

## Scientists develop plant-based replacement for dairy and eggs

**Singapore** - Scientists from Nanyang Technological University (NTU) Singapore have developed a plant-based emulsifier that is not only rich in protein and antioxidants, but also has the necessary properties to replace eggs or dairy in food staples such as mayonnaise, salad dressings, and whipped cream.

The NTU-made emulsifier helps cut down on food waste as well, as it is made by fermenting brewers' spent grain, a by-product of the beer-making industry.

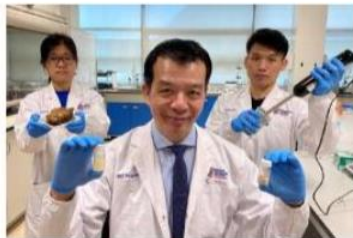
It is estimated that globally, around 39 million tons of such spent grains are thrown into landfills yearly, where it would decompose and add

to greenhouse gas emissions.

To produce the emulsifier, brewers' spent grain is fermented, before undergoing further processes to extract the proteins, which, once dried, can be used for producing foods such as mayonnaise.

Compared to store-brand mayonnaise, the mayonnaise produced with the NTU-plant-based emulsifier contained more protein, and higher amounts of certain essential amino acids.

The fat and calorie contents were similar compared to typical store-brand mayonnaise, but the NTU-made mayonnaise contained more nutrients and antioxidants.



Mayonnaise prepared with the NTU plant-based emulsifier also tasted identical to store-bought mayonnaise.

In addition, the NTU-made mayonnaise had better texture and spreadability, compared to its off-the-shelf counterpart.