Working group on:

“Monitoring of VTEC and identification of human pathogenic VTEC types
(for the BIOHAZ panel)

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Background

• EFSA is responsible for the Community Summary Report on zoonosis (Directive 2003/99/EC)

• Data provided by MS not sufficient to assess importance of findings of VTEC from foodstuffs and animals to human cases
  – lack of information on the VTEC serogroups and virulence factors of the VTEC strains from food and animals
  – use of different analytical methods, some only able to detect O157 (same problems for the human data)
Mandate of the ad hoc working group (I)

• Identify the strains and/or serotypes of VTEC which are pathogenic to humans;
  – Presence of additional virulence factors (eae intimin gene, ……)
  – Serogroups more frequently reported by Enter-net
Working group on VTEC

Mandate of the ad hoc working group (II)

• Give advice regarding the analytical methods, to be used to detect and identify the human pathogenic VTEC from food and animals, including testing for virulence factors.
Mandate of the ad hoc working group (III)

• Recommend the monitoring methods in animal populations and foodstuffs that are most optimal from the public health point of view.
  – relevant animal species
  – food categories
  – stages of food chain to be sampled,
  – type of sample to be collected.
Experts:
- Jeppe Boel
- Sava Buncic
- Alfredo Caprioli
- Geraldine Duffy
- Yvonne van Duynhoven
- Annet Heuvelink
- James McLauchlin
- Christine Vernozy-Rozand
- Geraldine Smith
- Ivar Vagsholm

Chair: James McLauchlin (member BIOHAZ panel)
For ECDC: Andrea Ammon
For EFSA: Eirini Tsigarida (scientific coordination)

Working group on VTEC

4 meetings between April and September 2007
Monitoring of verotoxigenic *Escherichia coli* (VTEC) and identification of human pathogenic VTEC types

Scientific Opinion of the Panel on BIOLOGICAL HAZARDS (Question No EFSA-Q-2007-036)

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Scientific Opinion on monitoring of VTEC

Recommendations (I)

Strains and/or serotypes of VTEC pathogenic to humans

• Pathogenic VTEC can be defined by a combination of virulence factors and serotypes
• Methods to define VTEC seropathotypes from human and non-human sources should be harmonised to allow comparison between human and vet isolates
Recommendations (II)

Strains and/or serotypes of VTEC pathogenic to humans

- Harmonization should be supported by consensus discussion involving the CRL for VTEC and other relevant reference laboratories.
- Further strain characterisation comparing isolates from human and non-human sources should be centrally collected using data analysis methods similar to those used by e.g. PulseNet Europe.
Recommendations (III)

Methods for detection and isolation

• Methods for the detection and isolation of VTEC non-O157 from foods, animals and the environment should be developed and validated.

• The CRL should continue to coordinate standardisation and harmonisation of procedures among NRLs and other laboratories.
Scientific Opinion on monitoring of VTEC

Recommendations (IV)

Monitoring of animal populations and foodstuffs

• Monitoring should initially concentrate on VTEC O157 and then be extended to other serotype (e.g. O26, O103, O91, O145 and O111) identified by periodical analysis of human disease data

• Monitoring of VTEC in ruminants’ faeces, coat, and carcasses would assist in the assessment of risk to consumers
Recommendations (V)

*Monitoring of animal populations and foodstuffs*

- Targeted surveys should include meat and minced meat products (in particular those that are likely to be consumed without cooking), ready-to-eat fermented meats, fresh vegetable and salads, unpasteurised milk and dairy products derived therefrom