



Chewable Moringa Fruity Tablets.

RESEARCH AND DEVELOPMENT

Affordable multivitamins from Moringa leaves

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VITAMIN and mineral supplements can play an important role for those who do not eat the recommended daily intake of fruits or vegetables.

The lack of nutrition, especially for children, can affect their well being and may slow their growth and development.

After two years of research, a group of researchers from Universiti Pertanian Malaysia has introduced a low-cost multivitamin supplement that uses Moringa Oleifera leaves as its active ingredient.

The innovative product named Chewable Moringa Fruity Tablets (CMFT) has a unique formulation, which is nutritious yet economical and can be used as a food supplement for people of all ages.

Moringa leaves and pods, favoured by the local Indian community, are usually used in cooking for dishes like curries.

"Moringa leaves may serve as low-cost multivitamin supplements and can meet the multivitamin needs of malnourished communities around the world," said Associate Professor Dr Yus Aniza Yusof from Department of Process and Food Engineering who headed the four-member team of researchers. The other members of the team are Dr Muhammad Azhar Ali, Professor Dr Chin Nyuk Ling and Dr Mohd Nordin Ibrahim.

Yus Aniza said that the World Health Organisation (WHO) has been promoting Moringa as an alternative to imported food supplies to treat malnutrition since 1998. Pure Moringa leaves contain anti-oxidants, anti-inflammatory compounds, phenolics, flavanoids, complete proteins and essential amino acids.

"Moringa has been used as traditional medicine for centuries to treat skin infections, anaemia, anxiety and many other diseases. The high moisture content in fresh leaves and their bitter taste upon drying make these leaves highly perishable and difficult to swallow in raw form," she added.

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ASSOCIATE PROFESSOR DR YUS ANIZA YUSOF
Department of Process and Food Engineering researcher

To mask the bitterness, the innovation utilises fruit powder as a natural binder.

"They taste just like candies due the natural superdisintegrant from the fruit powder, vanilla flavour and cooling effect of mannitol."

Although there are many Moringa products in the market nowadays, CMFT is different as the tablets are chewable and dissolvable which allows for the rapid absorption of nutrients.

"A direct compression method was used to manufacture these tablets," said Yus Aniza adding that it was a common approach used by the pharmaceutical industry.

Being an orally disintegrating tablet provides it with optimal hardness that can rapidly disintegrate without water within 60 seconds.

"When a tablet is swallowed, it will need to first reach the stomach before being processed. CMFT is easy to consume and should ideally be taken without water as it allows better absorption of the nutrients in the body.

"If an adult takes five tablets on daily basis, it can fulfil 100 per cent of the recommended dietary allowance of vitamin A from a pure, natural source," she said.

According to Yus Aniza, the tablet is ready for commercialisation. They are looking for strategic collaborations to commercialise and license either its intellectual property or innovation.

"The overall cost of the tablet in lab scale is as low as RM0.10 per tablet. It is considered as the cheapest vitamin tablet in its line when compared with other similar products," she added stressing on its potential to help lower income group and those in crisis or natural disaster zones.

CMFT is also suitable for packaging in High Density Polyethylene bottles for storage, transportation and distribution.

The project was funded by COMSTECT-TWAS, The World Academy of Science, under The United Nations Educational, Scientific and Cultural Organisation. Meanwhile, the fruit powder study was funded by Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education.



Associate Professor Dr Yus Aniza (right) with Professor Dr Chin Nyuk Ling showing the Moringa Oleifera leaves and Chewable Moringa Fruity Tablets.