Working group on:

"Monitoring of VTEC and identification of human pathogenic VTEC types

(for the BIOHAZ panel)

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Working group on VTEC

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)

Working group on VTEC

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 frequentlty 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.

Working group on VTEC

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.

Working group on VTEC

Working group members

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)

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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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 continues to coordinate standardisation and harmonisation of procedures among NRLs and other laboratories.

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