

Horizon Scanning 2023

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Changes in methods of food production and new food technologies

Direct challenges from climate change:

Challenge	Possible actions
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Novel Foods

1. The novel foods sector is growing rapidly, which has in part been driven by a sustainability agenda triggered by increased awareness of climate change as well as, in the UK, by factors such as EU Exit. Novel foods such as alternative proteins may carry a lower risk of some hazards typically considered for meat, such as *Salmonella* or *Campylobacter*. However, it is not always clear what new or increased risk may be associated with such novel foods or novel processes. Robust processes for approval will mitigate this challenge, but novel foods approved in other regions by local competent authorities may be sold illegally and promoted via social media. Furthermore, new business entrants with less experience of safe food production may be less aware of safety measures they need to comply with.

The FSA should consider the following evidence through commissioned research, assessment and/or review of risk management plans.

- 1.1 Ways to generate evidence to support assessment and associated regulatory requirements for food production processes e.g., cultivation of plant-based foods.
- 1.2 Take action to maintain and improve the ACMSF and ACNFP to identify common microbiological safety of dossiers for novel foods and processes.
- 1.3 Ensure that exposure data and hazard assessment for novel foods and processes is considered in the context of pathogen growth.
- 1.4 Consider the potential microbiological safety of products that are produced using novel processes.
- 1.5 Improve data capture during outbreak investigations, not just food type.

Manufacturer regulation

9.6 FSA should consider developing guidance for manufacturers on validation for new products against current guidance if already in place.

New Farming/Fertilisation Methods

10 Various changes in farming practices to cope with increasing challenges associated with climate change may affect the microbiological safety of food. For example, the increased use of biodigesters and resulting impact on microbiological safety of wastewater and fertilization. Similarly, the development of vertical farming may be of concern due to the closed loop nature of its operation and especially with the recycling of irrigation water (e.g., *Listeria* risk). Also, the impact on need, and availability, of artificial fertilizers is driving an increased use of natural fertilizers. This may result in more animal waste runoff on agricultural crops and water during flooding. The use of animal by-products for use in animal feeds is also a concern.

10.1 FSA should consider establishing partnerships with OGDs to learn about proper treatment and commissioning wastewater treatment plants to minimize impact on food safety.

10.2 The FSA should consider conducting research for indoor and vertical farming and develop recommendations for proactive risk management.

10.3 The FSA should consider organizing a stakeholder exercise to map potential risks associated with indoor farming.