

**ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD**  
**THE MICROBIOLOGICAL SAFETY OF SPROUTED SEEDS**

**Teleconference 23<sup>rd</sup> January 2012**

At the ACMSF meeting on 19<sup>th</sup> January 2012, paper ACM/1051 on the microbiological safety of sprouted seeds was discussed by the Committee. Members were asked to note the actions taken following the Shiga toxin-producing *E. coli* (STEC) O104 outbreaks and to comment on the risks associated with the production of sprouted seeds.

Following the discussion, it was proposed that a small sub-group of members should meet to discuss the questions posed in more detail. The questions were revised by the secretariat in light of the discussions and a teleconference was held on 23<sup>rd</sup> January, involving Jenny Hopwood, Roy Betts, David McDowell, John Bassett and John Coia.

The sub-group was asked to:

- a) comment on the microbiological risks associated with the production of sprouted seeds,
- b) indicate the risk of illness from consumption of sprouted seeds relative to the risk from consuming other types of fresh produce and;
- c) advise which groups of consumers may be at particular risk of illness from the consumption of sprouted seeds

The sub-group concluded that *Salmonella* and STEC are the major pathogenic bacteria associated with sprouted seeds but other pathogens, such as *Listeria monocytogenes* or *Bacillus cereus*, may also be a risk.

The supply route of the seed from farm to sprout producer can be extended and convoluted. Contamination of the seed can occur in the field, during harvest, storage or transportation. Since no decontamination process can currently be guaranteed to eliminate bacterial contamination prior to sprouting, any pathogenic bacteria which may be present on the seeds can multiply during the sprouting process due to the warm humid conditions. The sprouted seeds can then be eaten raw or lightly cooked by the consumer.

The potential for the sprouting process to result in significant numbers of pathogens being present on a product which can be eaten raw, leads to the conclusion that

there is a higher risk of illness from their consumption compared to other types of fresh produce although this would be difficult to quantify.

Current Food Standards Agency advice to consumers on the consumption of sprouted seeds does not include advice aimed at any specific group, however in Germany the German Federal Institute for Risk Assessment (BfR) advises that those with a weak immune system should only eat sprouted seeds which have been cooked.

There is no information on the levels of pathogenic bacteria present in the sprouted seeds which caused the recent outbreaks and the profile of those who became ill in Germany does not match the normal profile seen in STEC outbreaks - healthy adult females as opposed to the very young and the elderly. If, when present, pathogen numbers in sprouted seeds are low then those normally assumed to be particularly vulnerable to illness (i.e. the immunocompromised) would be at particular risk of infection. However, if pathogen numbers are high, then it could be assumed that all groups, whether healthy or vulnerable, would be at risk of infection. The group therefore concluded that based on the current evidence it is difficult to target specific groups of people who may be particularly vulnerable to infection.