typical initial infection peak followed by the extended infection spread pattern.

The causative organism, salmonella enteritidis phage type 4, is almost exclusively associated with poultry and eggs. Prior to this outbreak there had been few recorded cases of food poisoning involving this organism. See appendix B.

Investigation

All notified cases were interviewed, food histories established as completely as possible, their involvement with persons working within the food trade established and significant contacts traced.

A town centre retail bakery shop was initially implicated. A few customers and, upon investigation, several members of staff were found to be infected but surface swabbing in the food preparation areas revealed nothing. Raw shell eggs were used at the establishment for the preparation of mayonnaise.

During the following 2-3 weeks three hotels were also implicated. On each occasion only a few customers were infected but several staff members tested positive and raw shell eggs were used at each of the establishments for the preparation of mayonnaise, mousses, sauces, etc.

Apparently unconnected individual cases also continued to be reported during the period.

Publicity

On the 3rd July 1990 the Guernsey Evening Press, Guernsey's daily newspaper which is allegedly read by 80% of the Island population, carried a front page headline "Salmonella Hits Food Handling Staff". On the 4th July Guernsey's Department of Health advised the food trade and the general public not to eat uncooked or lightly cooked eggs and to avoid cross-contamination in the kitchen, this again featured on the front page of the "Press". Press reports then continued on an almost daily basis giving latest numbers of persons infected. One headline stating that all eggs were suspect was followed by a statement from Guernsey's only commercial egg producer that his local eggs were "salmonella-free".

The outbreak became a major Island news issue featuring on television and radio in addition to the newspaper. Statements from Professor Lacey and Richard North, U.K. "Experts" in the salmonella and egg controversy, were published casting doubt on the connection between salmonella enteritidis phage type 4 and eggs.

### Source Identification

Amidst the publicity the investigation continued. Two of three brothers in a household were found to be infected after eating chocolate mousse, prepared by their mother from raw eggs. The third brother who did not consume the mousse was not infected. Remains of the mousse were found, upon examination, to contain salmonella enteritidis phage type 4 and, fortuitously, so was one egg which was left from a box of six which had provided the eggs for the mousse. The egg box bore the name of the local allegedly "salmonella-free" egg producer. The local egg producer was unconvinced that his eggs were involved claiming that since local eggs carried a price premium imported eggs were occasionally substituted by unscrupulous retailers and sold in his egg boxes.

Litter samples were collected from the egg producers three hen houses and salmonella phage type 4 was isolated from litter from one of the houses. MAFF in the U.K. were contacted and on their advice cloacal swabs were taken from hens in the infected hen house. Salmonella enteritidis phage type 4 was isolated in a few of these samples.

To establish final and conclusive proof 60 hens were slaughtered and taken to MAFF's laboratories in Reading. Salmonella enteritidis phage type 4 was again isolated from the organs of these birds.

The Guernsey egg producer was at this point convinced and agreed to withdraw from sale eggs from the infected hen house. Following this the outbreak subsided. The remaining hens were later slaughtered.

### Salient Island Factors

#### Public Attitude

There was a clear demonstration that many Island residents, caterers and customers alike, believed Island produce to be clean and safe from "mainland infections". Many people reported that they deliberately changed to more expensive locally produced eggs because they believed them to be naturally safer. Salmonella outbreaks were perceived as U.K. or continental afflictions.

#### Publicity

Hard local news is a scarce Island commodity. The local news media make the most of and even exaggerate any local incident and may over alarm or misinform a very large section of the Island population unless the information released to them is carefully managed. Local Island media, however, do provide very ready

access to most of the population and can be used on occasion to advantage.

### Island Logistics

The practical difficulties of meeting MAFF's criteria for the conveyance of 60 hens carcasses to their laboratories in Reading (see Appendix C) proved a problem which was exacerbated by a delay at U.K. Customs. Also, there being no Island based food processor able to pasteurise the withdrawn eggs or process the infected hen carcasses, there was no market for them as transport costs made it financially impractical for them to be exported. The eggs and carcasses became a financial liability to the egg producer and he eventually had to pay to have them landfilled.

### Legislative Differences

There is no legislation in force in Guernsey which requires the withdrawal from sale of eggs from salmonella infected hens. There is no compulsory slaughter policy for salmonella infected hens and no means of compensating an egg producer should he elect to slaughter his infected hens.

### Case Inferences

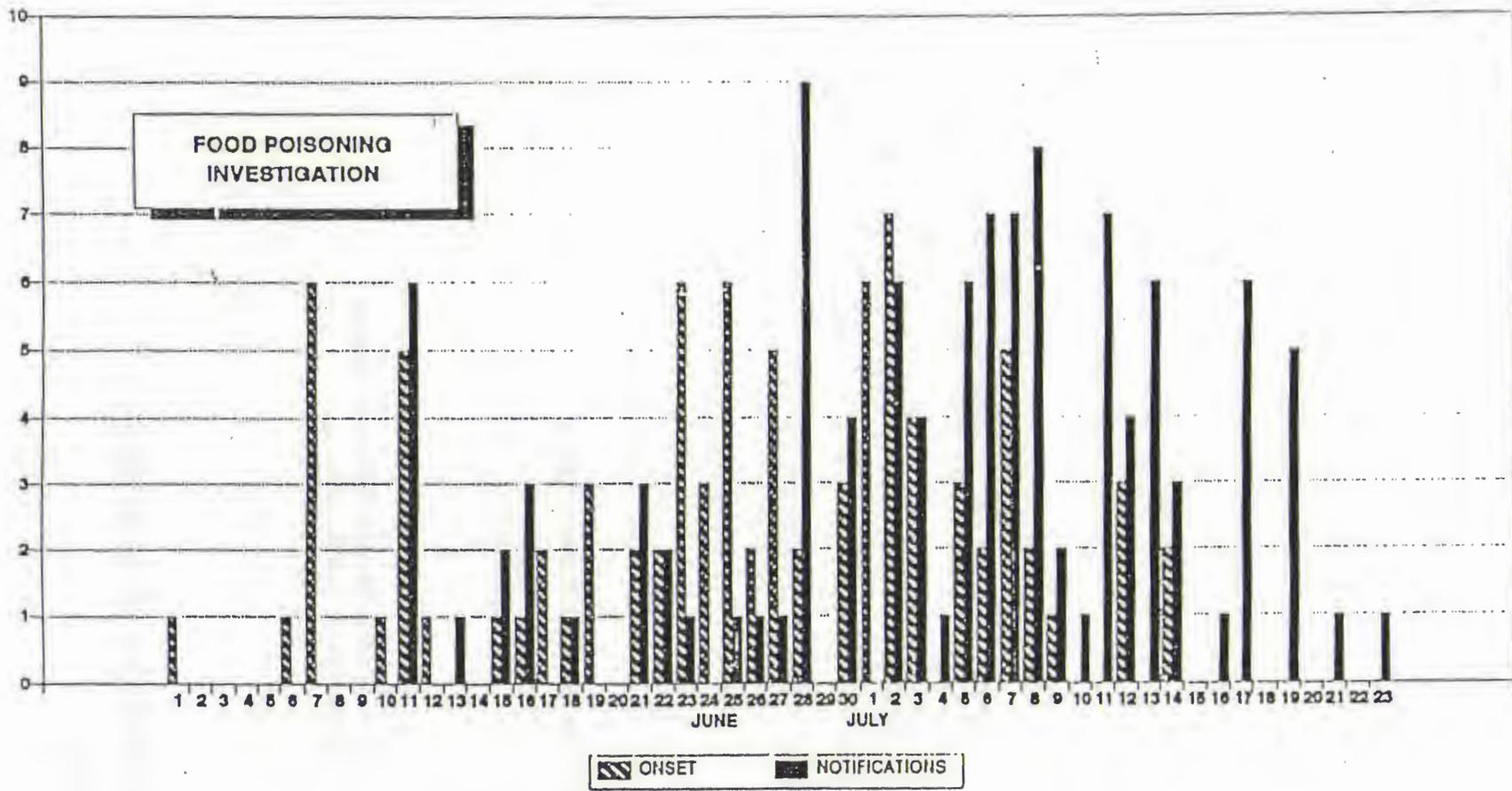
In matters of food poisoning no cordon sanitaire protects Guernsey nor, I believe, any other of the British Isles.

Although not having to slavishly follow the U.K's legal example islands need to be equipped both physically and legislatively to effectively handle such incidents.

Island factors do exist and need to be recognised.



J. L. Cook  
Deputy Chief Environmental Health Officer.



Appendix B

1990 Outbreak June & July

125 cases of Salmonella enteritidis phage type 4

1989

3 cases of Salmonella enteritidis phage type 4

2 cases of Salmonella enteritidis phage type not known

1988

6 cases of Salmonella enteritidis phage type 4

J. L. Cook - 26th July 1990

Advice received from Mr. Adam Duncan - M.A.F.F. - Reading (0734) 591417 for post-mortem sampling of hens from Castel Farm Eggs:-

- 1) Hen house containing approximately 3,500 hens in three connecting bays - 60 hens should be taken.
- 2) The hens should be killed by dislocation of the neck i.e. necked and carcasses not bled.
- 3) The carcasses should be placed in double plastic bags @ 5 per bag.
- 4) The carcasses should arrive at the laboratory within 6 hours of being killed. In this time scale refrigeration is not necessary. The carcasses should not be frozen.
- 5) Ideally the carcasses should arrive by 2.00pm to allow for dissection on the day of arrival.
- 6) It is best if carcasses are received on a Monday or Tuesday to allow for incubation of samples without the necessity for weekend working. Weekend working will, however, be undertaken, at a price, in a case of emergency.
- 7) Mr. Duncan should be advised in advance of the despatch of samples.
- 8) Import licence for carcasses to Reading AHZ 527/87/1.