

## UPDATE ON FSAS PROJECTS ON FOODBORNE DISEASE

### Executive Summary

The first presentation by John Cowden will update the Committee on the incidence of the key foodborne pathogens in Scotland - Campylobacter, Salmonella, *Listeria monocytogenes* and *E. coli* O157. The second presentation by Anna Whyte will update the Committee on recently completed and current research projects and initiatives commissioned by the FSA, both in Scotland and across the UK, to improve our understanding of the sources and epidemiology of these pathogens and address our strategic targets in reducing foodborne disease.

The Committee is invited to:

- Note the presentations and summary of projects

### **SCIENCE BRANCH**

<b>Contact:</b>	Anna Whyte	Tel: 01224 285119
	Jacqui McElhiney	Tel: 01224 285121

## UPDATE ON RESEARCH AND SURVEILLANCE FUNDED BY FSA SCOTLAND ON FOODBORNE DISEASE

### 1. FSAS funded research on Campylobacter infection in Scotland

#### **MLST Analysis of Scottish Human Campylobacter Isolates**

**Description:** Analysis and comparison of Multilocus sequence typing (MLST) profiles of all confirmed Campylobacter isolates from human cases in Scotland over a 15 month period. Compare the human isolates with Campylobacter isolates from food and environmental sources.

**Contractor:** University of Aberdeen

**Status:** First final report received

**Duration:** June 2005 – December 2008 (extension for additional analysis to be completed by March 2009)

**Total Cost:** £832,546

#### **Case Control Study of Private Water Supplies as a Risk Factor for Campylobacter infection in Aberdeen City and Aberdeenshire**

**Description:** A study undertaken in Aberdeen City and Aberdeenshire to determine if private water supplies are a risk factor for human Campylobacter infection. Co-funded with the Scottish Executive.

**Contractor:** Health Protection Scotland

**Status:** Draft final report received

**Duration:** March 2004 – December 2008

**Total Cost:** £105,192

### **Analysis of Household Water Samples**

**Description:** Collection and analysis of household water samples of participants from the Campylobacter case-control study.

**Contractor:** University of Aberdeen

**Status:** Completed

**Duration:** August 2005 – December 2008

**Total Cost:** £178,467

### **Geographic Variation in Human Campylobacter Infection in Scotland**

**Description:** To investigate the reasons for regional and temporal differences in the rates of human Campylobacter infection in Scotland.

**Contractor:** University of Glasgow

**Status:** In progress

**Duration:** April 2005 – May 2009

**Total Cost:** £335,739

## **2. FSAS funded research on *E. coli* O157**

### **Prevalence and concentration of *Escherichia coli* serotype O157 and other VTEC in sheep presented for slaughter in Scotland**

**Description:** Sheep had previously been identified in Scotland as the source of outbreaks of *E. coli* O157 infection and a study in sheep would complement the cattle study and would provide a more complete picture of the *E. coli* serotypes prevalent in sheep in Scotland.

**Contractor:** University of Aberdeen

**Status:** Completed

**Duration:** July 2005 - Mar 2007

**Total Cost:** £128,809

**Development of methods for the detection and identification of sorbitol fermenting *E. coli* O157**

**Description:** To develop a validated method to enable the routine detection and identification of sorbitol fermenting *E. coli* O157 in clinical, food and veterinary samples. Co-funded with HQ.

**Contractor:** Scottish Agricultural College

**Status:** In progress

**Duration:** October 2007-February 2010

**Total Cost:** £52,636 (Scottish input only)

**Microbiological Postgraduate Studentship: Potential of *E.coli* Serotype O26 Strains from Human and Cattle to Cause Human Infections**

**Description:** Postgraduate studentship with SAC & Edinburgh University on the potential of *E. coli* serotype O26 strains from humans and cattle and Sorbitol Fermenting *E. coli* O157 to cause human infections. Follow on from FSAS funded non-O157 VTEC project.

**Contractor:** Scottish Agricultural College and University of Edinburgh

**Status:** Completed

**Duration:** January 2005 – March 2008

**Total Cost:** £59,220

**Microbiological Postgraduate Studentship: Explaining the Urban and Rural Differences of *E. coli* O157 Human Infection in Grampian**

**Description:** Postgraduate studentship with Aberdeen University on the urban and rural differences of *E. coli* O157 human infection in Grampian.

**Contractor:** University of Aberdeen

**Status:** Completed

**Duration:** October 2004 – October 2007

**Total Cost:** £37,900

### 3. UK wide research projects (HQ lead)

#### **Listeriosis in the over 60's – Defining the population at risk**

**Description:** Nationwide study aiming to refine our understanding of the factors involved in host susceptibility to infection in the group in which the current increase in case numbers is currently being observed. This retrospective study of non-pregnancy related Listeriosis cases across the UK should help us more accurately identify the “at risk” population and reduce the burden of illness by allowing us to focus advice on how to minimise the risk of listeriosis via food consumption to these particularly vulnerable groups, as well as those involved in their care.

**Contractor:** Health Protection Agency

**Status:** Contract negotiation stage

**Duration:** 2 – 5 years

**Total Cost:** £50,000 (Scottish Input only, Full UK costs not fully known yet but expected to be in the region of £600,000)

### 4. UK wide Retail surveys

#### **Retail Chicken baseline survey**

**Description:** A survey of Campylobacter and Salmonella in raw chicken on retail sale.

**Contractor:** Central Science Laboratory

**Status:** In progress.

**Duration:** May 2007 – September 2008

**Total Cost:** £24,354

### **Retail red meat baseline survey**

**Description:** UK wide survey of pathogens in red meat on retail sale to determine the type and amount of micro-organisms present on the surface of raw meat which can cause problems with cross contamination.

**Contractor:** Central Science Laboratory

**Status:** Awaiting final report

**Duration:** March 2006 – May 2007

**Total Cost:** £26,877 (Scottish input only)

### **Listeria in smoked fish survey**

**Description:** HQ lead survey to assess prevalence of Listeria spp in smoked fish at retail level to determine prevalence of this bacteria during shelf life.

**Contractor:** AIControl

**Status:** Completed

**Duration:** April 2006 – Aug 2008

**Total Cost:** £12,000 (Scottish Input only)