Q3 - Score the risk of emerging microbiological issues within specific food groups that could arise following heatwaves?

In this guide

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The participants agreed that *Listeria* contamination in chilled food scores 10 as it is the combination that poses the highest risk during a heatwave. The participants agreed that a heatwave may result in the loss or disruption of supply chains, and an inability to keep food chilled. This may lead to increased pathogenic replication.

The participants also agreed that VTEC/STEC in RTE fruit and vegetable and crops scores 9 and 8, respectively. The participants agreed that a reduced water supply

during a heatwave may negatively impact hygiene practices. The participants also discussed changes in consumer behaviour during a heatwave: for example, there is an increase in salad consumption during warmer weather, and increased exposure may lead to more illness within the population.

After assigning the scores 10-8, the groups had different opinions on which pathogen-food sector combinations should be assigned the remaining scores. Moreover, some groups also struggled to assign a score (as previously described) and instead identified sectors and emerging microbiological issues that are likely to occur during a drought. As a score consensus could not be reached the following results will describe the sectors and pathogens the participants identified as being a likely risk during a heatwave.

All groups identified *Campylobacter* and *Salmonella* in poultry as being an increased risk during a heatwave. Some groups also identified VTEC/STEC in beef as a risk. The participants agreed that a heatwave has the potential to increase mortality of livestock including poultry, leading to an increased demand for imported meat. The participants suggested that a decrease in flock numbers or increased stress may reduce the production of domestic eggs. This scenario could create an increased need for imported eggs: thus, the risk of *Salmonella* in imported eggs may also increase during a heatwave.

Groups identified *Listeria* and *Vibrio* in fish and shellfish as a risk during a heatwave. The participants agreed that the risk of *Listeria* in fish (e.g., salmon) is likely to increase during a heatwave due to the challenge of maintaining the cold chain. Whereas *Vibrio* is likely to increase in fish and shellfish if seawater temperatures rise.

All groups agreed that *Listeria* will likely affect the dairy (milk and cheese) sector during a heatwave. Some groups also suggested that *Salmonella* and VTEC/STEC will affect the dairy sector during a heatwave. The key causes were linked to a loss or disruption of supply chain, inability to keep food chilled and increased pathogenic replication in processing environments. Therefore, *Listeria*, *Salmonella* and VTEC/STEC in raw milk/ raw milk cheeses will also be a risk during a heatwave.

The participants agreed that UK eggs are the food sector least likely to be affected by a heatwave and was not highlighted as a concern for emerging microbiological issues. Moreover, *E. coli*, Norovirus, and viruses (e.g., HepA and HepE) were not identified as microbes most likely to pose a threat to food sectors during a heatwave. A table summarising the consensus results can be found in Annex 4.