

Identification of hazards in meat products manufactured from cultured animal cells: executive summary

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Executive summary

Culturing of animal cells was developed in the late 19th and early 20th century, when researchers worked out how to support the growth of cells in media in an ex-vivo environment ([footnote 1](#)). The technology has been used commercially in the medical products industry, notably to produce antibodies for use as new medicines and as reagents in diagnostics. Animal cell culturing has expanded into the food industry especially due to its benefit in promoting sustainability for example by freeing up global arable land used for livestock farming, with cultured meat predicted to enter the UK market in the coming year(s) and already on the market in Singapore.

With this in sight, a systematic search protocol was devised to identify hazardous concerns that will help inform the risk assessment for any future applications for authorisation to the FSA. To note, the term 'cultured' is now referred to as 'cultivated' but the report uses the former term to keep in line with the search string used for the research. This report was limited to meat products manufactured from cultured animal cells. Even though majority of these hazards cross-over to other products such as fish, there is potential to evaluate hazards associated with fish/seafood products separately in the near future.

This hazard identification considers the nature of potential hazards associated with the production of cultured animal cells; a novel technology that uses animal cells and cell culturing to produce a substance that resembles meat thus avoiding animal rearing for meat products or aquaculture. As cultured animal cells may pose new risks this report aims to 'scope out' the technology to gain an understanding of it and to identify the potential risks that this may pose.

1. M. Jędrzejczak-Silicka, 'History of Cell Culture', in New Insights into Cell Culture Technology, S. J. T. Gowder, Ed. InTech, 2017.135. BBC News. "Singapore Approves Lab-grown 'chicken' Meat." BBC News, 2 Dec. 2020, <https://www.bbc.co.uk/news/business-55155741>.