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MICROBIAL PROTEIN FOR PEOPLE WITH MODIFIED DIETS

 FOOD & DRINK

Using microbes to grow protein could help reduce the need for farmed meat and improve sustainability

Spotted: The global population is ageing, and the [World Economic Forum](#) states that Asia-Pacific will likely experience the fastest increase in the number of older citizens between now and 2050. This ageing population comes with a number of challenges, one of which is a greater need for modified diets that provide sufficient nutrition for those with health problems that prevent them from eating standard meals. Singaporean startup Pullulo is working to fill this need with a flexible product that can provide protein for different food applications.

Pullulo has developed an innovative microbial protein that is highly nutritious, affordable to produce, allergen-free, non-GMO, and vegan. It is also less susceptible to supply chain disruptions. The protein can be added to a wide variety of products – such as purees, 3D-printed food, soups, and stews – to give them a higher protein content.

In order to create a more sustainable product, Pullulo uses waste from surplus and discarded raw fruits and vegetables to produce its microbial proteins. The startup points out that the process of using microbes to generate protein also consumes carbon dioxide, allowing the company to support decarbonisation initiatives and continue scaling without harming the environment.

In explaining why it has opted to develop protein using microbes, rather than other sources, the company [states](#) that, “Microbial protein is an alternative plant-based protein that provides a compelling, efficient solution of securing food that’s accessible to all. It has higher protein content compared to traditional sources of protein like meat and uses upcycling for its production.”

The number of innovations involving meat replacements or cultivated meat has been increasing steadily as concern grows over the carbon footprint of livestock and dairy production. Some of the recent developments in this area that Springwise has spotted include a [cultivated pork](#) made using microalgae-based growth serum, and a fungus-derived substitute for [egg whites](#).

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Takeaway:

In a world with a growing population and an increasingly unpredictable environment, there has been a lot of focus on ways to produce protein in a way that is sustainable. In addition to solutions like cell-derived meat and meat substitutes, developing protein from plants and microbes is also a viable alternative. While the market for these products is currently small, it holds great potential. For example, a [recent study](#) found that annual deforestation could be cut in half if just 20 per cent of ruminant meat consumption was substituted with microbial protein – like that created by Pullulo.