

NTU team's natural preservative keeps food fresh longer

Jose Hong

Scientists have discovered a natural preservative that keeps food fresh for at least eight times longer than artificial preservatives, and at roughly the same cost.

It can be used on meats, fruit and juices, among other types of food vulnerable to bacterial infection, said Professor William Chen from Nanyang Technological University (NTU) on Thursday.

The director of the university's food science and technology programme said the research team is already negotiating with commercial players and hopes to get its product in the market within two years.

The preservative is made from flavonoids, a group of naturally occurring substances found in almost all fruit and vegetables.

Prof Chen's team did not extract flavonoids directly from plants because it would entail the substances being processed in a way that would

impact human hormone production. Rather, it used genetically modified yeast to produce the flavonoids.

Tests showed that meat and fruit juice treated with the natural preservative stayed fresh for two days at room temperature, while untreated samples grew bacteria within six hours, making the food unsafe for consumption.

Prof Chen estimated that \$2 worth of flavonoids can treat 1,000 litres of fruit juice. "This preservative may open new doors in food



(From left) Doctoral student Ng Kuan Rei, Prof William Chen and researcher Lyu Xiaomei, members of the NTU team. PHOTO: NANYANG TECHNOLOGICAL UNIVERSITY

preservation technologies, providing a low-cost solution for industries which could... produce healthier food that stays fresh longer."

A Mount Elizabeth Medical Centre consultant, oncologist Gabriel Oon, who was not involved in the research, said: "The new source of natural food preservatives from flavonoids safely produced from yeast by NTU is brilliant."

The former consultant and adviser to the World Health Organisation added: "Flavonoids are important natural food supplements, but are also used as food additives without harming the human system. This is unlike currently available artificial preservatives used in most processed foods... which may cause adverse health effects."

josehong@sph.com.sg