

Scenario of sweet potato industry in Malaysia

(Senario industri keledak di Malaysia)

Rawaida Rusli*, Norzalila Kasron*, Nur Fazliana Md. Noh*, Nor Azlina Saari* and Mazidah Mat**

Keywords: scenario, outlook, sweet potato, industry, Malaysia

Abstract

In Malaysia, sweet potato is a cash crop commodity and contributes significantly to the agro-food commodities in Malaysia. OECD/FAO Agricultural Outlook 2020/2029 forecasted Malaysian food consumption for the root and tubers group (including sweet potato) to be 4.0 kg/capita/year in 2029. Due to the untapped potential of sweet potatoes, this paper aimed to review the current status of the sweet potato industry in Malaysia. Both primary and secondary data were utilised in this study. The primary data was collected through a semi-structured questionnaire on selected sweet potato farmers via a case study method for gaining in-depth understanding on the phenomena. Based on the secondary data, there is a significant increase in terms of area, production and self-sufficiency. The domestic market also shows an increase in per capita consumption. Interestingly, the sweet potato export recorded a significant increase of almost 96.7% in 2021 from 2016 that followed suit a decreasing trend in Malaysian sweet potato imports. Price and margin analyses had been revealed for the understanding of the behavior of the ex-farm, wholesale and retail price of the selected sweet potatoes based on the availability of the data obtained. Insufficiency supply, labour shortage (large-commercial farms), higher input cost, insufficiency and quality of sweet potato planting material had been identified as issues and challenges among sweet potato farmers during the study. SWOT analysis also had been carried out for the critical success factors for the future and long-term towards maximising the fullest potential of the sweet potato industry in Malaysia.

Introduction

Sweet potato (*Ipomea batatas*) is a creeping dicotyledonous plant that has various common names such as sweet potato (English), *batata*, *boniato*, *camote* (Spanish), *kara-imo*, “Chinese potato” (Southern Kyushu, Japan), *satsuma-imo*, “Japanese potato” (Japan) and others (Bovell-Benjamin 2007). The exact origin of the sweet potato was not well defined and Austin (1998) stated that it originated between Mexico’s

Yucatan Peninsula and the Orinoco River in Venezuela. Sweet potatoes are now thought to occur in Southeast Asia from the Caribbean to Europe and further into mainland Asia (Ballard 2005). The existence of sweet potatoes by the early 17th century provided immensely important staple foods (Huang et al. 1999). Today, sweet potatoes continue to be a healthy dietary ingredient. Most countries in Southeast Asia have grown sweet potatoes either on a small

¹Socio-Economy, Market Intelligence and Agribusiness Research Centre, MARDI Headquarters, Persiaran MARDI-UPM, 43400 Serdang, Selangor, Malaysia

²Food Science and Technology Research Centre, MARDI Headquarters, Persiaran MARDI-UPM, 43400 Serdang Selangor 43400 Serdang, Selangor, Malaysia

E-mail: rawaida@mardi.gov.my

©Malaysian Agricultural Research and Development Institute 2023

or commercial scale for domestic use and export earnings.

Malaysia as a developing country had also grown sweet potatoes. Sweet potatoes had been highlighted by the government at the beginning of the 11th Malaysian Plan (MP) along with the National Agrofood Policy (NAP 1.0: 2011 – 2020) and continued with the 12th MP and NAP 2.0 through increased productivity and value-added products. Sweet potatoes had been emphasised due to their contribution as a cash crop, which is a crop that can provide a quick return to the farmers (MAFI 2022). According to the Department of Agriculture (2021), cash crops' hectareage recorded at 23.3% (20,070 ha) after vegetable hectareage at 74.4 % (64,013 ha).

In terms of contribution to agro-food commodities, the sweet potato ranked 4th as a cash crop after rice, fruits and vegetables in 2021 (Agrofood Statistics 2022). Sweet potato is included in cash crops along with cassava, sweet corn, sugar cane, great yam, nuts and others.

Therefore, the main purpose of this study is to review the current status and scrutinise the performance of the sweet potato industry in terms of production, consumption, price, marketing and trade.

Methodology

The primary and secondary data were utilised in this study. The primary data had been collected through a qualitative approach using the case studies method towards 12 sweet potato farmers in Perak, Kelantan and Terengganu. A qualitative approach through case study methods had been used to gain an in-depth understanding of the phenomena observed which are issues, challenges and opportunities in the production of sweet potatoes in Malaysia. The farmers had been selected from the top three highest productions (hectareage) of sweet potato in Malaysia. Terengganu had been chosen due to the discovery of a sweeter type variety of sweet potatoes planted. Meanwhile, the secondary data were

obtained from the International Trade Centre (ITC), the Department of Agriculture (DOA) and the Department of Statistics (DOSM). The data used included production, self-sufficiency, hectareage, price (farm, wholesale and retail) per capita consumption, and trade (export and import). A SWOT analysis had been carried out to examine the current situation on performance of the sweet potato industry. According to Gao et. al (2022), SWOT stands for Strengths (S), Weaknesses (W), Opportunities (O) and Threats (T) all of them assessed the SWOT factors faced by industry, sector, company, or any organisation.

Results and discussion

Production

State and district of Malaysia

In Malaysia, sweet potatoes has been widely planted in Perak, with an acreage of 1,754.45 ha, producing 33,476.19 mt, followed by Kelantan (628.75 ha; 10,945.58 mt) and Selangor (234.67 ha; 3,457.91 mt) (Department of Agriculture 2021). Perak contributed almost 62.4% of the total production of sweet potatoes in Malaysia. Among districts in Perak, Kampar leads the production of sweet potato in Perak at 27,523.70 mt, followed by Batang Padang and Kinta in 2021. These districts had a suitable type of land to cultivate sweet potatoes. According to the farmers, mine land is suitable for large-scale cultivation due to soil type (tin tailing) and is equipped with an abundance of water availability for irrigation. Most of the varieties planted are from orange flesh varieties which accounted for 90% and others are purple sweet potatoes. Some of the farmers in Perak export their sweet potatoes due to the large-scale operations recorded at 30 acres and the potential yield of 12 – 15 mt/ha (*Image 1*).

Meanwhile, Kelantan was ranked the 2nd highest producer of sweet potatoes and it mostly produced orange flesh sweet potatoes with a better sweetness as compared to the orange flesh ones in Perak. This type of sweet potato is named as VitAto, a variety



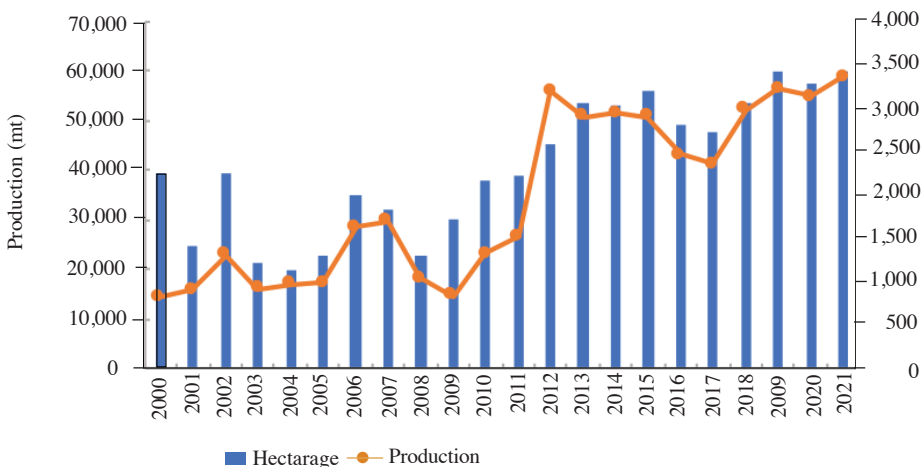
Source: Survey (2021)

Image 1. Commercial farm (30 acres) for sweet potato export market

introduced by the Malaysian Agricultural Research and Development Institute (MARDI) in 2007, which had been grown immensely in the East Coast region and became an important contributor to the total sweet potato production in Malaysia. According to the Vegetables and Cash Crops Statistics (2021), the production of sweet potatoes in Bachok (8,995 mt) is the highest, followed by Pasir Puteh (1,072 mt) and Lojing (300 mt). VitAto is the high-yielding sweet potato variety with a potential yield

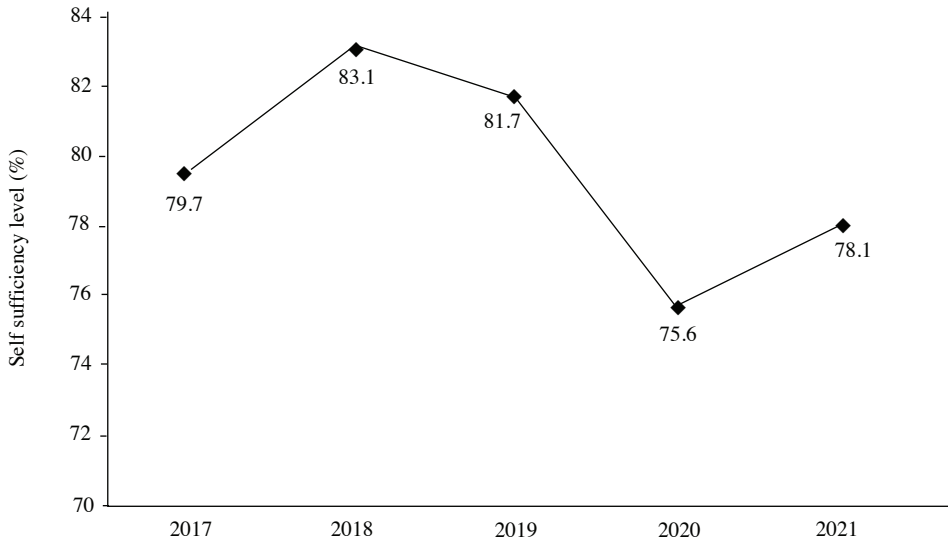
of 25 – 30 mt/ha and can reach 40 mt/ha depending on the cultivation practices.

The planted area for sweet potatoes had recorded a significant increase of 53% from 2,225 ha to 3,410 ha with an increase in production as well, accounting for 58,714 mt in 2021 which is an increase by almost threefold from 2000 (14,478 mt) (Figure 1). The increase in production had led to an increase in the self-sufficiency level at an average of 80% (2017 – 2021) (Department of Statistics 2022).



Source. Agrofood Statistics (2020) & Crop Statistics (2021)* estimated

Figure 1. Hectarage and production of sweet potato (2001 – 2021)

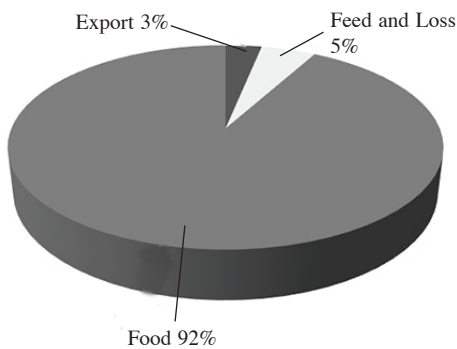


Source: Department of Statistics Malaysia (2022)

Figure 2. Self-sufficiency level of Malaysian sweet potato

Utilisation and consumption

According to Figure 3, sweet potato is mostly used for food purposes at 92%, followed by animal feed or food losses at 5% and 3% for export.



Source: Department of Statistics (2022)

Figure 3. Sweet potato utilisation in Malaysia (2021)

The result stated that sweet potatoes are used for food purposes, however, the details segmentation of the utilisation cannot be identified. Based on our interviews with farmers, sweet potatoes are highly in demand, especially among food processing entrepreneurs. The industry utilised sweet

potatoes for the processing purposes such as traditional cakes, snacks and others. Their choice of local varieties is VitAto, white and red sweet potatoes.

The traditional use of sweet potatoes especially VitAto, is for a traditional cake known as “keria gula Melaka” and required continuous supply at 4 t/week or 16 t/month. According to farmers, the entrepreneurs preferred VitAto due to its natural sweetness as it can reduce other ingredients such as sugar. Any production of Grade C will be supplied as animal feed at RM0.60/kg (Image 2).

Other varieties of sweet potatoes such as white and red sweet potatoes, are highly in demand by entrepreneurs



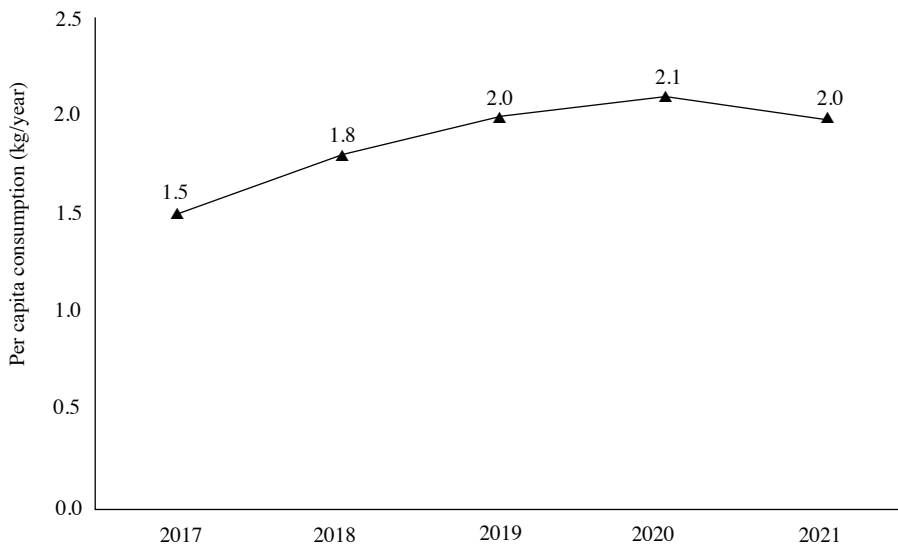
Source: Survey (2021)

Image 2. VitAto grade C for animal feed (Deer)

from the Southern region. Meanwhile, the purple sweet potato (*Lembayung*) is also demanded by food processors in the East Coast region, especially during the rainy season period (October to Mac) due to wet season in East Coast region. During that time, the local supply decreases and food processing companies will resort to imported sweet potatoes which were claimed to be not as good quality as compared to Malaysian sweet potatoes in terms of taste and texture. The result also revealed that some of the food processors demanded a local Japanese type of sweet potato which was newly grown in Terengganu. It tastes sweeter, softer and produced a higher yield compared to the other local varieties. This new variety might have a huge potential for food processors if it the supply can be maintained, besides reducing the dependency on imported Japanese sweet potatoes. Departments of Statistics (2022) stated that there is a decrease of 9 % (17.3 thousand mt) in Malaysian imported sweet potatoes in 2021 and therefore, it is a huge potential for the sweet potato to be produced and marketed locally.

Consumption of sweet potato in Malaysia

The consumption/capita of sweet potatoes was at 4 kg/year and showed an increasing trend which is almost 33% between 2017 and 2021 (*Figure 4*). Various health benefits contained in a sweet potatoes such as antioxidative, hepatoprotective, antiinflammatory, antitumour, antidiabetic, antimicrobial, antiobesity and antiaging effects (Wang et al. 2016) hence increased the use of sweet potato for human consumption and food formulation due to their attractive nutritional profile (Muhammad et al. 2021). Hairazi et al. (2016) stated that 94% of the respondent consumed sweet potato products and sweet potato chips, followed by traditional consumption such as boiled sweet potato and traditional cakes. The physical appearance of the product such as brand, nutrition and packaging are the factors that influenced respondents to buy. There are various source for buying and the biggest purchasing power is at farmers’ night markets or wet markets (46%), followed by supermarkets/hypermarkets (39%), retail shops (39%), wholesale markets (36%), others (22.7%).



Source: Department of Statistics (2021)

Figure 4. Sweet potato/capita consumption in Malaysia (2016-2020)

Marketing

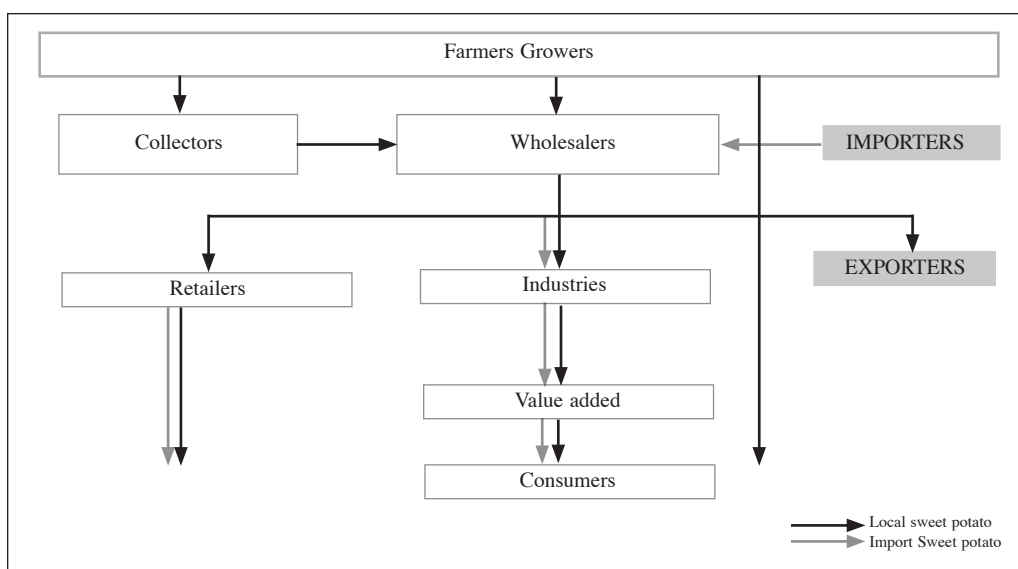
Marketing channel

The marketing channel for Malaysian sweet potatoes is comprised of local and imported sweet potatoes. The local sweet potato goes through collectors, wholesalers, or directly to the consumers. From the wholesalers, it goes to retailers, industries (food processing), and the export market. Meanwhile, the imported sweet potatoes go through the wholesalers and consequently to the industries for the value-added products and lastly reached the consumers (Figure 5).

imported sweet potatoes from Vietnam (Japanese sweet potato) and Indonesia (*Cilembu*) range from RM7 – RM8/kg at the wholesale market. Meanwhile, in the high-end supermarket, the price of local sweet potatoes is RM5 – RM6, and imported sweet potatoes range from RM10.90 (Vietnam sweet potato) to RM20/kg (Australian sweet potato) (Figure 4).

Price and margin analyses

Different types of distribution channels showed different prices as well as margins. Price analysis provides insight behavior of



Source: Survey (2021)

Figure 5. Marketing channel of sweet potato

Product (sweet potato) and place

The Malaysian sweet potato comprises local sweet potatoes and imported sweet potato sizes ranging from medium to big size (based on Grades, A and B). The market channel for both local and imported can be obtained from the wholesale market, retail market, hyper/supermarket and high-end supermarket. The price varies depending on the variety and market distribution channel. For example, price of local sweet potato (orange flesh) as shown in Image 3, ranges from RM4.50 – RM5.00/kg, and

price over time and an understanding of the behaviour of the marketing cost of the product over time also notifies the market level.

The trend of sweet potato prices (farm, wholesale and retail)

As depicted in Figure 6, orange flesh/VitAto increased in farm price from RM1.35/kg in 2016 to RM1.95/kg in 2021. In 2019, the farm price had increased by 34.5% higher than the previous years. The wholesale trend showed a price increase though with



Image 3. Local sweet potato in wholesale market Malaysia



Source: Survey (2021)

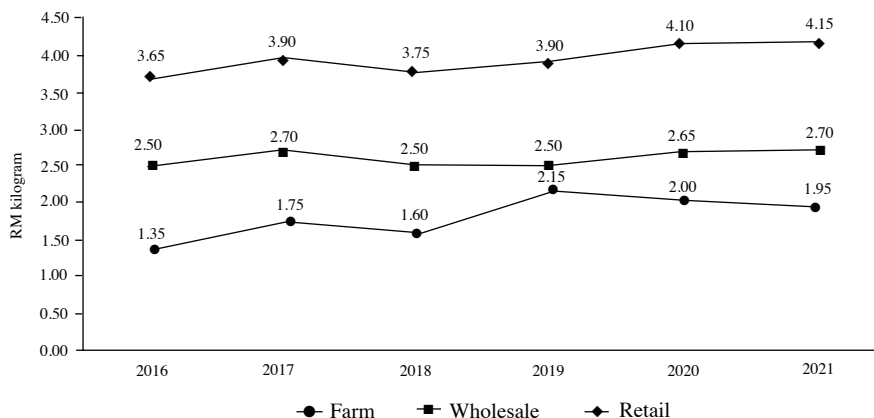
Image 4. Imported sweet potato at wholesale market Malaysia

an unstable pattern for year 2018 until 2020. Meanwhile, the retail price shows an increasing pattern with the highest price in 2021 at RM4.15/kg. In terms of marketing margin (Table 1), the retail margin is generally higher relative to the wholesale margin throughout the year. The producers' share of orange flesh/VitAto had increased by 47% in 2021 and this shows that for every one Ringgit Malaysia the consumer spends on orange flesh/VitAto, the producers

receive RM0.47 while the balance goes to the marketing cost or margin.

White sweet potato

The white sweet potato illustrates an increase in farm price from RM1.25/kg (2016) to RM1.80/kg (2021). Both wholesale and retail prices show an increasing trend and recorded 16% and 19% respectively. As stated for the orange flesh/VitAto variety, the retail margin depicts



Source: FAMA (2022)

Figure 6. Price trend between farm, wholesale, and retail for orange flesh/VitAto (2016 –2021)

Table 1. Orange flesh/vitAto: wholesale and retail margin, 2016 – 2021 (RM/kg)

Year	Farm price	Wholesale price	Retail price	Retail margin ^a	Wholesale margin ^b	Producers share ^c (%)
2016	1.35	2.50	3.65	1.15	1.15	37.0
2017	1.75	2.70	3.90	1.20	0.95	44.9
2018	1.60	2.50	3.75	1.25	0.90	42.7
2019	2.15	2.50	3.90	1.40	0.35	55.1
2020	2.00	2.65	4.10	1.45	0.65	48.8
2021	1.95	2.70	4.15	1.45	0.75	47.0

^aRetail margin = Retail price-wholesale price

^bWholesale margin = Wholesale price-farm price

^cProducers share = (Farm price/retail price) x 100

Source: Authors calculation (2022)

higher than the wholesale margin and the producer's share had increased by 47.4% in 2021, which means the producers receive RM0.47 same as the orange flesh/VitAto.

Purple sweet potato

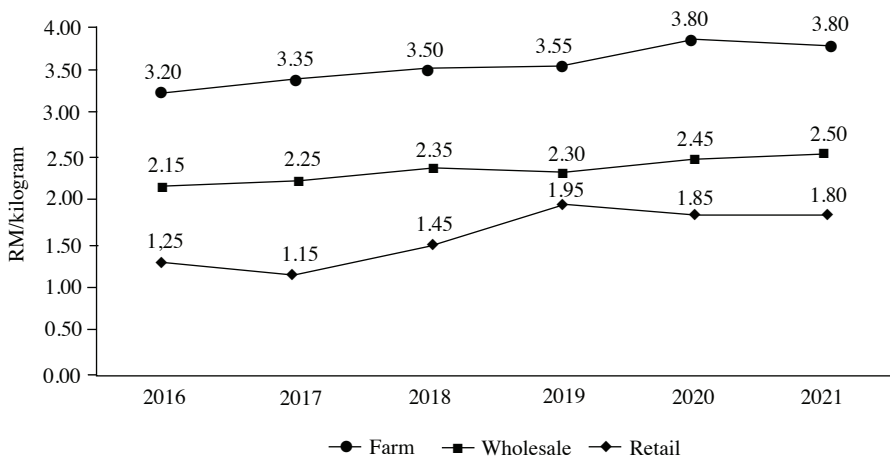
Purple sweet potatoes showed a declining trend in farm price starting from 2017. The highest farm price is in 2017 was recorded at RM2.85/kg. The wholesale price also showed a slight decline while the retail price showed an increasing trend which recorded the highest price in 2021 at RM5.00/kg due to the unavailability of supplies. According to the farmers, this type of sweet potato is mostly demanded by the industries especially on the usage of value-added products such as purple sweet potato chips

as well as supply for the healthy segmented group as this variety contains a higher anthocyanin level. Retail margins are higher than wholesale margins which showed an increasing trend in 2021. However, the producer's share of purple sweet potato is declining to 41% in 2021.

International Trade

Global - production

According to the FAOSTAT (2021), China is the world's highest producer of sweet potatoes with a production of 48.9 million mt, covering more than half of the world production share (54.7%). Second was Malawi at 6.9 million mt (7.7%) and third was Tanzania at 4.4 million mt (5.0%). Malaysia's sweet potato production ranked



Source: FAMA (2022)

Figure 7. Price trend between farm, wholesale and retail for white sweet potato (2016 – 2021)

Table 2. White sweet potato: wholesale and retail margin, 2016 – 2021 (RM/kg)

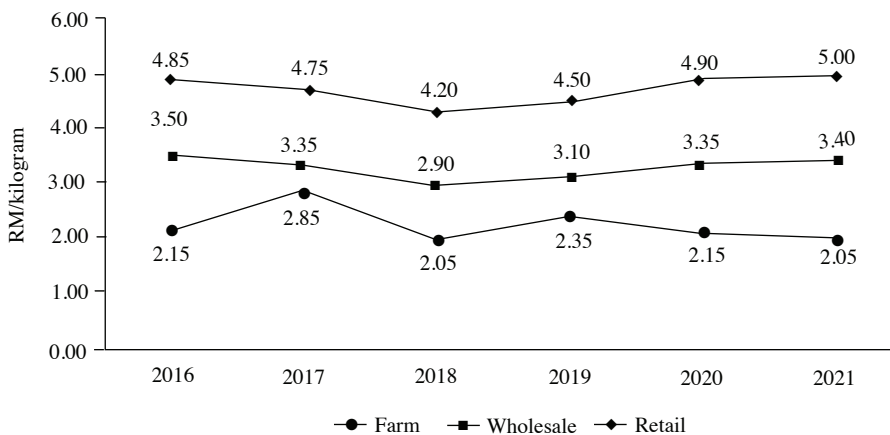
Year	Farm price	Wholesale price	Retail price	Retail margin ^a	Wholesale margin ^b	Producers share ^c (%)
2016	1.25	2.15	3.20	1.05	0.90	39.1
2017	1.15	2.25	3.35	1.10	1.10	34.3
2018	1.45	2.35	3.50	1.15	0.90	41.4
2019	1.95	2.30	3.55	1.25	0.35	54.9
2020	1.85	2.45	3.80	1.35	0.60	48.7
2021	1.80	2.50	3.80	1.30	0.70	47.4

^aRetail margin=Retail price-wholesale price

^bWholesale margin=Wholesale price-farm price

^cProducers share= (Farm price/retail price) x 100

Source: Authors calculation (2022)



Source: FAMA (2022)

Figure 8. Price trend between farm, wholesale, and retail for purple sweet potato (2016 – 2021)

Table 3. Purple sweet potato: wholesale and retail margin, 2016 – 2021 (RM/kg)

Year	Farm price	Wholesale price	Retail price	Retail margin ^a	Wholesale margin ^b	Producers share ^c (%)
2016	2.15	3.50	4.85	1.35	1.35	44.3
2017	2.85	3.35	4.75	1.40	0.50	60.0
2018	2.05	2.90	4.20	1.30	0.85	48.8
2019	2.35	3.10	4.50	1.40	0.75	52.2
2020	2.15	3.35	4.90	1.55	1.20	43.9
2021	2.05	3.40	5.00	1.60	1.35	41.0

^aRetail margin=Retail price-wholesale price

^bWholesale margin=Wholesale price-farm price

^cProducers share= (Farm price/retail price) x 100

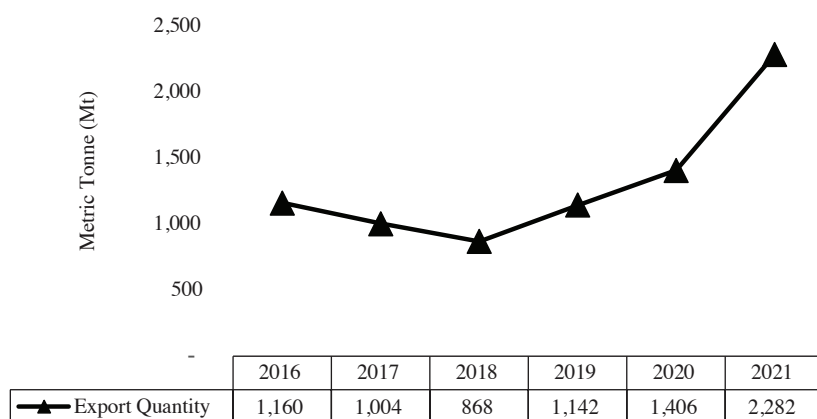
Source: Authors calculation (2022)

at 53 indicating the third highest among the ASEAN countries after Indonesia and Vietnam. Indonesia recorded a production of 1.4 million mt ranking at 10th in the world and contributed 1.7% of world sweet potato production. Meanwhile, Vietnam is at the 11th rank that produced 1.3 million mt, contributing 1.4% of world sweet potato production.

Malaysia

Malaysian sweet potato showed a significant increase in trend of export starting from 2018 and recorded an annual average growth rate of 96.7% from 2016 which accounted for 2,282 mt (*Figure 9*). Sweet potatoes

with orange flesh are the varieties that are being exported. Most of the sweet potatoes come from Perak, the top producer country in Malaysia. Malaysia exports of sweet potatoes were fresh products (10 kg/bag) and a minimal process of one kg/pack and sold as minimally processed frozen sweet potatoes at Singapore’s market. The VitAto variety is not available for export although it had met the export requirement (> 800 g) due to the insufficient supply of this variety. It was highly in demand among the food industries as our sweet potato export is concentrated to Singapore - traditional market trade with almost 90% and above of its market share in previous years recorded.



Source: International Trade Centre (2022)

Figure 9. Export of sweet potato (2016 – 2021)

However, Malaysia also penetrated Hong Kong (2018) and United Arab Emirates (2020) markets with 9% and 2% export market share, respectively (International Trade Centre 2022).

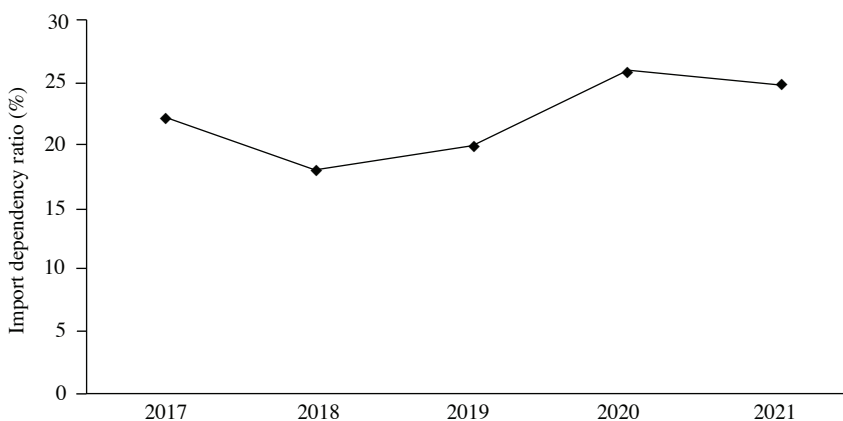
Import

According to the Department of Statistics (2022), the average value for the Malaysian import dependency ratio is 21.8% (2017 – 2021) (Figure 10). Malaysia imports sweet potatoes from several countries as depicted in Table 4 and showed that the majority of the imported food products were from Vietnam accounting for 45.2%.

Although Malaysia had recorded a self-sufficiency level of an average of 80%, we are still importing sweet potatoes for domestic consumption, especially the Japanese sweet potato variety which is sweeter than the local type. In Malaysia, Japanese sweet potatoes can be bought at high-end supermarkets.

Issues and challenges

Issues and challenges in the Malaysian sweet potato industry had been identified through SWOT analysis as shown in Table 5. The SWOT analysis clearly stated the strength, weaknesses, opportunities and threats of the Malaysian sweet potato industry.



Source: Department of Statistics Malaysia (DOSM)

Figure 10. Import dependency ratio of Malaysian sweet potato

Table 4. List of countries for sweet potato import (2021)

Import countries	Share in Malaysia’s import (%) in 2021
Vietnam	45.2
Indonesia	20.2
Netherlands	8.4
Japan	8
Thailand	6.3
China	6
Australia	3
Others	<1

Source: International Trade Centre (2022)

Theo SWOT analysis indicates that sweet potatoes are marketable due to high demand at both domestic and export markets. Local varieties such as VitAto sets standard on the quality of local sweet potatoes which indicates the strengths in developing the local sweet potatoes. The local market has high demand, as the traditional cake industries requires 4 – 5 mt sweet potatoes/week. Exporters that also demand more from local produce to fulfill the importers’ market in both fresh produce and minimally processed products. Malaysian sweet potato especially VitAto, is highly preferred among food industries

Table 5. SWOT analysis of issues and challenges of the sweet potato industry in Malaysia

Strength	Weaknesses
<ul style="list-style-type: none"> • Continuous high demand for sweet potatoes at both domestic and export markets. • Higher quality local sweet potato (e.g. VitAto) is more preferred (taste and size) compared to the imported ones for food processing purposes. • Increased demand from Malaysians as increase in per capita consumption, increased awareness of the sweet potato consumption. 	<ul style="list-style-type: none"> • Insufficient produce of local sweet potatoes. • Still rely on imports to meet the local demand. • High production cost; increased input costs such as fertiliser. • Single crop – need to identify rotation plant (alternated with watermelon and pumpkin) to protect soil fertility, yield, etc. • Not many areas (land) are suitable for sweet potato cultivation in Malaysia.
<p>Opportunities</p> <ul style="list-style-type: none"> • VitAto showed a potential for export due to its premium size and taste. • New variety - Japanese sweet potato showed the highest preference (both importers and exporters). Currently cultivated at East Coast (Terengganu). • Ongoing research and development on sweet potato by MARDI. 	<p>Threats</p> <ul style="list-style-type: none"> • Imported sweet potatoes are more competitive in price.

Source: Survey (2021)

for traditional cake purposes due to its taste which is sweeter and saves the use of added sugar. This survey also revealed that VitAto is preferred for export due to its different taste and texture, added with its premium size. New varieties have been planted on the East Coast, which has higher preference from consumers. Either local or import varieties, sweet potatoes have their market and preference, respectively. Continuous research is needed to increase production and sustain the industries.

The supply, however was fulfilled by importing the sweet potato from countries like Vietnam (45.2%), Indonesia (20.2%) and the Netherlands (8.4%) (Table 4).

Conclusions and Recommendations

This paper aimed to review and examine the sweet potato industry in Malaysia and discovered the significant growth in terms of production, consumption and export, which contributed significantly to Malaysian agro-food commodities. The strength and opportunities of Malaysian sweet potato

industry can be tapped as it promises great potential in future. With continuous support from the government and industry players, the sweet potato industry will be succeed along with other primary commodities in Malaysia.

References

- Austin, D. F. (1988). The taxonomy, evolution, and genetic diversity of sweet potato and related wild species. *Exploration, maintenance, and utilisation of sweet potato genetic resources*, 27–60
- Ballard, C. (2005). Still good to think with: the sweet potato in Oceania. In *The sweet potato in Oceania: A reappraisal*. Oceania Publications and University of Pittsburgh
- Bovell-Benjamin, A. C. (2007). Sweet potato: a review of its past, present, and future role in human nutrition. *Advances in food and nutrition research*, 52, 1–59
- Campilan, D. (2009). Sweetpotato in Southeast Asia: Assessing the primary functions of a secondary crop. In *The Sweetpotato* . 469–481. Springer, Dordrecht.
- Department of Agriculture. (2022). Crop Statistics Booklet (Food Crops Sub Sector). Putrajaya, Malaysia: DOA

- Department of Statistics Malaysia. (2022). Supply and Utilisation Accounts Selected Agricultural Commodities: DOSM
- Department of Agriculture. (2021). Vegetables and Cash Crop Statistics. Putrajaya, Malaysia
- FAOSTAT (2021). <https://www.fao.org/faostat/en/?#data/QC>. Assessed on 1 November 2022.
- Gao, Y., Casasayas, O., Wang, J. & Xu, X. (2022). Factors affecting the blockchain application in construction management in China: an ANP-SWOT hybrid approach. *Architectural Engineering and Design Management*, 1–16
- Hairazi, R., M. Zaffrie, M. A., M. Amirul. M. A. W., Azahar. H. & Rasmuna, M. M. Kajian kesan sosial dan keberkesanan teknologi ubian. Laporan kajian sosioekonomi 2016. Pusat Penyelidikan Ekonomi dan Sains Sosial, MARDI.
- Huang, A. S., Tanudjaja, L. & Lum, D. (1999). Content of alpha-, beta-carotene, and dietary fiber in 18 sweetpotato varieties grown in Hawaii. *Journal of Food Composition and Analysis*, 12(2), 147–151
- Ministry of Agriculture and Food Industries Malaysia. (2019). Agrofood Statistics. Retrieved from <https://www.mafi.gov.my/documents/20182/361765/Perangkaan+Agromakanan+2019.pdf/6546231e-053e-4afb-b38d-90bc01913dbd>
- Ministry of Agriculture and Food Industries Malaysia. (2020). Agrofood Statistics. Retrieved from <https://www.mafi.gov.my/documents/20182/361765/BPAM+2020+as+a+t+%2810+JAN+2022%29.pdf/ff5454e4-c727-46e1-9811-16e3148a6ebf>
- Muhammad, R., Nor, N. M., Ikram, E. H. K. & Sharif, M. S. M. (2021). The Sustainability of Malaysia Purple Sweet Potato and Its Nutritional Value: Product Development Perspective. *Journal of Academic Research in Business and Social Sciences*, 11(8), 302–310
- Food and Agriculture Organisation. (2020). *OECD-FAO agricultural outlook 2020–2029*. FOOD & AGRICULTURE ORG.
- Wang, S., Nie, S. & Zhu, F. (2016). Chemical constituents and health effects of sweet potato. *Food Research International*, 89, 90–116

Abstrak

Di Malaysia, ubi keledek merupakan tanaman kontan dan telah menyumbang secara signifikan terhadap sektor agromakanan di Malaysia. OECD/FAO 2020/2029 telah meramalkan penggunaan makanan di Malaysia untuk sektor ubian ialah 4 kg/kapita dalam setahun pada tahun 2029. Susulan daripada potensi ini, kajian bertujuan mengkaji status semasa industri ubi keledek di Malaysia. Kedua-dua data primer dan sekunder telah digunakan Data primer dikumpul melalui soal selidik semi-struktur terhadap petani terpilih menerusi kajian kes. Berdasarkan data sekunder, terdapat peningkatan yang signifikan dari segi luas kawasan, pengeluaran dan kadar sara diri. Pasaran tempatan juga menunjukkan peningkatan dalam per kapita penggunaan keledek. Penemuan kajian juga mendapati eksport ubi keledek telah meningkat sehingga 96.7% pada tahun 2021 daripada tahun 2016 dan pengurangan di dalam import ubi keledek. Analisis harga dan margin juga telah dijalankan untuk menunjukkan gelagat harga ladang, harga borong dan runcit ubi keledek berdasarkan ketersediaan data yang diperolehi. Kekurangan bahan mentah yang mencukupi, kekurangan tenaga kerja (ladang komersil), peningkatan kos input, kualiti bahan tanaman juga telah dikenal pasti sebagai isu dan cabaran dalam kalangan petani keledek. Analisis SWOT juga telah dijalankan untuk mengenal pasti faktor kritikal yang mempengaruhi kejayaan ubi keledek pada masa hadapan dan dalam jangka masa panjang di dalam memaksimumkan potensi ubi keledek di Malaysia