

A new mango drink enriched with antioxidants

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Researchers at the Universiti Teknologi MARA have enhanced the antioxidants present in mango fruit drink by adding the extracts of naturally occurring traditional herbs in Malaysia.

The beneficial health effects of dietary antioxidants have prompted the

idea of developing commercial antioxidant-rich beverages. Malaysia has been blessed with a variety of fruits and herbs.

Our daily diet includes the consumption of raw vegetables and herbs. Scientific studies have been carried out to evaluate the beneficial effects of Malaysian herbs.

A number of studies support the intake of local herbs to prevent diseases mainly caused by oxidative stress. These studies have enabled some of our herbs to be turned into products, either in tablet form or mixed into drinks to simplify and assist the pharmacological effects of the herbs.

Known to be rich in vitamin C, the [mango](#) is regarded as one of the most popular fruits from the tropics. Numerous high quality mango clones are available in Malaysia.

Our interest has been at incorporating an extract from local Malaysian herbs into the mango drink to create a new way of enjoying the goodness of mango.

The antioxidant properties of herbs have been proven to deliver beneficial effects and phenolic compounds such as flavonoids have been observed to provide antioxidant effects. Thus, herbs known to possess high antioxidant properties were selected for use in this study. However, some herbs are not suitable for incorporation into mango drink due to the pungent taste and colour of the herb extract, which could interrupt the organoleptic properties of the mango drink.

The objective of the present work was to produce a new mango drink enriched with the antioxidants of the mas cotek (*Ficus deltoidea*) herb. This traditional herb is a plant from the family Moraceae that has been used traditionally for its medicinal properties. Mas cotek is used, for example, to treat pneumonia, diabetes, hypertension, diarrhoea and gout.

We found that dried *Ficus deltoidea* leaves extracted with water at 50 degree celsius for 20 hours yielded an aqueous extract with the highest content of flavonoids and total phenolics. A total of 25 flavonoid compounds consisting of 9 flavonols and 16 flavones were tentatively identified from dried leaves of mas cotek using high performance liquid chromatography (HPLC) coupled to a photodiode array and electrospray ionization mass spectrometry.

Our results suggest that mas cotek could be a suitable herb for adding to mango drink. Moreover, mas cotek has positive effects on glucose and lipid levels and has been found safe for use in humans.

The bioactive composition (flavonoids and vitamin C) of mango drink containing a mas cotek aqueous extract exhibited higher total phenolic content and total flavonoid compound, compared to mango drink that did not incorporate mas cotek.

What's more, when incorporated into mango drink, the mas cotek aqueous extract did not affect the organoleptic properties of the drink. Therefore, our study suggests that the Golden-C – which consists of 20% mango pulp and 50% mas cotek – has the potential to be developed as a new health drink.

Provided by ResearchSEA

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