ACM/1144

ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD

INFORMATION PAPER

SCOTTISH GOVERNMENT'S VTEC/*E. COLI* O157 ACTION PLAN FOR SCOTLAND 2013-2017

1. Scotland continues to have one of the highest rates of VTEC O157 infection in Europe, with approximately 240 laboratory confirmed cases of *E. coli* O157 and a further 27 laboratory confirmed cases of non-O157 verotoxigenic *E. coli* (non-O157 VTEC) identified annually. Despite a number of government strategies aimed at reducing the risks of VTEC infection, there has been very little change in the number of human cases in Scotland since 2006, suggesting a need for further action.

2. Following annual reviews of progress in implementing recommendations made in the 2001 report of the joint Scottish Executive/FSA Scotland *E. coli* Task Force (http://www.food.gov.uk/multimedia/pdfs/ecolitaskfinreport.pdf), and a formal evaluation carried out by Price WaterHouse Coopers in 2010, Scottish ministers convened a multidisciplinary VTEC Action Group with the remit to produce a VTEC/*E. coli* O157 Action Plan for Scotland aimed at reducing the risks and consequences of VTEC infection to the Scottish population.

3. The VTEC (Verotoxigenic *E. coli*)/*E. coli* O157 Action Plan for Scotland was published on 12 November 2013, and can be found at the following link:

   http://www.scotland.gov.uk/Resource/0043/00437879.pdf

4. The VTEC/*E. coli* O157 Action Group is convened by Scottish Government's Health Protection Team, and its work is co-ordinated on their behalf by Health Protection Scotland (HPS). The Action Group comprises officials from a wide range of stakeholder agencies and organisations with responsibilities and interests in VTEC prevention and control including The Drinking Water Quality Regulator (DWQR), NHS, National Farmer's Union Scotland (NFUS), Health and Safety Executive (HSE), Quality Meat Scotland (QMS), Haemolytic Uraemic Syndrome Help (HUSH), Royal Highland Education Trust, the Royal Environmental Health Institute for Scotland (REHIS), Scottish Environment Protection Agency (SEPA), Society of Chief Officers of Environmental Health in Scotland (SoCOEHS) and the Food Standards Agency in Scotland (FSAS). In order to ensure UK wide interests are noted, the group also includes representation from Public Health England and Public Health Wales.

5. The Action Plan employs a source/pathway/receptor framework to describe all of the various pathways for transmission of VTEC (including both *E. coli* O157 and non-O157 strains) from source (colonised animals) to receptor (human case). The FSA in Scotland was responsible for drafting several

sections relating to the potential pathways for foodborne transmission, and contributing to the document overall. There are a total of 23 Recommendations in the Action Plan for FSA in Scotland to address. These cover VTEC controls at primary production, monitoring of contamination at abattoirs, implementation of the cross-contamination guidance and robust enforcement of controls at butchers and caterers across Scotland, communication of food hygiene messages to consumers, and research to improve our understanding of the pathogen and risks in the foodchain.

6. A framework for monitoring progress in implementing the recommendations has been drawn up and this will be reviewed by the Action Group (which will meet a minimum of twice yearly) on an annual basis. An early action for the group will be to support Scottish Government in delivering a recommendation to convene a Communications Strategy group, to evaluate the key messages on public health risks and risk management (across all areas relating to environmental, food and water borne exposure and person to person spread) with the aim of developing a coherent and integrated public communications plan for Scotland.

7. FSA in Scotland intends to convene an internal project team to ensure relevant activities are monitored and collated for reporting to the Action Group. It is considered that good progress has already been made towards addressing recommendations relating to the implementation of FSA's *E. coli* O157 cross contamination guidance in Scottish butchers and catering establishments, and in the commissioning of new research aimed at improving our understanding of VTEC risks in the foodchain.

8. As the Action Plan is considered to be a working document, the FSA and other Action group members will be expected to review and amend the recommendations on an on-going basis to take account of the up to date position with respect to the development of new policies and control measures relevant to VTEC control.

New FSA funded research programme on *E. coli* O157 supershedding

9. It is also worth highlighting the FSA's recently commissioned research programme on *E. coli* O157 supershedding and mitigation of human risk. This research was commissioned to address Recommendation 24 of the Public Inquiry into the 2005 *E. coli* O157 outbreak in South Wales which stated that 'The feasibility of identifying 'supershedder' cattle on-farm should be explored as a potential means of reducing the likelihood of spreading *E. coli* O157 to other cattle'. The research requirement was developed following an international research workshop hosted by the FSA in November 2011 which identified the key evidence gaps in this area. An open tender was published in March 2013, seeking proposals for research to improve our understanding of the dynamics and transmission of *E. coli* O157 shedding and identify on-farm interventions with the potential to prevent the contamination of the foodchain and reduce human illness. Following external peer review, a research consortium led by the University

of Edinburgh and involving leading scientists from the UK, US and Australia was selected to take forward a 3 year multidisciplinary project involving the following work packages:

- a survey to identify the prevalence of O157 supershedders on farms across Great Britain and next generation sequencing of strains to identify the genotypes associated with supershedding and human illness;
- novel animal based studies to examine the mechanisms which lead to the colonisation and transmission of the pathogen in experimentally exposed cattle;
- mathematical modelling to assess the likely impact of on-farm interventions on the number of human cases; and:
- animal trials to assess the impact of the most promising intervention (as identified by the modelling) on the colonisation and transmission of *E. coli* O157 in cattle.

6. Members are invited to:

- Note the publication of Scottish Government's VTEC (Verotoxigenic *E. coli*)/E. coli O157 Action Plan for Scotland, and the recommendations for FSA;
- Note the new research programme commissioned by FSA to improve understanding of *E. coli* O157 colonisation and transmission in cattle, and intervention strategies to reduce supershedding.

Secretariat
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