Modernizing ancient techniques: How harnessing microbes could make alternative proteins more palatable

There’s a growing category of foods using an age-old technique that experts say could be a dark horse in the race to create more affordable and tasty meat alternatives: Fermentation.

Protein-rich products made from fermenting tiny organisms called microbes could play a significant role in supporting a shift away from more resource-intensive ways of producing food.

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Precision fermentation uses microbes to produce specific ingredients that influence the functionality and taste of foods. The ingredients created through this type of fermentation, which include proteins, vitamins, enzymes, fats and natural pigments, can be used to enhance plant-based goods and lab-grown meat to make foods that more closely resemble traditional animal products.

“One thing that we know about alternative protein products is that it’s really important that we try to reach taste and price parity with conventional animal products,” said Shayna Fertig, a senior adviser at the Good Food Institute.

“One of the cool things that the microbial world gives us is certain types of [protein-rich] fermentation-derived products that could be really savory or umami tasting, or things that can be very neutral that can get added to other foods that people like,” [Good Food Institute’s Adam] Leman said.

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