Microbiology bulletin 58

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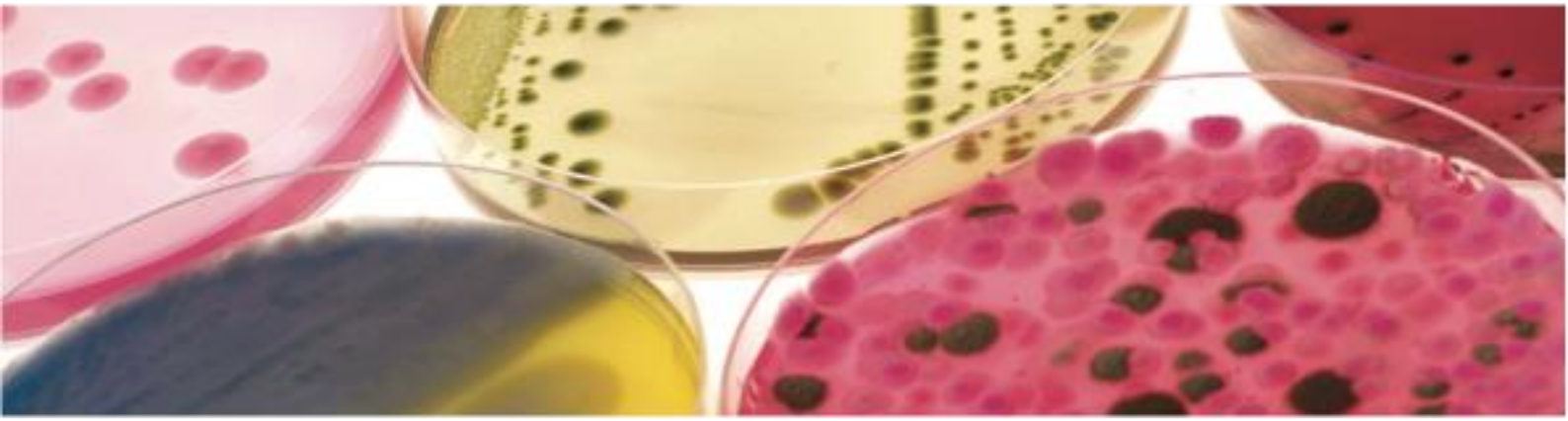

1. Rise in Salmonella typhimurium cases prompts warning

The Health Protection Agency, Public Health England and Public Health Scotland have issued a joint statement reminding people to cook and handle raw meat properly following a rise in the number of reported cases of a particular strain of Salmonella typhimurium which have been linked to lamb and mutton. An increase in cases of this particular type of Salmonella was first identified in July 2017. A number of control measures were put into place which led to a significant decline in cases at the end of last year. A total of 118 cases were reported up until May 2018. However, since June, a further 165 cases have been reported (up to 19 October), which has prompted the joint authorities to put further control measures in place.

Nick Phin, Deputy Director, National Infection Service, PHE said: 'The likely cause of the increased numbers of this specific strain of Salmonella typhimurium is considered to be meat or cross-contamination with meat from affected sheep. People can be infected with Salmonella typhimurium in a number of ways such as not cooking their meat properly, not washing hands thoroughly after handling raw meat, or through cross-contamination with other food, surfaces and utensils in the kitchen".

2. The effects of the long hot summer

Whilst we have probably all enjoyed the excellent summer weather this year, it remains to be seen whether the long hot summer and early autumn which we have experienced in the UK and Europe will have an effect on the number of foodborne infections or outbreaks over the coming months. When either crop irrigation water or livestock drinking water is in short supply, then it is possible that the available water may have a higher microbiological burden than in years where we have had average temperatures and rainfall. Increased ambient storage temperatures, increased insect activity and excessive condensation when warm products are cooled and stored all may play a part in a possible rise in foodborne outbreaks in the remainder of 2018.A total of 6,619 confirmed cases of infections with STEC were recorded in Europe. The highest number of confirmed cases was reported by Germany with 1,843 followed by the UK with 1,373. The two countries accounted for 47.7 percent of all EU cases.

3. Cantaloupe melon Listeria outbreak linked to weather

Another example of how extreme weather can be a factor in outbreaks has been revealed in the investigation into an outbreak of Listeriosis in Australia and Tasmania which occurred between January and April of this year. The report concluded the contaminated fruit came from a single farm in New South Wales, and the outbreak was largely caused by the weather.
The report stated that heavy rains in December and the dust storms that followed covered the farm's fields in dust, and significantly increased the amount of listeria on the fruit.
Listeria is ubiquitous in the environment and is widely found in soil and dust and therefore it is likely that the increased contamination on the surface of the melons meant that normal washing and sanitisation steps designed to remove any surface contamination were ineffective. This is exacerbated with cantaloupe melons (or rockmelons as they are known as in Australia) as the report stated that "the netted skin of rockmelons makes this fruit particularly hard to clean and sanitise".

4. Review of meat cutting plants and cold stores endorsed by authorities

The boards of the two UK food regulators (Food Standards Agency and Food Standards Scotland) have endorsed the recommendations made in the final report of the review of meat cutting plants and cold stores. The findings and recommendations from the joint Review of Meat Cutting Plants and Cold Stores were published on the 11th October. The report includes 19 recommendations for industry and regulators and is accompanied by a delivery action plan proposing how changes are to be implemented. In conclusion the report stated that "consumers need to see visible evidence that food businesses are prioritising food safety as part of their overall management culture which will drive improvements in public confidence in the meat industry".

The full joint FSA and FSS report can be accessed at https://www.food.gov.uk/sites/default/files/media/document/fsa-and-fss-review-of-meat-cutting-plants-and-cold-stores-final-report_1.pdf

5. Research – Salmonella, biofilms and cucumbers

A research paper published in this month's Journal of Food Protection has investigated the ability of five different strains of Salmonella to produce biofilms and remain viable in post-harvest cucumbers.

The paper concluded that different serotypes of Salmonella exhibited differing abilities to form biofilms which confer protection against washing and sanitisation. The paper concluded that strict temperature and moisture control between harvest and consumption is key to controlling the potential of biofilm production and growth of specific high risk Salmonella serotypes.

6. More on Salmonella and cucumbers

Although health officials are in the early stages of investigating an outbreak of Salmonella infantis in both Canada and America, the outbreak is currently being linked to the consumption of cucumbers. There have been 45 laboratory confirmed cases so far in Canada with 6 cases reported in Washington State (which borders Canada).

Back in July the European Centre for Disease Prevention and Control (ECDC) reported that 5 EU countries were involved in an outbreak of Salmonella agona affecting 147 people which was linked to the consumption of cucumbers.

7. Dutch cases of Salmonella buck the European trend

In August's bulletin we reported on how the EU had reported that the number of Salmonella enteritidis cases had increased for the first time in a decade, and last month we revealed that cases of Salmonella in Denmark had doubled, but a report published this month, shows that the number of reported Salmonella cases in Holland have hit a record low. There were an estimated 27,440 patients with acute gastroenteritis due to Salmonellosis in 2017 which means that the Netherlands has one of the lowest incident rates in Europe. The report stated that the reasons for this include the effect of control programs for farm animals and improvements in the hygiene of the food production process. The main source of infections in humans was pork, eggs, chicken and beef. As in the UK, the two most prevalent serotypes recorded were Salmonella enteritidis and Salmonella typhimurium.

8. EU countries in simulated outbreak management

Five European food safety agencies including the UK, Ireland, Germany, Portugal and Spain have recently met to practice response to an emergency food safety incident.The aim was to use a foodborne outbreak to review the opportunities and performance of member states and EU authorities at jointly coordinating such crises. Focus was on the measures taken and effectiveness of the information flow between authorities involved.

The exercise showed countries had different structures for managing a foodborne outbreak, from decisions initially made at regional level to all action taken at a national level.

The joint agencies concluded that full and timely communication between the authorities involved is key to successful crisis management. Lessons learned will be used to optimise crisis preparedness at the member state and European level.

9. Listeria outbreak in Switzerland and EU study reveals potential clusters of Listeriosis

Authorities in Switzerland are investigating to find the source of a suspected foodborne outbreak of Listeria with 12 cases and two deaths. The Federal Office of Public Health said since June this year it has recorded an unusual surge in Listeriosis cases with serotype 4b. According to analysis using next generation sequencing (NGS) the cases show a close relationship with each other and can be considered to be linked.

Meanwhile a study coordinated by the European Centre for Disease Prevention and Control (ECDC), has analysed 2,726 human Listeria monocytogenes isolates from 27 countries between 2010 and 2015.

Using NGS techniques it found that just under 50% of the cases were isolated whereas the remaining half of cases were clustered together. Around one third of the cases that were identified as part of a cluster affected more than one country, often lasting for several years. Only two Listeriosis outbreaks were reported in the EU in 2016 and five in 2015, which suggests that many of them have gone undetected.