

Converting agricultural waste into protein and other sustainable innovations

According to reports, approximately [one-third of food](#) is wasted when it goes from farm to fork, which could otherwise feed more than a billion hungry people every year. In an effort to tackle food loss, researchers in Singapore have developed an [efficient and sustainable method to convert agricultural waste into edible food](#).

Rich in cellulose, agri-food waste is fed into the biomass fermentation system, as a feedstock for the rapid growth of microorganisms that churn out single-cell proteins with a high nutritional value. Loaded with proteins, fats, carbohydrates and certain essential amino acids, these products can constitute the building blocks of alternative proteins—ideal for human or animal consumption.

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Apart from creating foods that encompass a broad spectrum of nutrition, fermentation is also used to manufacture specific ingredients that serve a specific purpose. For example, fungi-based precision fermentation is used to produce [next-generation, sustainable food dyes](#). The resultant dye has a stronger colouring power than natural colourants, making it more cost-effective since a lower dosing concentration is required to achieve a similar colouring effect. The process also has a lower carbon footprint since its water and land usage are lower than traditional methods of synthesising food colouring.

[**This is an excerpt. Read the original post here**](#)