

Indigenous alternate fruit for dates: Critical review on the selection criteria for local prophetic fruits in Malaysia

(Alternatif pengganti buah kurma: Tinjauan kritikal kriteria pemilihan untuk buah-buahan sunnah tempatan di Malaysia)

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Abstract

This aim of this article was to present indigenous alternate fruits for dates based on critical review of selection criteria for local prophetic fruits in Malaysia. Malaysia produces a wide variety of tropical fruits like mango, watermelon, pineapple, banana, papaya, starfruit and durian. The Malaysian climate is ideal for the production of various tropical fruits, particularly since Peninsular Malaysia rarely experiences monsoon or dryness and therefore, able to increase the capability to boost tropical fruit exports. Islam is the main religion in constitution and the majority of the people are Muslims in Malaysia consuming sunnah fruits such as dates, bananas and figs. Lack of production of dates has caused Malaysia to import large volumes every year. However, Malaysia has a diversity of fruits and listed amongst the prophetic fruits are pumpkin, banana, figs and watermelon. In terms of an alternate for dates, it was necessary to find the nearest local prophetic fruits that had the most similar composition with dates. Thus, there is a potential to highlight before recommendation on policy to promote agronomy productivity and planting of local prophetic fruits.

Keywords: indigenous, alternative, dates, critical review, local prophetic fruits

Introduction

The agriculture sector in Malaysia is governed by the Ministry of Agriculture and Agro-Based Industry (MOA). For the fruits industry, four agencies, namely, Department of Agricultural (DOA), Federal Agricultural Marketing Authority (FAMA), Lembaga Pertubuhan Peladang (LPP) and Malaysia Palm Oil Berhad (MPOB) are involved directly with producing crops and marketing. Malaysia has a rich growth of agriculture cash crops which are predominantly developed by small-scale farming ranging

between one and five acres (Kamarubahrin et al. 2019). According to a study, Malaysia is still basically an agricultural country despite fast developing into an industrial one (Mohd et al. 2007).

In Malaysia, fruits are steadily becoming an important component of agricultural production (Osman 1994). Based on production, the study showed that the fruits sector in Malaysia is only meeting the domestic consumption (Man et al. 2009). Muslims in Malaysia are very lucky because of the diversity and availability of fruits that

Article history
Received: 25.01.2019
Accepted: 1.05.2020

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were consumed by the Prophet Muhammad (*pbuh*) called prophetic fruits (Kamarubahrin et al. 2019). Islamic values and principles influence Muslims in food consumption (Haris and Kamarubahrin 2016). Thus, Muslims in Malaysia are practicing the Prophet Muhammad (*pbuh*) Sunnah in order to gain benefits (*syafaat*) at the end of the day as a Muslim (Kamarubahrin et al. 2019).

Generally, prophetic fruits are referred to as the fruits consumed by the Prophet Muhammad (*pbuh*) regularly and has been mentioned in the Quran about its benefits to the earth and humans (Kamarubahrin et al. 2019; Haris et al. 2019). Fruits such as dates, figs, watermelons, bananas, cucumbers and pumpkins are highly nutritious and are beneficial to the body. These fruits contain no cholesterol and are needed by the human body to improve digestion to prevent constipation (Kamarubahrin et al. 2019; Kamarubahrin et al. 2018; Haris and Kamarubahrin 2016; Rahim et al. 2015). Prophetic fruits contain a variety of riboflavins, minerals, vitamins and nutrients that benefits the human body. Some of these fruits are found to be able to prevent certain non-communicable diseases such as low cholesterol, diabetes, blood pressure or even cancer. Some of these prophetic fruits are also cited in the Quran for their health benefits and *baraqah* to the earth (Kamarubahrin et al. 2018). Some of the following fruits mentioned in the Quran are grapes (Ar-Ra'd, 13:4; Al-Mu'minun, 23:19; Yassin, 36:34), dates (Al-Isra', 17:91; Qaf, 50:10; Ar-Rahman, 55:11; Maryam, 19:25), fig, olive (At-Tin, 95:1) and pomegranate (Ar-Rahman, 55:68). One verse quoted: "*In the earth, there are diverse regions side by side and gardens of grapes and cultivated fields, and date-palms sharing one root and others with individual roots, all watered with the same water. And, we make some things better to eat than others. There are signs in that for people who use their intellect*". (Quran: Surah Ar-Ra'd 13:4).

However, due to several challenges on cultivation and growth of date palms such as delay in harvesting, disease and unsuitable soil and climate conditions, Malaysia has been forced to continuously import dates from other countries due to lack of production. Dates palm production in the Malaysian context is still extremely rare (Kamarubahrin et al. 2018). Fruits such as banana (*Musa acuminata*), figs (*Ficus carica*), watermelon (*Citrullus lanatus*) and pumpkin (*Cucurbita maxima*) are produced in Malaysia and available but mostly for domestic use only.

This article is therefore aimed at presenting indigenous alternate fruits for dates based on critical reviews of selection criteria for local prophetic fruits in Malaysia. The study will provide statistics data to present current Malaysian productivity, findings from the Quran and hadith according to the prophetic fruits that are planted and harvested in Malaysia. Moreover, this was in line with the government's policy to promote commodities which have high added values and good export potential. This paper begins with an introduction to the review. The second section explains the information on the import and export of the prophetic fruits that are available in Malaysia. The third section explains the critical reviews on selection criteria of choosing local prophetic fruits and this article ends with the conclusion of the reviews.

Local prophetic fruits

After observations and reviews conducted, several fruits were selected based on Sunnah foods. These types of fruits that were consumed by the Prophet Muhammad (*pbuh*) are called prophetic fruits (Kamarubahrin et al. 2019). Thus, pumpkin (*C. maxima*), banana (*Musa*), figs (*F. carica*) and watermelon (*C. lanatus*) were selected based on the Quran and hadith. Statistics showed that production of

pumpkins, bananas and watermelons were about 21,494, 535,000 and 235,893 tonnes respectively (MOA 2018).

Domestic findings showed that these fruits were available on plantations and produced under the Malaysian climate. Pumpkin is considered to be a fruit according to Picard (2019). Botanists consider fruits to be the portion of a plant that forms from a flower and also a part of a plant that contains seeds. In addition, fruit, in its strict botanical sense, is the fleshy or dry ripened ovary of a plant, enclosing the seed or seeds. They also tend to grow from the flowers of the plants. This definition includes produce popularly thought of as fruits including apples, bananas and berries but it also applies to beans, tomatoes, cucumbers, peppers, olives, avocados and pumpkins (Picard 2019). The indigenous alternate of dates fruit was reviewed based on criteria set up by researchers. Based on the analysis of the availability of fruit production of species known to be prophetic fruits, researchers identified four species in Malaysia. Thus, this review focused on the botanical, nutritional and economical aspects of the fruits to be analysed as good alternatives to dates.

Pumpkin

Pumpkin (*C. maxima*) is a cultivar of a squash plant that is round, with smooth, slightly ribbed skin and deep yellow to orange shading. The thick shell contains the seeds and pulp. Pumpkins originated from North America. The oldest evidence for pumpkin-related seeds dating between 7,000 and 5,500 BC was found in Mexico Wikipedia (2020). According to Yadav et al. (2010), the pumpkin was cultivated in South America and spread to Western America, Europe and Asia. It can be cultivated at sea level and high altitudes. Pumpkin import and export data from 2009 to 2012 was not available for Malaysia. However, since government and private sectors realised the promising potential profits of this plant, pumpkin production data was available for

2013. *Tables 1* and *2* show total import and export for pumpkin in Malaysia.

Banana

Bananas (*Musa* species) history of cultivations dates back to 500 and 600 BC with depictions in Indian cave paintings and spread to west and east Africa. The fore-sprinters of the modern banana cultivars are believed to be the diploid bananas (bananas with 2 set of chromosomes) *M. acuminata* and *M. balbisiana*. These two species are seeded unappetising assortments. Intra-species and finally inter-species crosses resulting in infertile seedless cultivars were selected by local inhabitants and cultivated giving us the hybrids that we have today (Robinson 1996). Banana is an important crop in Malaysia since it is easily available and planted. Banana production is for domestic use as well as for global export. *Tables 1* and *2* show total import and export of bananas in Malaysia.

Figs

Figs (*F. carica*) originated from the Middle East and spread throughout the Mediterranean. People consumed figs as dry fruit, fresh and in different forms of processed foods such as juice, jam and jelly. There is approximately 427,000 ha producing more than one million figs every year around the world. Iran, Turkey, Egypt, Algeria, Greece, Italy, France, Morocco and USA are the top global producers of figs. Iran, Turkey, Egypt, Algeria, Morocco and Greece account for 70% of the world's annual production. It was only recently that figs were introduced and planted in Malaysia and this region. Farming for the production of fresh figs is demanding now. Some are planted in open spaces and some under control environments such as green houses (Kamarubahrin et al. 2019; Abbas et al. 2018). The total import and export of figs in Malaysia is shown in *Tables 1* and *2*.

Watermelon

Watermelon (*C. lanatus*) is consumed widely and planted around the world (Liu et al. 2018). The fruit is genetically based as a melon (Nimmakayala et al. 2014; Sebastian et al. 2010) and it is native to the drier areas of south-central Africa such as Botswana and Namibia. Watermelons can be bitter or sweet. They are found in the wild and consumed by humans and animals (Rubatzky 2001; Wehner et al. 2001). Watermelon has been cultivated in Africa for over 4,000 years. Seeds and plant parts found in Egyptian tombs indicated that watermelons were widely cultivated in the Nile valley before 2000 BCE. From Africa, they were introduced to India at about 800 CE and China at 900 CE and then extended to Southeast Asia, Japan, Europe and the Americas in the 1500's (Kyriacou et al. 2018).

Watermelon is an annual plant with long angular trailing vines bearing lobed leaves, branched tendrils and separate solitary male and female flowers. It is a popular fruit among Malaysians and is locally known as *Tembikai*. Red-fleshed seeded and seedless, and yellow-fleshed watermelons are mostly selected as a dessert and available throughout the year in local markets. There is a demand for watermelons throughout the year. However, the demand increases during the hot season and the fasting month. Most watermelons from Malaysia are exported to Brunei, Singapore and Hong Kong (Hosnan 2010). Production of watermelons in Malaysia is for both domestic and global purposes as shown in *Tables 1* and *2*.

Critical review on selection criteria

Based on the analysis of availability of prophetic fruit species production, researchers identified four species in Malaysia which are pumpkin, banana, figs and watermelon.

Table 1. Import of prophetic fruits by Malaysia

Item	2009	2010	2011	2012	2013
Dates	8,722*	11,583	8,976	11,342	12,887
Banana	679	1,532	2,084	7,821	16,162
Watermelon	–	1347	558	781	553
Figs	–	180	209	222	252
Pumpkin	–	–	–	–	2,502

*tonnes

Source: FAO (2017)

Table 2. Export of prophetic fruits by Malaysia

Item	2009	2010	2011	2012	2013
Dates**	–	4,268*	3,906	2,430	1,654
Banana	20,019	21,444	22,864	18,336	18,814
Watermelon	–	54,977	50,643	49,591	50,688
Figs	–	18	19	21	35
Pumpkin	–	–	–	–	4,411

*tonnes

**Dates export products are based on add value

Source: FAO (2017)

Nutrition

Pumpkin

Pumpkin has been considered as beneficial to health because it contains various biologically active components such as para-aminobenzoic acid, sterols, fixed oils, peptides, polysaccharides and proteins (Kuhlmann et al. 1999). It also contains a good source of carotenoids and gamma-aminobutyric acid. According to Yadav et al. (2010), pumpkin seeds are valued for their high protein content and useful amounts of the essential fatty and linoleic acids. In addition, pumpkin also provides health benefits such as reducing cholesterol and cancer risk, aid weight loss, sharp eyesight, boost the immune system and protects the skin (Klein 2014). It is rich in vitamins, carotene, dietary fibre, minerals, pectin and several compounds beneficial for human health (Djutin 1991). It also contains many important nutrients including vitamin C, potassium, fibre, numerous phytochemicals and folate as shown in *Table 3*. Pumpkin is medically proven to be a source of protection against swelling of joints,

reducing wrinkles on the face, stimulating the functioning of kidneys and lowering the risk of prostate cancer. (Sheikh et al. 2017).

Banana

Bananas are among the most important food in the world. The fruit comes from a class of plants called *Musa* that are native to Southeast Asia, and are grown in many of the warmer areas of the world. They contain numerous vitamins such as B6 and C and various antioxidants, potassium, phytonutrients and fibre as shown in *Table 3*. There are many different types and sizes. Usually, the colour of the fruit varies from green to yellow. They are a rich source of carbohydrates, mainly starch in unripe bananas and sugars in ripe bananas. Green bananas contain up to 70 – 80% starch on a dry weight basis. According to Arnarson (2014), the starch is converted into sugars and ends up being less than 1% when the banana is fully ripe. The main types of sugar found in ripe bananas are glucose, sucrose and fructose. The total substance of sugars can achieve over 16% of the fresh weight (Arnarson 2014).

Bananas have a glycaemic index of 42 – 58, contingent upon their readiness, which is generally low. This is a proportion of how rapidly the carbs in a nourishment enter the circulation system. The low glycaemic list of bananas is clarified by their high substance of safe starch and fibre, which mitigates the glucose ascend after a dinner. A high extent of starch in unripe bananas is safe starch, which, as the name proposes, is impervious to assimilation and in this manner a sort of fibre.

Figs

Figs are sweet and succulent and contain high nutritional value such as minerals (calcium, phosphorus, iron and potassium), proteins and vitamins (A, B1, B2, B6 and C) compared to other common fruits such as apples, bananas, dates, grapes, oranges and strawberries. It also has an active compound with medicinal properties (anticancer,

antidiabetic, anti-inflammatory) (Universiti Kebangsaan Malaysia 2016). Figs nutritional and pharmacological values have been previously investigated by Yang et al. (2009) and Lazreg et al. (2011).

According to Moniruzzaman et al. (2017), figs are important as they are highly nutritional and contain medicinal properties (anti-inflammatory, anticancer and antidiabetic). They are predominantly rich with vitamins, sugars, amino acids, minerals, carotenoids, organic acids and antioxidant polyphenols, which serve as a nourishing food and are used in industrial products (Lianju et al. 2003; Vinson et al. 2005) as shown in *Table 3*. However, fig fruits are considered to be free from fat, cholesterol and sodium (Solomon et al. 2006). It is proposed that this species is beneficial to human wellbeing by preventing stoutness, diabetes, cardiovascular ailments, neurodegenerative scatters and even particular kinds of malignant growths (Mawa et al. 2013; Wojdyło et al. 2016).

Figs are rich in phenolic mixes and contain cell reinforcements. The counteractive action of pathogenic procedures related with malignant growth, cardiovascular illness and diabetes can upgrade insusceptible capacity (Cai et al. 2004). In an investigation on fig natural products, cancer prevention agent action adds to the grouping of polyphenols in fig organic products (Solomon et al. 2006). Since auxiliary metabolites exist generally in figs, a few examinations have been led on their wellbeing advancing potential (Duenas et al. 2008; Vallejo et al. 2012). Figs have been studied in recent years by Masi et al. (2017) as part of a healthy diet.

Watermelon

Watermelon is rich in phytonutrients that can maintain our wellbeing (Sheikh et al. 2017). It contains potassium and magnesium (*Table 3*) which can help to reduce circulatory strain and coronary illness and also helps to clean kidney stones. Vitamins in watermelon can help to maintain vitality

Table 3. Nutrient content in local prophetic fruits nearest to dates

Item	Banana*	Watermelon*	Figs*	Pumpkin*	Dates*
Energy (kcal)	89	127	-	26	314
Carbohydrate	22.57	7.55	19.28	13.9	80.6
Sugar	12.23	6.22	16.26	2.76	64.1
Dietary fibre	2.6	0.4	2.9	-	3.57
Fat	0.33	0.15	0.3	0.052	0.38
Protein	1.09	0.61	0.75	1.00	1.1
Ash	1.1	0.25	-	0.8	1.67
Retinol (A)	0.0017	-	-	0.426	0.024
Thiamine (B1)	0.05	0.033	0.060	0.07	0.08
Riboflavin (B2)	0.05	0.021	0.050	0.11	0.117
Niacin (B3)		0.178	0.400	0.6	1.442
Vitamin B6		-	-	0.061	0.207
Folate	0.012	3	6	0.016	0.0538
Vitamin C	12	8.1	2	9	3.9
Calcium (mg)	7	7	35	21	70.7
Iron (mg)		0.24	0.37	0.8	0.83
Magnesium (mg)	33	10	17	12	64.2
Manganese (mg)	-	0.038	0.128	0.125	0.27
Phosphorus (mg)	-	-	14	44	58.1
Potassium (mg)	-	112	232	-	713
Zinc (mg)	-	0.10	0.15	0.32	0.27
Copper (mg)	-	42	0.070	0.127	0.24
Water (g)	74.91	91.45	79.11	91.6	50.4
Total match	2	-	-	9	-
Source	Ho et al. (2012)	Malaysian Fruit (2010)	Moniruzzaman et al. (2017)	Williams (2019)	Al-Farsi and Lee (2012)

*Per 100 g

Source: Hashim et al. (2018)

of the body such as vitamin C which ensures good eyesight, protects optical nerves and prevents glaucoma. Watermelon's delicious sweet crisp water can adequately rehydrate the body. In addition, watermelon has fibre, zero fats and is low in calories. Carotenoids in watermelon can also prevent malignant growth (*Table 3*).

Economics

Economic indicators are important for analysing the appropriate selected prophetic fruits. Measurement is according to price,

shelf life, listing as prophetic foods, having a commercial value and availability in production. Thus, these factors will be considered in terms of analysing the selection of local prophetic fruits besides their nutritional content.

Price

Price is important to measure the economics of local prophetic fruits as alternatives to dates. In addition, this will ensure that Malaysians can afford to purchase these prophetic fruits. Low prices of these fruits

are part of the criteria for selection as consumers intent to purchase according to the price and nutrition content. Thus, comparison of price was analysed between selection of these fruits.

Pumpkin

The price of pumpkin in the Malaysian market ranges between RM1.50 and RM1.80 per kg and sold to wholesalers at farm price (Hosnan 2017). Meanwhile, at the retailers, the market price is between RM2.00 and RM2.80 per kg (FAMA 2014).

Banana

According to Jones (2016), the price of bananas in Malaysia is between RM4.00 and RM6.00 per kg. This information is significant with the Federal Agricultural Marketing Authority (FAMA) Malaysia data according to the bananas price.

Figs

Figs planting remains underutilised in Malaysia because of inadequate information about its feasibility. In addition, they have low efficiency and are regularly no longer productive. Thus, planting figs for mass production has the potential to grow into one of the sources of economic growth since the fruit costs RM120 for a kg (Kamarubahrin et al. 2019).

Watermelon

Watermelon is a popular fruit among Malaysians since the fruit is easily available in the market and streets. The price of watermelon per kg is around RM2.00 to RM3.00 (FAMA 2014).

Shelf-life

Pumpkin

Pumpkins in Malaysia are from the *Cucurbita* family (Margaret et al. 2016) and locally known as *labu manis* and *labu loceng*. *Labu manis* is planted in almost all states in Malaysia whereas *labu loceng* originated from Kedah (Norshazila et al. 2014). Pumpkins are one type of winter

squash rich in nutrients, vitamins A and C, iron and riboflavin. Shelf life of pumpkins for consumption is according to the quality. For fresh cut pumpkin, the fruit is able to last around 2 – 3 days (*Table 4*) but if refrigerated, it can last for 6 – 8 months (Eat by Date 2012e).

Banana

Bananas are considered as “nature’s ideal nourishment” as they contain numerous nutrients and minerals such as potassium. They can range from a brilliant green shading to the ideal yellow and finally to a dark coloured skin. For bananas, it is hard to decide their shelf life and can usually last up to 2 – 7 days (*Table 4*) after counter purchasing. If refrigerated they can last up to 2 – 9 days and 2 – 3 months when frozen (Eat by Date 2012b).

Figs

The shelf life of newly picked figs is not long as they do not age once picked. Most new organic products do not have shelf life or expiry date compared to figs. For consumption purposes, figs must be eaten on the day they are acquired. The whole fruit is edible and there is a wide range of assortment of figs with varying shades. The most widely recognised US figs are Brown Turkey (an earthy purple skin with pinkish white tissue) and the Celeste (purplish skin). Others have a brilliant (*Calimyrna*), dark (*Mission*) or even green (*Kadota*) skin. Figs must be harvested when delicate and not squishy. Shelf life of figs is around 2 – 5 days after purchasing (*Table 4*). If refrigerated the fruit will last 5 – 7 days and 6 – 8 months when frozen (Eat by Date 2012c).

Watermelon

According to Ghanbari et al. (2018), tropical fruits such as watermelon (*C. lanatus L.*) are usually easily damaged by heat. Uncut watermelons will last 7 – 10 days from the date of purchase and 2 – 3 weeks when refrigerated (*Table 4*). The shelf life of

Table 4. Comparison of shelf lives of local prophetic fruits in Malaysia

Categorised	Pumpkin	Banana	Figs	Watermelon
Whole fruit	2 – 3 months	2 – 7 days	2 – 5 days	7 – 10 days
Fresh cut	2 – 3 days	–	–	–
Refrigerated	3 – 5 months	2 – 9 days	5 – 7 days	2 – 3 weeks
Frozen	6 – 8 months	2 – 3 months	6 – 8 months	–

watermelons rely on date of harvest and storage. All nutrients will slowly deplete if not stored properly. There is no expiry date for watermelons and therefore, the consumer must remember the date of purchasing the fruit (Eat by Date 2012a). Maintaining appropriate cleanliness and security methods will help to prevent foodborne illnesses. Watermelon shelf life can be extended by refrigeration.

Listed as prophetic foods

The following hadiths are evidence for the listing of the local available prophetic fruits as *Sunnah* foods in Malaysia.

Pumpkin

Pumpkin is recorded as sunnah sustenance as it was the best most wanted nourishment consumed consistently by Prophet Muhammad (*pbuh*). As one of the prophetic natural products, pumpkin is expressed in the following hadith: “*I accompanied Allah’s Apostle to that meal. He served the Prophet with bread and soup made with pumpkin and dried meat. I saw the Prophet taking the pieces of pumpkin from the dish.*” *Anas added, “Since that day I have continued to like pumpkin.”* (Hadith No. 305, Vol. 3, Book 34, Sahih Bukhari).

Banana

The verses of the Quran noticed the gifts that the inhabitants of paradise appreciated. Banana organic product is one of such favour. Consequently, the accessibility of banana natural products on the planet ought to be viewed as a gift, which is accessible to individuals in both the universes. Allah SWT says in the Quran:

“*Amid thornless lote-trees, and banana-trees (with fruits), one above another, and extended shade, and water flowing constantly, and abundant fruit, neither intercepted nor forbidden.*”

(Quran: Surah Al-Waqi’ah (56): Verses 28 – 33).

Figs

Prophet Muhammad (*pbuh*) quoted “*If I say, indeed the fruit descends from heaven then I say this is the fruit (figs), the fruit of heaven is no doubt.*” (Hadith Riwayat Abu Darba; Suyuti) and the fruit is also mentioned in Quran surah at-tin (95) verses 1.

Watermelon

According to Ibn Qayim Al Jawziyyah, the Prophet used to eat watermelon with dates to balance out the effects of these foods. The dates are hot and moist while the watermelon is cool and wet. Meanwhile, Aishah reported that “*Prophet Muhammad (pbuh) ate watermelon with fresh dates.*” In the Tirmidhi and other narrations, Prophet Muhammad (*pbuh*) also said, “*The cold effect of one removes the heat of the other, and the heat of one removes the cold effect of the other.*” (Hadith Tirmidhi: 189).

Potential and processing

Pumpkin

Pumpkin and its seeds are very nutritious (Paris 2005) and are a good source of β - carotene, carbohydrates, minerals, proteins and other vitamins (Yadav et al. 2010). It is believed to have the potential to prevent malnutrition in the poorer community to some extent (Hoque et al. 2015). Thus, pumpkin is a promising raw

material for commercialisation. Despite its low production cost, several organic products are now available such as crisp organic products, pumpkin puree and pumpkin mash used in making bread, pasta and desserts (Kamarubahrin et al. 2018). Various investigations on the pumpkin (Hashim et al. 2014; Kampuse et al. 2015; Derossi et al. 2011) has revealed its commercialization potential (Margaret et al. 2016). It can be consumed fresh, boiled, steamed or as processed food items such as soup and curry in Thailand (Pongjanta et al. 2006) and masak lemak labu, labu sira, and pengat labu in Malaysia (Norshazila et al. 2014). Some downstream products are dried white seeds called *kuaci* and candied pumpkin (Norshazila et al. 2014).

Banana

Among the several techniques available for preservation or processing of bananas is dehydration which is widely adopted by the industry to take advantage of market opportunities and consequently contribute to the improvement of farmer's standard of living by improving employment opportunities (Ventaka et al. 2018). Some of the techniques are exceptionally basic and should be possible at the homestead kitchens. Bananas can be made into banana flour which has extraordinary potential for commercialisation because of its various uses. The banana flour can be either braced or made into nutritious porridge and when blended with different flours, it can be made into an assortment of dishes such as banana cakes, chapati and mandazi (The Organic Farmer 2017). Other potential products made from banana fibres include carpets, paper, bandages, clothing and packing materials. These products have potential for domestic purposes as well as export to global markets, especially to Japan, United States, United Kingdom, Australia and Thailand.

Overripe bananas are also not wasted. With basic equipments, a farmer can convert these sweet taste and fine flavour into

scones, sweets, wine, crisps and sauce. This can encourage agriculturists to get more compensation and satisfy assorted tastes of customers. Facilities for farmers should be upgraded such as setting up modern offices to process bananas into various products and improving transportation of bananas. Further research is required for postharvest handling to reduce postharvest losses. The Government should ensure exportation of quality bananas (The Organic Farmer 2017).

Figs

In warm climates, figs are usually consumed fresh without stripping with cream and sugar. Economically, figs are stripped by inundation for 1 min in bubbling lye water or sodium bicarbonate. Stripped or unpeeled, figs can be stewed or cooked as in pies, puddings, cakes, bread or other pastry kitchen items, or added to frozen yogurt blend. Fig glue which is comprised of wheat and corn flour, whey, syrup and oils is used as filling for the pastry shop item known as "Fig Newton". In Europe, western Asia, northern Africa and California, figs are canned and dried (Morton 1987).

Figs can be eaten crisp or dried. Most businesses prefer this since the fresh fruit does not last long after harvest. The fig roll is a scone with fig filling. Some fig drying is carried out in Poona, India, and currently some sun-drying in Guatemala. Matured fruits are left to dry on the tree and exposed to sulphur exhaust for about half an hour, dried in the sun and swung every day for uniform drying and squeezed during the 5 – 7 day process. 'Dark Mission' and 'Kadota' figs are used for solidifying as whole fruits in syrup, or cut and layered with sugar. Dried figs are simmered and ground as an espresso substitute. In Mediterranean nations, dried figs are converted into liquor to enhance mixers and tobacco (Morton 1987). There is a need for government and stakeholders to give reasonable credit offices to enable the different performers in the fig agribusiness.

Watermelon

Watermelon has been recognized as one of the fruits that could add value to financial advancement in the National Agriculture Policy (1984 – 2010) and National Agro-Food Policy (2011 – 2020). The Third National Agriculture Policy was to guarantee an adequate supply of new natural products to meet the requirements and demand. The National Agro-Food Policy was created after the third National Agriculture Policy to expand generation and efficiency of chosen organic products. The National Agro-nourishment Policy has additionally accentuated the abuse of potential products of the soil reinforcing market systems. The melon is considered to be one of the organic products that can be extended to new markets (Mohammed and Masdek 2016). Watermelon (*Citrullus lantus*) seeds are one of the underutilised natural products (Kamarubahrin et al. 2018). Watermelon seeds have been shown to contain proteins with less anti-nutritional factors and a moderate amount of minerals. Watermelon can also be served as a mixture of greens to nibble and the juice can be used to produce beverages. In Namibia, the juice is matured into a reviving, gently mixed beverage (Okonmah et al. 2011). In a few areas in Africa, the skin is cut, dried, cooked and eaten (Kamarubahrin et al. 2018).

Production

Fruits such as banana (*M. acuminata*), figs (*F. carica*), watermelon (*C. lanatus*), cucumber (*C. sativus*) and pumpkin (*C. maxima*) are available for planting and produce. Since these fruits are categorised as prophetic fruits, there is a potential to increase the volume of production and areas harvested. The land acres available and total production of local prophetic fruits in Malaysia are shown in *Tables 5* and *6*.

Pumpkin

In Malaysia, there are 138 ha of pumpkin plants (Zaharah et al. 2006) grown in Johor (93.5 ha), Terengganu (59.6 ha), Kelantan

(79.6 ha) and Kedah (FAMA 2014) with a production of 6,240 metric tonnes in 2014 worth RM7.3 million (DOA 2016). *Tables 5* and *6* shows the total production of pumpkin in Malaysia from 2011 – 2015.

Banana

In Malaysia, banana is the second most widely cultivated fruit, covering about 22,858 ha with a total production of 315,499 mt. About 50% of the plantations are cultivated with *Pisang Berangan* and the *Cavendish* type, and the remaining popular cultivars are *Pisang Mas*, *Pisang Rastali*, *Pisang Raja*, *Pisang Awak*, *Pisang Abu*, *Pisang Nangka* and *Pisang Tanduk*. Bananas are cultivated for local consumption by smallholders, and only about 15% of the total production is exported, mainly to Brunei, Middle East, Singapore and Hong Kong. *Tables 5* and *6* show the total area of production for bananas in Malaysia.

Figs

Most of the available figs in the Malaysian market are the dried figs. New products are constrained by the high perishability of the fruits and lack of systems and offices to enable manageable appropriation to nearby and worldwide markets. In Malaysia, 16,000 trees are planted in 10 ha at the project sites, namely, Indonesia, Malaysia and Thailand. The Growth Triangle (IMT-GT) which is located at Chuping, Perlis is shown in *Tables 5* and *6*. As figs have high demand among the Asians, Perlis became a large producer for fig fruits, especially in the Southeast Asia region. Currently, the fig planting project is jointly developed between the state government and a private company based in Penang and Perlis will become the largest producer of figs (Kamarubahrin et al. 2019).

Watermelon

Total area of production for watermelon in Malaysia is about 13,814 ha (Muhammad and Masdek 2016). To meet the demand worldwide, monocultures are currently

Table 5. Available areas for harvest and production of prophetic fruits in Malaysia

Production and areas harvested	Banana		Watermelon		Figs		Pumpkin	
	(ha)	(mt)	(ha)	(mt)	(ha)	(mt)	(ha)	(mt)
Total	22,858	315,499	10,023	178,928	10,000	-	1,817	25,651

Source: FAO (2017)

Table 6. Available areas for harvest and production of prophetic fruits in Malaysia according to year

Local Prophetic fruits	2011		2012		2013		2014		2015	
	Areas harvested (ha)	Production (mt)	Areas harvested (ha)	Production (mt)	Areas harvested (ha)	Production (mt)	Areas harvested (ha)	Production (mt)	Areas harvested (ha)	Production (mt)
Banana	29,131	306,282.80	29,192	289,033.90	27,084	288,677.00	28,911	303,106.70	30,710	315,499.60
Watermelon	14,415	235,892.80	13,814	220,559.60	11,032	209,599.00	10,842	176,379.40	10,846	178,928.50
Figs									10,000	
Pumpkin	1,559	21,534.40	1,606	17,382.50	2,247	111,144.30	2,218	44,525.70	1,817	25,651.70
Total	48,665.60	630,960.70	48,729.40	620,090.00	45,198.50	729,277.40	46,349.20	621,342.90	47,745.80	620,896.70

Source: DOA (2016)

practised for watermelon generation. According to Soteriou and Kyriacou (2014), the period from fruit set to optimal harvest maturity varies with cultivar earliness, generally ranging from 30 to 45 days, and constitutes a reliable but cultivar specific harvest maturity stage. Watermelon yield losses are highest during rainy and humid seasons. In Malaysia, about 11,270 ha of watermelon were grown in 2009 producing 228,880 mt mostly at Kluang, Johor (1,119 ha), Mersing, Johor (828 ha) and Rompin, Pahang (2,543 ha). Other states included Terengganu (1,128 ha), Kelantan (1,006 ha) and Pahang (1,777 ha) (FAMA 2014). Local production of watermelons is for trade in international and domestic markets.

Conclusion

From the critical review conducted on nutritional and economics factors for the selection of local prophetic fruits available in Malaysia, it was found that pumpkin (*C. maxima*) is the alternate fruit for dates. This selection was analysed according to several criteria set up by researchers based on benchmark of dates and findings from nutritional components such as energy, carbohydrate, sugar, vitamin, potassium, zinc, fat and protein. Thus by comparison analysis, pumpkin was the nearest in nutritional composition to dates. Meanwhile, from the economics factor, it was found that pumpkin was cheaper than other fruits. In addition, pumpkin was chosen because of its availability of production and varying processing techniques. Moreover, it was easily planted in Malaysia and also listed as a sunnah food.

In order to encourage Malaysians to consume local prophetic fruits such as pumpkin, it is necessary for the government to maximise utilisation of plantation areas, production and research and development of pumpkin products. A critical review from nutrition perspectives showed that the pumpkin composition is nearest to that of dates based on nutrition needed by the human body. Meanwhile, a critical review conducted from the economics perspective showed that pumpkin has commercial value based on price, shelf life of fruit and listing as prophetic fruit.

Comparison of price between local prophetic fruits has proven that pumpkin is the cheapest (RM1.50 – RM2.80 per kg). Lower price and higher nutrition attracts consumers in the market. Pumpkin is also more lasting compared to other local prophetic fruits. This will be beneficial for export purposes and developing by-products of pumpkin. Thus, there is a need for government and other stakeholders to provide affordable credit facilities to empower the various people in the local prophetic fruit agribusiness. There is also a need for laws and policies that support value addition of local prophetic fruits and other agricultural produce. Further scientific research is also needed to control local prophetic fruits ripening process to reduce post-harvest losses. The Government should ensure that there is no exportation of raw local prophetic fruits instead of processed products which would earn maximum profits.

Acknowledgments

This research was funded by the Ministry of Higher Education (MOHE) under the Niche Research Grant Scheme (NRGS) USIM/NRGS_P6/FEM/8406/52113 at the Faculty of Economics and Muamalat, Universiti Sains Islam Malaysia.

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Abstrak

Artikel ini bertujuan untuk membentangkan dapatan kajian kritikal alternatif bagi buah kurma dan pemilihan buah-buahan sunnah tempatan di Malaysia. Negara Malaysia mengeluarkan pelbagai jenis buah-buahan tropika seperti mangga, tembikai, nanas, pisang, betik, belimbing dan durian. Iklim di Malaysia sangat sesuai untuk menghasilkan pelbagai jenis buah-buahan tropika, terutamanya kerana Semenanjung Malaysia jarang mengalami monsun atau kekeringan dan ini dapat meningkatkan keupayaan untuk meningkatkan eksport buah-buahan tropika. Islam adalah agama utama dalam perlembagaan dan majoriti orang Islam di Malaysia mengamalkan pemakanan sunnah. Namun kekurangan bekalan pada pengeluaran kurma menyebabkan Malaysia mengimport kurma dengan jumlah yang besar pada setiap tahun. Walau bagaimanapun, Malaysia mempunyai kepelbagaian buah-buahan dan disenaraikan sebagai buah-buahan sunnah seperti labu, pisang, tin dan tembikai. Sebagai alternatif bagi kurma, adalah perlu untuk mencari buah-buahan sunnah tempatan yang mempunyai komposisi hampir sama dengan kurma. Oleh itu, terdapat potensi untuk diketengahkan sebelum cadangan dibuat mengenai dasar untuk mempromosikan serta menanam buah-buahan sunnah tempatan secara besar-besaran.