

Palm oil enriched products

INNOVATIVE: UPM produces vitamins and instant noodles rich in nutrients

SERDANG

RESearchers from Universiti Putra Malaysia have turned liquid red palm oil into powder form that can be an important source of nutrients.

UPM's Faculty of Biotechnology and Biomolecular Sciences senior lecturer, Professor Dr Lai Oi Ming, who led the study, said palm oil, which is rich in Vitamin E and carotene, could be processed into a simple form for use in food and drinks.

"Palm oil, or mainly red palm

olein, contains Vitamin E known as tocopherols, as well as carotenoids. Both are important sources of nutrients.

"Red palm oil contains between 700ppm and 1,000ppm of tocopherols, and 500ppm and 1,500ppm of carotene.

"However, it is in liquid oil form, thus limiting its application and usage. If it is heated at a high temperature, nutrients like tocopherols and carotenoids will be diminished," Dr Lai said.

"Our study on the red palm oil, which started in 2013, has successfully trail blazed the discovery of content process innovation, which changes it into powder form through a micro encapsulation method," she said.

"What is unique about this technology is that we could process the red palm oil in powder form.

"Therefore, it can be added to



The red palm oil capsules and instant noodles are Universiti Putra Malaysia's award-winning innovations.

food or cooking, even at a high temperature. Because it is stable, it can be applied to any type of food."

The research, conducted in collaboration with the Malaysian Palm Oil Board, also involved UPM's Faculty of Food Science and Technology lecturer Professor Dr Tan Chin Ping, student Ting Lai Wee, research officer Dr Voon Choy Tee, General Protein and Food Technology Unit head Dr Miskandar Mat Sahri and researcher Dr Nicholas Khong Mun Hoe.

Apart from producing the red palm oil in powder form, which is sealed in bottles and sachets, Dr Lai said it could also be produced as capsules.

"The capsules are easily soluble.

For those who do not like to take capsules, they can add them to food or drinks. It will not affect the taste of the food and drinks."

Dr Lai said researchers had applied the findings of the study to produce instant noodles such as NutraMee, which contains anti-oxidant agents.

The instant noodles, she said, were enriched with Vitamin E, making it a good source of tocopherols and carotenoids.

Dr Lai said the research on palm oil had won UPM a gold medal at the Malaysia Technology Expo in February, while the study on instant noodles bagged a silver medal at an international invention and technology exhibition, as well as a bio-innovation award.