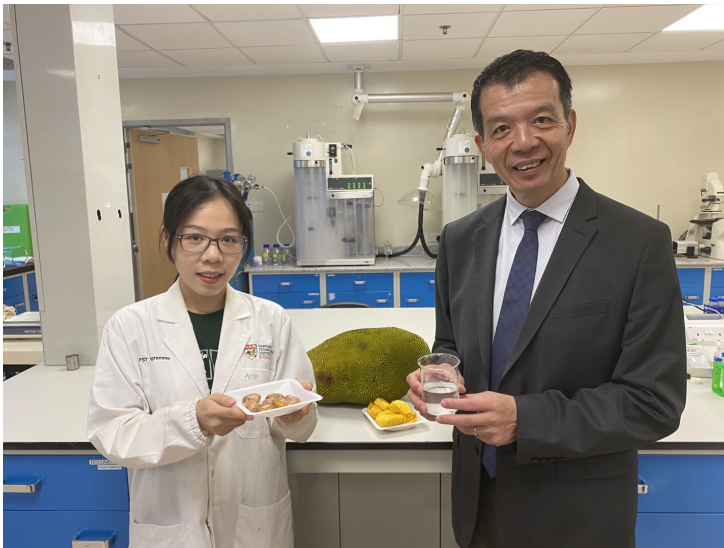


NTU develops technique for making lactic acid from jackfruit seeds

28 August 2023 | News

The method is cheaper and more sustainable than existing industrial methods as it requires fewer chemicals and processes, produces negligible amounts of by-products, and reduces food waste by using unwanted jackfruit seeds



The method is cheaper and more sustainable than existing industrial methods as it requires fewer chemicals and processes, produces negligible amounts of by-products, and reduces food waste by using unwanted jackfruit seeds

Scientists from Nanyang Technological University (NTU) Singapore have developed a sustainable and more effective technique for making lactic acid, by using discarded jackfruit seeds. Lactic acid plays an indispensable part in the industrial production and preservation of nearly all the food we consume, being used in various stages of the manufacturing of food staples such as bread, yoghurt, cheese, kimchi, sauerkraut, and pickles. In 2022, approximately 1.5 million metric tons of lactic acid were manufactured worldwide.

Lactic acid is added to dairy products for a tangy taste, controls acidity in jams and canned fruits, and extends the shelf life of packaged meat products. In baking, lactic acid conditions dough for better texture and volume. Additionally, lactic acid helps in emulsification of dressings and sauces and maintains vibrant colours in fruits and vegetables.

Developed by Professor William Chen, Director of NTU's Food Science and Technology (FST) programme, the method is cheaper and more sustainable than existing industrial methods as it requires fewer chemicals and processes, produces negligible amounts of by-products, and reduces food waste by using unwanted jackfruit seeds.

Current industrial methods to produce lactic acid are costly as they typically involve fermenting raw materials such as sugarcane, corn starch and beetroot sugar, which have become more expensive due to the increasing scarcity of farmland, natural disasters, and rising inflation.

Industrial methods also result in large amounts of by-products, such as gypsum, which release greenhouse gasses when not disposed of properly.

Jackfruits are increasingly popular in diets worldwide, with their flesh, which resembles meat in both taste and texture, being made into meat substitutes. However, its seeds, which make up nearly a fifth of the fruit's total weight, are thrown into landfills