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Consumer's and rice miller's preference towards MARDI parboiled rice

(Persepsi pengguna dan pengilang padi terhadap beras rebus MARDI)

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Abstract

Parboiled rice is a speciality rice that is preferred because of its attributes which is less starchy with soft and flaky texture. Malaysia depends on imports for parboiled rice and showed a positive average growth rate of 29.6%. Hence, MARDI developed parboiled rice and this research was undertaken to estimate consumers' and rice millers' preferences and willingness to pay (WTP) for MARDI's parboiled rice. MARDI parboiled rice uses fragrant varieties MRQ 74 (sample A) and MRQ 104 (sample B). For the attributes on physical appearances, most consumers preferred the shiny and translucent attribute of Sample A with a mean score of 4.92 and 4.79. Sample B was most preferred for the attributes of length with a mean score of 5.14 However, the overall findings showed that consumers prefer rice sample C (control) with a mean score of 8.16 for shiny, 8.57 for length, and 8.64 for translucent. The evaluation of rice (cooked) attributes shows that consumers prefer sample C with a mean score of 8.24 for softness, followed by sample D with a score of 6.78 (fragrant) while the flaky attribute is more preferred for MARDI parboiled rice (sample A). The estimated willingness to pay (WTP) value is RM4.63/kg lower than the bid price of RM5/kg and this finding is significant at $\alpha = 0.01$. Factors such as health and organic products had positive significance affecting willingness to pay. From the rice millers' perspective, sample A (MRQ 74) got a higher mean score with an average score of 6.17 with most attributes had a higher mean score which is flaky, length and translucent compared to sample B (MRQ 104) for softness at a mean score of 5.83. The acceptance level among consumers and rice manufacturers shows that MARDI parboiled rice is less preferred due to its less shiny, length and translucent physical attributes. As for the rice, it was found to be less soft and flavorful. However, MARDI parboiled rice for both varieties was ahead in terms of flaky attributes compared to control rice samples in the market. The value of willingness to pay (WTP) at the consumer level is positioned in the middle price range for parboiled rice in Malaysia, meanwhile, the rice millers stated the average price was at RM5.90/kg. Therefore, MARDI's parboiled rice needs to consider these attributes that can contribute to the consumer's

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preferences such as shine, length and translucent as well as flavour. Nowadays, the market segment is more focused on healthy diet, hence MARDI's parboiled rice should be positioned strategically at local market due to its flexible and unregulated price, as well as an alternative to substitute imported parboiled rice.

Introduction

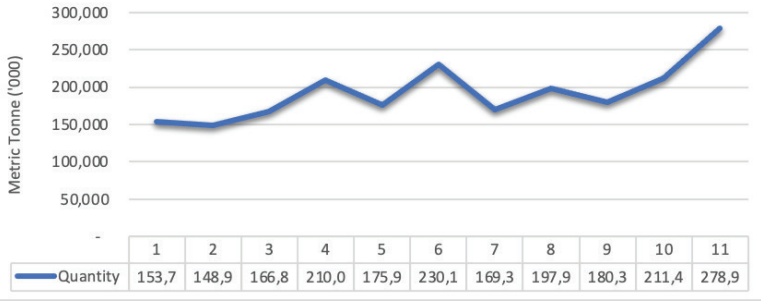
Rice is a staple food for Malaysians and the main source of carbohydrates that provide essential nutrients to produce energy. Our per capita consumption of rice was increased from 74.1 kg/year in 2017 to 76.5 kg/year in 2019 as currently stated at 78kg/year (DOSM 2022). Generally, there are various types of rice in the market including white rice, red rice, brown rice, glutinous rice, fragrant rice, basmati and parboiled rice to meet different consumer demands. In addition to white rice, other types of rice are categorised as speciality rice or High-Quality Rice (HQR).

Parboiled rice is one of the types of speciality rice that is beginning to gain demand among Malaysians. Parboiled rice, is also known as 'less starchy rice' because of its' flaky and in addition has a soft texture as well. Parboiled rice differs from white rice in terms of its production process as well as its nutrient content and slightly brown colour. This rice gets its name as parboiled rice due to the process that needs the paddy to be soaked and steamed at high pressure before continuing with the drying and milling process. Steaming at high pressure causes the nutrients in the husk (outer layer) and bran, rich in fibre and vitamins, to absorb into the rice, producing highly nutritious rice. In contrast, white rice is only involved with the milling process in producing white rice. Parboiled rice involves additional processes such as soaking, steaming, drying and finally milling.

The country's rice imports experienced an increasing trend starting in 2011 until 2020 (*Figure 1*). In 2011, the country imported 1.03 million mt of rice equivalent to RM1,196 million, increasing to 1.2 million mt equivalent to RM578 million in 2020. This increasing trend is in line with the increase in per capita consumption of rice. Referring to the data by Padiberas National Berhad (BERNAS), on average Malaysia has imported 80% of white rice and 20% of specialty rice every year from various countries. The trend of imported speciality rice increased over the years from 154 thousand metric tons in 2010 to 279 thousand metric tons in 2020 (*Figure 1*). The demand for specialty rice is seen to be increasing with an average growth rate of 5.56%.

In the market, there are two types of parboiled rice which are basmati parboiled and white rice parboiled. The retail price of white rice parboiled is in the range of RM2.85/kg to RM5.20/kg, while the price of basmati parboiled is between RM7.98/kg to RM13.75/kg. The retail price of both types of parboiled rice is different according to the type, brand, manufacturer and country of origin (Market survey 2021).

Parboiled rice can control the increase in blood sugar levels in either healthy people or those with diabetes, compared to white rice (Samar 2017). According to Awadhesh et. al (2022), parboiled rice is slowly digested by the stomach due to the starch structure that has changed with the production of resistant starch which indirectly lowers the glycemic index (glycemic index) of the rice. The slow digestion process of starch and the lower glycemic index of white rice cause the absorption of sugar into the blood more slowly and the sugar level is more controlled. Resistant starch also works as fibre which can help in the process of weight loss, and intestinal health as well as regulating blood sugar levels.



	1	2	3	4	5	6	7	8	9	10	11
Quantity	153,7	148,9	166,8	210,0	175,9	230,1	169,3	197,9	180,3	211,4	278,9

Source: BERNAS, 2021

Figure 1. Total import of specialty rice for Malaysia 2010 – 2020

As shown in *Figure 2*, increasing trend of imports for parboiled rice proves it has become a new alternative for consumers as a daily menu, especially for those who have health problems such as diabetes and also due to lifestyle changes and people's awareness of healthy foods. Studies conducted and it has been proven that consuming parboiled rice according to a certain quantity can lower blood sugar levels.

Parboiled rice in the market is solely imported from India and shows a positive trend with an average growth rate of 29.61%. Thus, to reduce the country's imports of parboiled rice, MARDI has taken the initiative to produce local varieties of parboiled rice that are nutritious, and healthy, suiting Malaysian taste preference. The nutritional content of MARDI's parboiled rice was analysed and the results of parboiled MRQ 74 and MRQ 104 stated a high content of magnesium ranging between 110 – 115 mg, low in fat 1.6 -– 1.7 g and also showed low content of sodium 6.3 – 6.5 mg (Ministry of Health 2010)

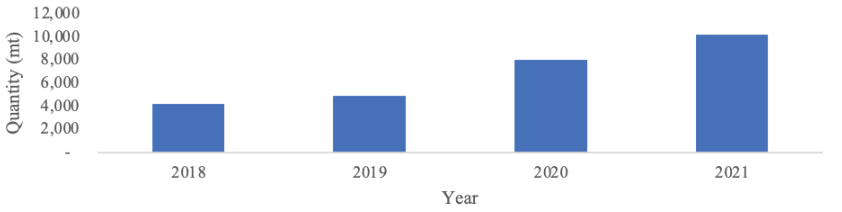
Hence, the objective of this study was to evaluate consumers and rice millers preferences towards rice attributes for MARDI's parboiled rice and their willingness to pay.

Literature review

In Malaysia, as a staple food, rice demand widely consists of white rice and speciality rice - basmati, fragrance as well as parboiled. Other countries such as West Africa also showed an increase in demand as stated in a study by Rutsaert et al. (2012) in Benin, Africa. There has been an increase since the 1960s with an annual growth rate of 21%, the highest growth rate recorded in Sub-Saharan Africa. A study by Demont et al. (2011) evaluates the value of willingness to pay (WTP) for rice qualities obtained through a few selected techniques of producing parboil rice. The finding shows that the value of WTP for each of the techniques is given higher values than the bid price in a range of 9% – 34%.

Heinemann et al. (2006) conducted a consumer survey using sensory panels and analysed the acceptability and consumer attitudes towards parboiled rice in Brazil. They concluded that the majority of the consumers do not reject parboiled rice based on its sensory properties, however other factors such as not being familiar with the product itself as well as their lack of awareness of the advantages of consuming parboiled rice.

Behrens et al. (2007) further studied consumer preferences using cluster and correspondence analysis to identify and profile the consumer segments. Their observation stated that a positive attitude was a reflection of habit and liking, while a negative attitude was attributed to previous negative experiences and misconceptions about the product. Their findings also stated that there is a need to increase awareness of the quality of rice together



Source: BERNAS, 2021

Figure 2. Total import of parboiled rice for Malaysia 2018 – 2021

with marketing efforts. The dissemination of information among consumers regarding the nutritional value of parboiled rice might affect consumer purchase decisions.

Tomlins et al. (2007) evaluated consumer acceptance, affordability and market value of parboiled rice with an improved prototype rice-parboiling vessel in urban Ghana. The findings suggest a trade-off between improving sensory attributes to increase the market price and increasing affordability which is associated with sensory attributes related to poor quality. It was concluded that sensory attributes associated with quality were positively related to price but negatively with affordability.

Fiamohe et al. (2018) stated that the diversification strategy of parboiled rice could improve its market value in Senegal. This study compared four types of different rice known locally as Sahel 108 white rice, Sahel 108, 134 and 177 as parboiled rice. The results showed that the market price for parboiled rice was doubled compared to the standard white rice and was estimated to be 97% higher for Sahel 108 and 134 parboiled rice types. For other types of parboiled rice Sahel 177, it showed the highest market price as compared to standard white rice at 129%. Consumers mostly preferred parboiled rice due to its physical appearance such as whiteness and cleanliness at 60% while taste attributes showed a preference of 80% among the consumers.

Methodology

Data sampling

This study used primary and secondary data to analyse a qualitative and quantitative method. Secondary data such as rice production, import value and quantity of rice are collected from various sources; annual reports, related agencies and websites. Meanwhile, primary data was collected by a stratified sampling method and consumers were randomly selected around the Klang Valley area while the rice millers were selected from the list provided by the Seksyen Kawal Selia Padi dan Beras, Paddy Industry and Development Division, Ministry of Agriculture and Food Security (KPKM). The selected respondents are those who had already processed, packed, or sold the parboiled rice. The respondents are provided with structured questionnaires and rice samples to evaluate the physical appearance of rice with and without cooking. A total of 203 consumers and seven rice millers were involved in this study. For the consumer acceptance study, they were provided with a set of questionnaires, four rice samples; cooked and uncooked samples. Two samples were MARDI parboiled rice (labelled as 'A' for MRQ74 rice and 'B' for MRQ104) while the other two were control samples (labelled as 'C' and 'D'). The survey was done during the Malaysian Movement Control Order (MCO) period (September to October 2021) which limits the number of respondents as well as area coverage which is stated at Klang Valley only (Bangi, Putrajaya, Ampang and Rawang). During that period, only seven millers agreed to participate in the survey.

The rice millers were provided with a set of questionnaires and two samples of MARDI parboiled (uncooked) rice. The rice samples were cooked using the provided guidance. (Rice millers at Terengganu [1], Kelantan [1], Kedah [1], Perlis [1], Selangor [1] and Pulau Pinang [2])

Analysis

This study uses quantitative methods of analysis. Descriptive analysis was conducted to see the frequency distribution of users/ manufacturers by measuring the minimum, maximum, standard deviation and average. The results of the analysis are used to summarise the findings and will also be measured in the form of percentages.

To determine the Willingness to Pay (WTP) among consumers, the contingent valuation method (CVM) was used in this study. In general, this method of analysis has been widely used to evaluate non-market goods or services. Logistic regression analysis (Logistic Regression) was used to estimate WTP (Hanemann 1984). To get an estimate of the average WTP, the area under the probability function is calculated, which refers to the composition of the public population who are willing to pay according to different bid price levels and according to their respective utility or satisfaction. The probability of answering 'YES' for the bid price level offered by the parameter is freely estimated. Some assumptions need to be made in estimating WTP which are related to the upper and lower limits of the integral. For each bid price offered, the probability of saying 'YES' is 1 while the probability of saying 'NO' is 0. Therefore, negative WTP can be rejected and 0 is used as the lower limit.

The actual value of willingness to pay is measured using the formula:

$$WTP = [B_0 + (B_2 X_2 + B_3 B_3 + ...B_K X_K)]/B_1$$

Where,

B_0 = Coefficient value for constant
B_2X_2 = Coefficient value for X_2
B_3X_3 = Coefficient value for X_3
B_KX_K = Coefficient value for X_K
B_1 = Coefficient value for X_1

Results and discussion

Respondents profile for consumers

This study involved a total of 203 respondents around the Klang Valley, of which 62% were female with the majority of respondents aged 30 to 40 years (43%) while 39% were over 40 years old. The majority of respondents are Malay (98%) while others are Chinese, Indian and Sabah/ Sarawak Bumiputera. The majority of them are married (76%), 18% are single and the rest are single parents. Most of the respondent's education backgrounds were in higher education status at 70%, followed by secondary school at 28% and only 2% in primary school. For employment status, respondents were likely even between the public sector (38%) and private sector (24%), while others and businessmen were at 23% and 14% simultaneously. The majority of respondents have an income between RM1,000 to RM10,000 (80.3%), with only 3% under RM1000 and 2% earning more than RM10,000/month. However, for the total household income, there was more than 20% that earn above RM10,000. In general, the number of households is between two to four people (41%), followed by four to six people (39%), more than six people (10%) and the rest is less than two people (*Table 1*).

Consumer perception towards rice's physical appearance (uncooked rice)

The results stated that consumers preferred rice sample C (control) with a mean score of 8.16 for shiny, 8.57 for length, and 8.64 for translucent. As for MARDI's parboiled rice, the variety used is MRQ 74 (sample A) and MRQ 104 (sample B). The findings showed that consumers preferred

Table 1. Respondents' demographic

		N	%
Gender	Male	77	37.9
	Female	126	62.1
Age	<20 years	3	1.5
	20 – 30 years	33	16.3
	30 – 40 years	87	42.9
	40 – 50 years	35	17.2
	>50 years	45	22.2
Race	Malay	199	98.0
	Chinese	2	1.0
	India	1	0.5
	Bumiputera Sabah/Sarawak	1	0.5
Marital status	Single	37	18.2
	Married	155	76.4
	Single parents	11	5.4
Education	Higher education	143	70.4
	Secondary	56	27.6
	Primary	4	2.0
Occupation	Public sector	78	38.4
	Private sector	48	23.6
	Business partners	2	1.0
	Business	27	13.3
	Others	47	23.2
Individual income	<RM1,000	6	3.0
	RM1,000 – RM5,000	121	59.6
	RM5,000 – RM10,000	42	20.7
	>RM10,000	4	2.0
Household income	<RM1,000	3	1.5
	RM1,000 – RM5,000	77	37.9
	RM5,000 – RM10,000	81	39.9
	>RM10,000	42	20.7
Numbers of Household	<2 peoples	18	8.9
	2 – 4 people	84	41.4
	4 – 6 people	81	39.9
	6 – 8 people	14	6.9
	8 – 10 people	4	2.0
	>10 peoples	2	1.0

sample A represented by the MRQ74 with a mean score of 4.92 and 4.79 for shiny and translucent, however, sample B was more preferred by the consumer for length attributes with a mean score of 5.14 compared to sample A's only 4.78.

***Consumer perception towards rice's attributes* (*cooked rice*)**

Attributes had been evaluated for physical appearance (cooked rice) were listed as softness, aromatic and flaky. The result stated that (*Table 3*) consumers preferred sample C with a mean score of 8.24 for softness, followed by sample D with a score of 6.78 (aromatic) and the flaky attributes showed consumers preferred MARDIs'parboiled rice (sample A).

Consumer willingness to pay

This will estimate the consumers' willingness to pay for MARDI parboiled rice. As mentioned earlier, types of parboiled rice determine the market price that ranges from RM2.85/kg to RM13.75/kg. The logistic regression analysis was used to estimate the value of the willingness to pay (WTP) and the result stated that consumers are willing to pay at RM4.63/kg compared to the bid price of RM5/kg and this finding is significant at $\alpha = 0.01$. Factors such as health and organic showed positive and significant factors that affect the value of the WTP.

The price ranged due to different types of parboiled rice which were determined by the quality of rice. *Table 5* shows that comparing the maximum price consumers are willing to pay with the household income states that the higher income significantly paid a higher price for the parboiled rice.

Case study among rice millers

This study also indicates rice millers' preference for MARDI's parboiled rice. The survey was done during the period of MCO hence the millers were provided with a structured questionnaire and rice samples. They are required to cook the rice samples using the instructions given. There is a total of seven rice millers who are willing to participate in the survey. The rice samples were for MRQ 74 as sample 'A' and MRQ 104 as sample 'B'. The evaluation towards MARDI's parboiled was benchmarked towards their parboiled rice products.

Table 2. Consumer perception towards rice's physical appearance (uncooked rice)

Rice appearance	Sample	N	Average	Std dev	Skewness	
					Statistic	Std error
Shiny *(p-value = 0.000)*	A	203	4.92***	1.913	0.437	0.171
	B	203	3.88***	2.016	0.526	0.171
	C	203	8.16***	1.762	–1.340	0.171
	D	203	6.20***	1.899	–0.519	0.171
Length *(p-value = 0.000)*	A	203	4.78***	1.986	0.319	0.171
	B	203	5.14***	1.964	0.127	0.171
	C	203	8.57***	1.486	–1.036	0.171
	D	203	5.83***	2.174	–0.269	0.171
Translucent *(p-value = 0.000)*	A	203	4.79***	1.962	0.276	0.171
	B	203	3.89***	2.114	0.541	0.171
	C	203	8.64***	1.549	–1.835	0.171
	D	203	6.19***	1.798	–0.367	0.171

*** significant at $\alpha = 0.01$

Table 3. Consumer perception towards rice's attributes (cooked rice)

Rice appearance	Sample	N	Average	Std deviation	Skewness	
					Statistic	Std error
Soft *(p-value = 0.000)*	A	203	4.75***	2.046	0.281	0.171
	B	203	4.98***	2.076	0.164	0.171
	C	203	8.24***	1.478	–0.739	0.171
	D	203	6.78***	1.936	–0.704	0.171
Aromatic *(p-value = 0.000)*	A	203	6.00_a***	2.292	–0.079	0.171
	B	203	5.70_b***	2.219	0.002	0.171
	C	203	5.66_b***	2.774	–0.103	0.171
	D	203	6.56_a***	1.993	–0.296	0.171
Flaky *(p-value = 0.129)*	A	203	6.91	2.281	–0.596	0.171
	B	203	6.78	1.966	–0.539	0.171
	C	203	6.59	2.283	–0.598	0.171
	D	203	6.44	1.891	–0.284	0.171

*** significant at $\alpha = 0.0\ 1$

Table 4. Consumer willingness to pay using logistic regression

	B	S.E.	Wald	Df	Sig.	Exp(B)
Bid price RM5	–0.192	0.416	0.843	1	0.004***	0.682
Health	1.008	0.201	25.035	1	0.000***	2.740
Rice physical appearance	–0.641	0.179	12.838	1	0.000***	0.527
Rice aromatic	–0.506	0.196	6.634	1	0.010***	0.603
Organic	0.230	0.094	6.001	1	0.014***	1.259
Constant	0.799	1.391	0.330	1	0.047**	2.223

***, & ** signifikan at $\alpha = 0.01$ & $\alpha = 0.05$

Table 5. Paired sample t-test

	Mean	Std. deviation	Std. error mean	Sig (2 tailed)
Maximum price consumer willing to pay *Household income	2.63842	1.57782	.11074	.000

Of the seven rice millers, two had produced parboiled rice with the minimum process of repacking the products. The majority of them buy the parboiled rice in bulk and prefer to re-pack due to the higher cost of processing for producing the parboiled rice. The average cost of production for basmati parboiled rice ranged between RM5.60/kg to RM6.27/kg with a selling price of RM7.40/kg and RM8.50/kg, respectively.

Rice millers' perception of rice's physical appearance

The manufacturer will evaluate their preference by the physical appearance as

well as the taste. The result stated that their preference for MARDI's parboiled rice was for MRQ 74 due to its shiny, length, translucent and flaky. MRQ 104 tends to be most preferred due to its softness which showed a similar characteristic with a fragrance rice, MRQ 74 (*Table 6*). The attributes of fragrance were as expected due to the origin of MARDI's parboiled which was produced from a fragrant variety. Overall, the majority of manufacturers prefer parboiled rice sample A (MRQ 74) with an average score of 6.17 compared to parboiled rice sample B (MRQ 104) with an average score of 5.83 (*Table 7*).

Rice millers' proposed price towards MARDI parboiled rice

As the number of manufacturers was only seven, the logistic regression cannot be performed to estimate the willingness to pay. However, they are willing to provide the estimated price per/kg for MARDI's parboiled. *Table 10* shows that the minimum price offered by the manufacturers was RM3/kg while the maximum price was at RM7/kg. Hence the average market price was estimated at RM5.90/kg.

Table 6. Rice millers' perception towards rice's appearance and attributes (uncooked and cooked)

Rice appearance	Sample	N	Average	Std dev
Shiny	A	7	6.286	2.752
	B	7	5.333	2.875
Length	A	7	6.333	2.503
	B	7	5.400	1.673
Translucent	A	7	7.143	2.193
	B	7	6.333	2.503
Soft	A	7	5.667	2.422
	B	7	5.833	2.229
Aromatic	A	7	6.000	2.608
	B	7	6.000	2.098
Flaky	A	7	7.167	2.787
	B	7	7.000	2.608

Table 7. Overall perception by manufacturers

	N	Min	Max	Average	Std dev
Rice A	7	3	10	6.17	2.317
Rice B	7	3	8	5.83	1.722

Table 8. Price view by the manufactures

Price	RM/kg
Minimum	3.00
Maximum	7.00
Average	5.90

Conclusion

The demand trend for speciality rice is seen to be increasing in line with health awareness and standard of lifestyle, especially for those in the city. Parboiled rice is one of the speciality rice that is generally preferred by those who value health. In the past, this parboiled rice was less known to the public, however, the demand is increasing, especially for those who have health problems such as diabetes and those who practice a healthy diet. The results on the evaluation of acceptance level among manufacturers of MARDI parboiled rice show a moderate level as well as a choice from the consumers' preferences. This might be due to the rice characteristics that are less shiny, long and translucent. As for cooked rice, MARDI's parboiled rice is found to be less soft and flavourful. However, MARDI's parboiled rice for the flaky attribute is preferred by the consumer as compared to the control rice sample. The value of willingness to pay (WTP) at the consumer level is RM4.63/kg which shows that MARDI parboiled rice is positioned in the middle level of the parboiled rice price range in Malaysia.

Meanwhile, for the manufacturer, MARDI parboiled rice sample A (MRQ 74) is the choice with the physical characteristics of shiny, long and translucent while the cooked rice is preferred for sample B (MRQ 104) with the market price assessment at the manufacturer level is at RM5.90/kg. Findings show a price difference between consumers' willingness to pay with the suggested price by the rice manufacturers, and this will make it difficult for traders to sell MARDI parboiled rice in the local market. Therefore, MARDI's parboiled rice needs to be in the market segment that is more focused on healthy rice which is more flexible in terms of price and demand as consumers with higher income tend to pay more.

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Abstrak

Beras rebus merupakan beras istimewa yang mula mendapat permintaan di kalangan rakyat Malaysia. Beras rebus juga dikenali sebagai 'beras kurang kanji' dengan teksturnya yang lembut dan seroi. Malaysia bergantung kepada beras rebus import dan menunjukkan kadar pertumbuhan purata yang positif iaitu 29.6%. Oleh itu, MARDI telah membangunkan beras rebus dan kajian ini dijalankan untuk menganggarkan nilai kesanggupan membayar (WTP) di kalangan pengguna dan pengilang beras. Beras rebus MARDI menggunakan varieti wangi MRQ 74 (sampel A) dan MRQ 104 (sampel B). Bagi atribut penampilan fizikal, kebanyakan pengguna lebih suka atribut berkilat dan lut sinar pada sampel A dengan skor min 4.92 dan 4.79, manakala sampel B memberikan skor min tertinggi pada atribut panjang dengan nilai 5.14. Namun, dapatan keseluruhan menunjukkan pengguna lebih memilih sampel beras C (kawalan) dengan skor min 8.16 untuk berkilat, 8.57 untuk panjang, dan 8.64 untuk lut sinar. Penilaian kepada atribut nasi menunjukkan bahawa pengguna lebih menggemari sampel C dengan purata skor 8.24 untuk kelembutan, diikuti dengan sampel D dengan skor 6.78 (aroma), manakala atribut seroi lebih digemari dengan beras rebus MARDI (sampel A). Anggaran nilai kesanggupan membayar (WTP) adalah RM4.63/kg lebih rendah daripada harga bida RM5/kg dan dapatan ini adalah signifikan pada α=0.01. Faktor seperti kesihatan dan produk organik mempunyai kesan positif dan signifikan yang mempengaruhi kesanggupan membayar. Dari perspektif pengilang beras, Sampel A (MRQ 74) mendapat skor min yang lebih tinggi dengan purata skor 6.17 dengan kebanyakan atribut mempunyai skor min yang lebih tinggi iaitu seroi, panjang dan berkilat berbanding Sampel B (MRQ104) pada atribut lembut dengan purata skor sebanyak 5.83. Tahap penerimaan dalam kalangan pengguna dan pengilang beras menunjukkan beras rebus MARDI kurang digemari kerana sifat fizikalnya yang kurang berkilat, panjang dan lut sinar. Bagi nasi pula didapati kurang lembut dan berperisa. Walau bagaimanapun, beras rebus MARDI bagi kedua-dua varieti itu mendahului dari segi sifat seroi berbanding dengan sampel beras kawalan di pasaran. Nilai kesanggupan membayar (WTP) di peringkat pengguna berada di tahap pertengahan di antara beras rebus di Malaysia, manakala pengilang padi memberikan harga purata pada RM5.90/kg. Walau bagaimanapun, beras rebus MARDI bagi kedua-dua varieti itu mendahului dari segi sifatnya yang seroi berbanding sampel beras kawalan di pasaran. Oleh itu, beras rebus MARDI perlu mengambil kira sifat-sifat ini yang boleh menyumbang kepada keutamaan pengguna seperti berkilat panjang, lut sinar serta rasa. Pada masa kini, segmen pasaran lebih tertumpu kepada diet sihat, justeru beras rebus MARDI perlu diposisikan bagi pasaran dalam negara kerana harganya yang fleksibel dan tidak dikawal serta sebagai alternatif untuk menggantikan beras rebus yang diimport.