

ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD

DISCUSSION PAPER

HORIZON SCANNING

Paper ACM/999, presented at the September 2010 ACMSF meeting, outlined a number of potential horizon scanning topics that had been identified by members, asking for their views on the topics and suggestions for how the work could be taken forward. After a short discussion on the topics the Chair suggested a brainstorming session was organised with a small group of members to explore horizon scanning in more detail. This paper summarises the groups' discussion and prioritisation of horizon scanning areas when they met on 09 November 2010.

The Agency carries out a number of internal horizon scanning activities and work within the Chemical Safety Division is ongoing to identify emerging risks within the Agency's remit, drawing on a number of intelligence sources. To complement the horizon scanning discussion paper Mr Terry Donohoe, Acting Head of Chemical Safety Division, will brief the Committee on this work with specific reference to available techniques and emerging microbiological risks.

Members are invited to:

- Discuss and agree the approach recommended by the horizon scanning group
- Comment on whether the prioritisation suggested (1)-(4) is reasonable and suggest any additional topics that have not been addressed
- Comment on how the Agency's emerging risks work could help inform ACMSF horizon scanning
- Subject to the above, agree the submission of this discussion paper to the FSA.

**Secretariat
January 2011**

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1. At the last ACMSF meeting the Chair requested that a brainstorming session be arranged to discuss the topics identified in ACM/999 in more detail and report back to the main Committee in January with some concrete proposals and prioritisation. Mr Alec Kyriakides, Prof David McDowell, Mr John Bassett and Mrs Vivianne Buller were invited to take this forward.
2. A meeting of the group took place on the 9th November 2010 chaired by Mr Alec Kyriakides.
3. A review was undertaken of the topics previously suggested by the Committee (ACM/999) together with additional areas identified by the group. In addition to considering the topics themselves, the group considered the relative merits of taking an organism approach or to consider a broader processing / technology approach to the horizon scanning. These are considered below;
4. Organism approach – the Committee has often taken an organism approach to its work that has allowed detailed examination of a particular organism and associated factors influencing the risk to the target population i.e. disease, epidemiology, growth characteristics, prevalence in food and the environment, etc. Reports on *Campylobacter*, VTEC, Botulism in cattle, etc are all relevant examples. It could therefore be argued that taking this approach to horizon scanning would be appropriate.

The group felt that such an approach could have been merited if a particular organism had been identified as causing an increase in disease or where there was some other evidence of changes in pathogenicity e.g. new strain with greater virulence. However, as no such factors have been identified and given the recent FSA prioritisation of foodborne pathogens in their Foodborne Disease Strategy, it would be difficult to identify a particular organism that would merit such a detailed investigation in isolation. It was therefore not considered appropriate to take an organism approach to horizon scanning.

5. Recommended approach: The group felt that the best approach to horizon scanning would be to consider the risks presented by changes in underlying agricultural, sourcing, processing and production factors. By assessing the key trends in these areas and the impact such trends may have on each of the key foodborne pathogens, it may be possible to identify potential risks that could be further explored.

The following horizon scanning areas are in priority order:

- (1) Changing food preparation techniques and their impact on microbiological safety. This would particularly focus on the risks presented by new and emerging practices employed in the kitchen, catering and retail for the preparation of foods. Examples of emerging factors include; warm water baths for low temperature cooking, slow cooking, novel food storage techniques e.g. vacuum packing, experimental recipes from celebrity chefs, etc.
 - (2) Agricultural changes and their impact on microbiological risk: This would focus on the risks presented by changes in the primary agricultural sector, particularly in relation to farmed animals. Examples include; impact of changes in herd/flock size on animal disease, risks & controls associated with organic and free range production, climate change risks e.g. coastal water temperature on shellfish pathogens, food terrorism risk.
 - (3) Global food sourcing and production: This would focus on the risks presented by globalisation of the food supply chain including both raw materials and finished product. Examples include; novel / new raw materials, raw materials from new sources, novel microorganisms exposed to naïve populations, climate change, food terrorism.
 - (4) Food processing and production changes and their impact on microbiological risk: This would focus on food manufacturing and changes occurring in the production and processing of foods that may affect their microbiological risk. Examples include; novel manufacturing technologies, reducing microbial hurdles e.g. preservatives, etc., novel antimicrobials, minimal processing, fresher products with longer shelf lives, packaging (risk of removing and risk from MAP / vacuum packing), novel packaging (biodegradable, nanomaterials), food terrorism.
6. Other horizon scanning topics

Emerging pathogens: The potential for emerging pathogens to develop was considered a potential horizon scanning topic. However, as there is already an *Ad Hoc* Group on Emerging Pathogens that is called into action when necessary i.e. when a new threat is identified, it was not considered appropriate to recommend this as a horizon scanning topic.

Demographic factors: Age and ethnicity were also considered to be potential horizon scanning topics but the group felt that such issues would be addressed by the *Ad Hoc* Group on Vulnerable Groups and as such did not recommend this as a horizon scanning topic.