



Microbiology bulletin 18

January 2015

Happy New Year/ FSA 5 year strategy

It's the time of year for making lists and resolutions and predicting what the coming year will bring, and it's often viewed with an equal sense of amusement and frustration at how quickly we often fail to match our good intentions.

The Food Standards Agency publishes a 5 year strategy and in the autumn of last year they put out the new 2015-2020 plan for consultation. The thing that I found refreshing with this proposed 5 year plan is that there is a great amount of emphasis on the global food situation and how this will affect individual markets and economies.

The scientists who study food systems are clear that climate change and its consequences are likely to impact on the amount and types of food produced in the world in decades to come. They have produced models which predict that equatorial regions may become as much as 50% less productive by 2080. Also, the world population is growing. Predictions suggest that if consumption patterns do not change, agricultural production will need to increase by 60% relative to 2005 to meet global demands in 2050.

Changes to the global economy are likely to put extra pressure on Europe and the UK in terms of access to food. Historically, we were able to access more than our fair share of the world's food supply, but as other economies grow very rapidly more of the world's food supply will be purchased by those countries.

So as we look forward to the future (whether this is just for the next 5 years or in the longer term), it is

clear that there will be increased pressure on our food supply.

The roles and responsibilities of the Food Standards Agency are set out in the Food Standards Act 1999. "The main objective of the Agency in carrying out its functions is to protect public health from risks which may arise in connection with the consumption of food (including risks caused by the way in which it is produced or supplied) and otherwise to protect the interests of consumers in relation to food."

In simpler terms, the Agency has tried to ensure that "Food is safe and is what it says it is. We can afford enough of it for a healthy life, and that we have choices about what we eat, now and in the future".

The agency acknowledges that none of these things are guaranteed – there are still thousands of people a year who are hospitalised as a result of food poisoning, food allergies, and food intolerance, and hundreds die. Test results regularly show that food is mislabelled – beef as lamb, cobbler as haddock, and in 2013, horse as beef. Already there are consumers who cannot access enough safe, healthy food for them and their children. And the evidence suggests that the pressures on the food supply system are only going to become more intense, so food security and sustainability for the future will be under increasing pressure.

I feel that when the five year strategy is published later this year, the agency are genuinely taking a worldwide perspective and are rightly developing strategies for implementation far beyond 2020.

Listeria monocytogenes outbreak associated with caramel apples USA

On the 31st December, the CDC issued a statement on the current outbreak of *Listeria monocytogenes* which is thought to be associated with the consumption of caramel apples.

“As of December 30, 2014, a total of 32 people infected with the outbreak strains of *Listeria monocytogenes* have been reported from 11 states.

Thirty-one ill people have been hospitalized and six deaths have been reported. Listeriosis contributed to three of these deaths and it is unclear whether it contributed to an additional two deaths. The sixth death was unrelated to listeriosis.

Ten illnesses were pregnancy-related (occurred in a pregnant woman or her newborn infant), with one illness resulting in a fetal loss.

Three invasive illnesses (meningitis) were among otherwise healthy children aged 5–15 years.

To date, 23 (88%) of the 26 ill people interviewed reported eating commercially produced, prepackaged caramel apples before becoming ill.

At this time, no illnesses related to this outbreak have been linked to apples that are not caramel-coated and not prepackaged or to caramel candy”.

Approximately 2,500 illnesses and 500 deaths are attributed to listeriosis in the United States annually.

This outbreak serves yet again as a reminder that pathogens do not read textbooks. Whilst we have come to expect to encounter *Listeria* in long shelf life refrigerated products which are often manufactured in wet environments, it would not have been the top of most people’s list for surviving in a sugar rich, low water activity product such as caramel apples.

In contrast, we have discussed many times how *Salmonella* can (and often does) survive in just about anything, and this was further illustrated this week with the news of a USA recall of various sizes and

brands of Walnut Pieces because of a contamination risk with *Salmonella*.

There was also a recall in the UK of 200g packs of Aldi Choceur Treasures with a best before date of 1 September 2015 because *Salmonella* was detected in one batch of the product.

The comparative risk from Salmonella within the EU

The risk of *Salmonella* infection is 10 times higher in some Southern and Eastern European countries than in Nordic countries, according to a calculation model developed by researchers at the Statens Serum Institute in Denmark.

Researchers found a 10 fold difference in the annual incidence of infections when comparing estimates from Spain (0.61 infections/person/year) and Poland (0.55) with the Nordic countries (Sweden 0.06, Finland 0.07 and Denmark 0.08).

Kåre Mølbak from the Statens institute stated that “one of the reasons behind this could be that these countries have extensive *Salmonella* control programmes in farm animals”.

I would suggest that the difference in ambient temperature may also play a small part.

Cooking instructions not always adequate to ensure food safety

An article soon to be published in the International Journal of Food Microbiology volume 197, has revealed that cooking products following label instructions will not always achieve the desired 70°C for a minimum of 2 minutes.

Different food matrices were inoculated with different levels of *Salmonella* and cooked according to pack instructions by grilling, frying and baking. 26 out of 78 samples were still found to be positive after cooking with most detected after frying.

The study concluded that after cross contamination, most illnesses were due to inadequate cooking.