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Could artificial meat compete with traditional meat?

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The increasing demand of the meat industry has resulted in the advent of cultured meat. Currently, the widely available meat replacement products are those that are manufactured from plant proteins and mycoproteins. The novel cultured meat, otherwise known as artificial meat or lab-grown meat is designed by scientists to meet the issues faced by the conventional meat industry, such as environmental sustainability, health concerns and animal welfare. The process involves the recreation of the complex structure of livestock muscles with a few cells obtained from a live animal (biopsy) in an appropriate culture medium (containing foetal bovine serum). This artificial meat cultured in vitro possesses genuine animal muscle cells, fat and support cells, as well as blood vessels but could not compete with conventional meat in appearance, taste, smell, texture, or other factors. Scientists have been successful in creating artificial meat with a medium that is economical and derived from plant ingredients, which is efficient as foetal bovine serum. This successful prototype could become competitive if tested on an industrial scale. This could serve as a better alternative to regular meat from livestock in terms of production costs and animal ethics. Research related to cultured meat is still in its infancy but optimisation of the production, quality and efficiency of the cell might evolve the product to be better in the future.

Keywords: Artificial meat, Livestock, Stem cells, Lab-grown meat, Culture medium, Foetal bovine serum, Ethical issues, Cultured meat, Plant ingredients

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