

**ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD**

**Surveillance update**

The attached paper updates Members on the FSA's survey sampling programmes and the work of the Surveillance Working Group. Comments from Members would be welcomed on the current and planned food surveillance work.

Secretariat  
September 2006

## **ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD**

### **Update on the survey sampling programmes and the work of the surveillance working group**

1. To reduce the incidence of food-borne disease the Agency needs to carry out research and surveillance to provide information on the presence, growth, survival and elimination of pathogenic micro-organisms throughout the food chain. Microbiological surveillance also helps to monitor how well the Agency is performing against targets and to update estimates of the extent, distribution and causes of food-borne disease. The Agency's Microbiological Surveys are developed to help in evaluating existing policy and to focus interventions.
2. Most surveys are conducted at retail level to reflect the products available to the consumer. The duration can vary from 3-4 months (a snapshot survey) to a year-long survey which could provide evidence on seasonality. The Agency takes into consideration results from previous surveys in the UK and elsewhere.
3. Microbiological surveys aim to measure accurately the prevalence of a target organism using market share information and estimated prevalence levels. Advice is sought from the Statistics Branch to develop a sampling plan that will reflect the prevalence and market share data. In some surveys, it may be necessary to over-sample in some areas, such as the devolved regions to enable a direct comparison between the different countries.
4. Sampling is carried out on a random basis according to a protocol, developed in consultation with the ACMSF Surveillance Working Group and other stakeholders. Protocols are also developed for handling and storing samples. When testing samples, ISO's or national standardised laboratory methods are used. All the results are cross-checked for accuracy by the Agency's Project Officer to ensure data integrity.
5. Once the survey is complete, retailers are informed of their results, a stakeholder meeting is held to discuss the findings and the final report is published. The Agency has a policy of openness and a commitment to protect and inform consumers. Therefore, it will publish the full provenance of the food samples tested.

#### ACSMF Surveillance Working Group

6. The ACSMF Surveillance Working Group advises the Agency on all aspects of microbiological food surveillance including laboratory techniques, protocols and sampling plans. At each meeting, the Agency provides an update on current food surveillance work and seeks the Group's recommendations.

7. At the two most recent meetings, the Group emphasised the importance of involving statisticians throughout the development of a survey, to analyse the geographical spread, sample size and ensure that the results are weighted accordingly. Another point raised involved the merit of over sampling areas with a smaller retail market share (e.g. butchers) and re-weighting the data to enable direct comparison with other retail outlets. The Group noted that controls should be in place to ensure consistency between laboratories and suggested adding audit steps to monitor competency.
8. The protocol for the 2007 chicken survey was discussed and it was agreed that a research requirement should be published to develop further the current ISO enumeration method for *Campylobacter* spp.
9. The details of the preliminary results for the non-UK eggs survey were also discussed and the high prevalence levels in non-UK eggs noted.
10. The Group reviewed the red meat survey and expressed concern over the methodology for the detection of *Salmonella* and *Campylobacter*. A validation exercise was suggested to compare against the swabbing method and this has been taken forward.

## **Current Surveys**

### Survey of non-UK eggs on retail sale

11. This survey is now complete and the final report is currently being drafted by the HPA. The main objective was to determine the prevalence of *Salmonella* contamination of non-UK produced eggs. In total, 1890 boxes of 6 eggs were sampled at small retail premises in and around London and North West England. The survey is expected to be published in October 2006.

### UK wide survey of eggs used in the catering industry

12. This survey is aimed at measuring the prevalence of *Salmonella* contamination in eggs used in the catering industry. Sampling commenced in November 2005 and will run for 12 months. The target is 1,600 samples and will include both UK and non-UK eggs. The contractors are the Health Protection Agency and they have recruited environmental health officers covering local authorities throughout the UK to carry out the sampling. The survey has been running for 10 months and 1,015 boxes of 6 eggs have been taken with 1,002 deemed acceptable for testing. This survey is due to be published in early 2007.

### UK wide retail survey of raw red meat

13. The survey was commissioned to determine the levels of contamination of red meat on UK retail sale. Samples are being tested for a range of foodborne pathogens (*Campylobacter*, *Salmonella*, *Escherichia coli*

(O157 and non-O157), *Listeria monocytogenes*, *Yersinia enterocolitica*, *Clostridium perfringens*, *Staphylococcus aureus*) as well as Enterobacteriaceae. It began in March 2006 with a 3 month pilot study; the main survey then started in June 2006 and will run for 12 months with approximately 5,200 samples being taken.

#### Survey of *Listeria* in ready-to-eat hot and cold-smoked fish

14. The aim of this survey is to determine the prevalence and numbers of *Listeria* spp. and *Listeria monocytogenes* in ready-to-eat smoked fish sold at retail throughout the UK. The survey also includes additional microbiological parameters such as total viable count, Enterobacteriaceae, *E. coli*, *Salmonella* and *Staphylococcus aureus*. The survey started in July 2006 and sampling began in August 2006. In total, 2,274 hot-smoked and 1,126 cold-smoked fish samples will be taken and tested over a period of 3-4 months throughout the UK.

#### **Proposed Future Surveys**

##### 2007 retail survey of *Campylobacter* and *Salmonella* contamination in raw chicken

15. The objective of this survey is to determine the prevalence of *Campylobacter* and *Salmonella* in raw chicken sold at UK retail outlets and thereby monitor the Agency's progress towards meeting its 2010 target of reducing *Campylobacter* in fresh and frozen poultry meat by 50%. *Campylobacter* species, serotypes and phage types and susceptibility of isolates to antimicrobial agents will be determined. In addition, the survey will enable the Agency to monitor the prevalence of *Salmonella* to ensure that low levels found in recent surveys have been maintained and to determine if any new serotypes are emerging. This will run for 12 months beginning in 2007. A research requirement was published in July 2006 and it is currently in the process of appraisal.

##### Survey of *Listeria* in cold cooked sliced meats and pâtés

16. The aim of this survey is to determine the prevalence and numbers of *Listeria* spp. and *Listeria monocytogenes* in cold sliced meats and pâtés sold at retail. A 2002 study by the LACORS/HPA (formerly PHLS) co-ordinated food liaison group found the prevalence of *Listeria monocytogenes* in 763 cold meat samples to be 2.1%, whilst the prevalence in pâté samples was 1.9%. Although these levels are low, it is essential that a large survey of this type is conducted so that the prevalence of *Listeria* spp. and *Listeria monocytogenes* are established. The survey was due to start in mid 2006 for 6 months with 3-4 months of sampling; this has now been deferred until 2007.
17. This year's (FY 2006/07) budget for microbiological surveillance is approximately £950,000. This is a substantial increase on 2005/06 budget of £470,000.

18. The Agency would welcome comments from Members on the current and planned food surveillance work.

**Secretariat**  
**September 2006**