Peanut butter

(Extract from 'Peanut Butter and Swinburne’ by Rod Dedman, published in Swinburne Biology Newsletter Issue No. 3 1996.)

Australia has earned a place in the history books – by being the first country to link peanut butter with human illness!

In April 1996 the Department of Human Services (DHS) in Victoria was alerted to a possible outbreak of *Salmonella* Mbandaka and, in accordance with protocol, one of the Environmental Health Officers (EHO) with the small unit responsible for monitoring gastrointestinal illness commenced the investigation to establish the cause of the illnesses.

As with most *Salmonella* illness, establishing a source was complicated. In this outbreak the average time between notification of illness and onset of symptoms was three weeks – this made it difficult for families to accurately recall food histories. However, after only 30 cases being notified to DHS, it had been established that chicken and sandwich spreads were the most likely cause.

At this stage of the investigation it was decided to undertake a case control study. This meant that existing cases, as well as two similar controls for each case, had to be investigated more specifically in relation to their consumption of suspected foods. The aim of the case control study was to identify a food, which was commonly consumed by victims and not by controls.

After a pilot study of 10 cases it was revealed that seven of the cases had eaten generic brands of peanut butter. With this information, one of the unit EHOs activated the network between the Department and Local Government EHOs and arranged for two jars of peanut butter to be collected from case households and sent for analysis.

Within three days it was confirmed that both jars of peanut butter were contaminated with group C *Salmonella*, the same group to which *S*. Mbandaka belongs.

Once a food source was implicated in the outbreak, a member of the Department’s Food Safety Unit oversaw the recall of peanut butter, ensuring that the manufacturer followed the National Food Authority’s “Food Recall Protocol”. She also joined the team, which had undertaken the initial investigation and commenced the complex task of inspecting the manufacturer’s production plant and tracing ingredients to establish the source of contamination, as well as other foods, which may have been contaminated.

The source of the *Salmonella* contamination was traced to a Queensland peanut roaster and distributor. The Queensland Health Commission was notified and took up the investigation to ensure that the source of contamination was identified and rectified.

Once the outbreak had been controlled, the unit EHOs were involved in negotiations with the peanut butter manufacturer to review their quality assurance program. The outcome of these negotiations resulted in the company introducing more vigilant procedures to exclude extraneous matter from their processing areas, and increased monitoring and sampling of ingredients as well as finished product. These procedures would identify *Salmonella* contamination prior to release for sale.

By the conclusion of this outbreak approximately 20,000 jars or 10,000 kg of peanut butter had been manufactured with peanuts exposed to *S*. Mbandaka contamination, 52 people had been diagnosed with gastroenteritis and found to be infected with *S*. Mbandaka in Victoria, and many tonnes of peanut butter was recalled from sale.