

Beyond Halal in Food Product: Present and Future of Halalan Tayyiban

Norazilawati Md Dahlal
Centre for Islamic Development Management Studies
(ISDEV), Universiti Sains Malaysia

Fadzila Azni Ahmad*
Centre for Islamic Development Management Studies (ISDEV), Universiti Sains
Malaysia

— *Review of* —
**Integrative
Business &
Economics**
— *Research* —

ABSTRACT

Contemporary demand for halal products has been increasing globally. The demand is not only from Muslim consumers but also non-Muslims consumers. When the growing trend in applying the halal concept and consuming halal products becomes increasingly universal, then the opportunity for consumers to evaluate prospective halal products would increase. This includes evaluation of the consumer's safety issues and sustainable health. One of the most discussed consumption issues is food additives. Food additives have become the main ingredient in processed foods as it functions to enhancer to the physical quality of processed foods. However, food additives also have a deleterious effect on human health and this raises an incongruity with the *tayyiban* concept when implementing a *halalan tayyiban* diet. Hence, this study intended to re-evaluate the quality of halal processed foods that contain halal food additives from a *tayyiban* perspective. This study was conducted in two parts. First, it identified the function of food additives and their impact on food products. Second, it analysed the use of *halalan tayyiban* quality management procedures on halal food products that contained food additives. This qualitative study adopted the content analysis method to systematically verify facts and evidence. The findings showed that most of food products that used food additives had received halal status certification. Although food additives are categorised as halal; hence, from a *tayyiban* aspect, it is still an issue. The discussions in this study had helped improve the quality of processed halal foods. Lastly, this working paper suggested an appropriate form of certification for halal processed foods that could effectively fulfil the requirement of the *halalan tayyiban* concept.

Keywords: *Halal Food Additives, Halal Processed Food Production, Halalan Tayyiban*

1. INTRODUCTION

The market for halal food products is gaining ground at the global level. State of the Global Islamic Economy Report 2014-2015 stated that global Muslim consumption had increased from RM8.3 trillion in 2013 to RM15.3 trillion in 2019 (Amir Hisham Rasid, 2016). The need for halal food products is also increasing due to the impact of awareness on two important groups. First, the group of consumers who focused their awareness on the importance of halal as a benefit that ensures the quality, safety and purity of food products (Emi Normalina Omar, Harlina Suzana Jaafar Muhamad Rahimi Osman, 2013). Second, the group of entrepreneurs who are aware that food production according to the

halal concept that can meet the needs of consumers. It's also a huge opportunity in gaining market profits based on recommended quality assurance (Fischer, 2016).

In recognizing this development, the application of food science and technology is no exception in efforts to meet the demands of the halal food market. Among them are food additives that used in food processing. Food processing means the preservation of a product to avoid or delay spoilage. For this purpose, food science and technology in the form of food additives are used to make the food less fragile as well as increase the loss of quality during processing (Vaclavik & Christian, 2014). Since halal food products are gaining dominance in the global market, the issue of food additives should be discussed attentively, especially the compliance to safety, purity, and hygiene aspects with *Syariah* law. Hence, this study intended to re-evaluate the quality of halal processed foods that contain halal food additives from the *tayyiban* status aspect.

To achieve this objective, this study was conducted in two parts. The first part identified the function of food additives in the food product and its impact, while the second part analysed the *halalan tayyiban* quality management procedure related to halal food. This qualitative study adopted the content analysis method to systematically verify facts and evidence. The pertinent reference documents were related to international food safety and quality procedures, such as Codex Alimentarius Commission procedures, Malaysian Food Act 1983 and Food Regulation 1985, as well as journal articles related to this topic.

2. FOOD ADDITIVE: ITS FUNCTION AND IMPACT

Food is a basic necessity that is critical to human life. Generally, consumption or food intake describes the environment of a community (Freedman, 2007). For example, food was a picture of life in the beginning of human history that started with hunting and planting activities. With the emergence of development, science and technology was applied to food sourcing activities and food processing.

2.1. CHARACTERISTICS OF FOOD ADDITIVES

Processed food is a product that goes through the preservation process so that the food product lasts longer than the raw source. Food products are vital for the needs of today's society because it fits with the advancement of human lifestyle. Current lifestyle is dependent on processed food products that are more convenient, waste-free, has a relatively stable shelf-life and is palatable (Brody & Lord, 2007). The main threat to this type of food products is the damage caused by microbial action that naturally exists in raw food (Shewfelt, 2009). Therefore, food science and technology determine the type of food additive to be used in food products.

Food additives are a mixture of substances or materials other than basic food that are added to food during the processing, storage or packing process (Branen & Huggerty, 2005). The use of food additives enhances a variety of food products according to the consumer's needs and requirements such as being a convenience food, snack food, low-calorie and health food, exotic food and a variety of food substitutes.

According to Branen and Haggerty (2005), some of the major benefits of food additives are a safer and more nutritious food supply, a greater choice of food products, and a

cheaper food supply. Approximately 20,000 types of food products in the market provide an element of diversity to consumer choices. Nearly 2500 types of food additives are used in today's food products to produce the desired food products (Branen, Davidson, Salminen & Thorngate III, 2005). These food additives are systematically classified according to numbers via the e-code system based on its functions such as a preservative, nutritional additive, sensory agent or processing agent (EUFIC, 2016). The E-code system is divided into eight groups, as shown in Table 1.

Table 1: E-Code System by Codex Alimentarius Commission

E-Code	Type	Function
E10,0 – E199	Food Colouring	To improve the appearance of foodstuffs
E200 – E282	Preservative	To extend the shelf life of foodstuffs
E300 – E341	Antioxidant	To protect lipids in food from attack by oxygen that can cause rancidity
E400 – E499	Emulsifier	To enable a fine partition of oils in water (or water in oils)
E500 – E599	Sodium Carbonate	To react as an acidity regulator, anticaking agent, raising agent or stabilizer
E600 – E699	Flavour Enhancer	To improve the perception of tastes and flavours
E900 – E999	Sweetener	To replace sugar by giving a sweet taste to the products

Source: Sikorski (1997)

Despite the positive role of food additives in food product development, such as enhancing sensory and physical properties of food, it also has a negative effect on human health. Vaclavik & Christian (2014), stated that the use of food additives in food production does not guarantee food safety and cannot prevent any food-borne diseases.

2.2. THE IMPACT OF FOOD ADDITIVE

Although it has been said that food additives do harm human health, scientists and food technologists are more concerned about the dire consequences of food damage caused by microbes rather than the effects of food additives. According to Shewfelt (2009), the human body contains chemical components that require additional chemical components from food such as protein, carbohydrate, vitamins, minerals, salt and much more as energy sources. For this reason, food additives are allowed according to the requirements of the human body and at permitted levels when processing food products.

Thus, rules and regulations have been established for controlling and determining the use of food additives in food products. For example, in the United States, the use of food additives is governed by the Food Additive Amendment of 1958 and subjected to the Generally Recognized as Safe (GRAS) provision. It is under the jurisdiction of the United States Food and Drug Administration (FDA) and the United States Department of Agriculture (USDA) (Shewfelt, 2009). Meanwhile, in Malaysia, food additive controls and guidelines were established under the Malaysian Food Act 1983 and Food Regulations 1985 (Act 281) and placed under the jurisdiction of the Ministry of Health.

As for consumers, the issue of safety and health risks resulting from consuming food additives is a key factor in the selection of food products. According to Salminen and Tahvonen (2005), it would be difficult to determine the amount of food additives

consumed by the body in one day due to the dumping of diverse food products in the market today. In addition, according to the manufacturer's statement, the food that has been produced is still in accordance with the permitted regulations and is still safe for consumption (Ajinomoto, t.t). Besides that, Malaysian consumers are insignificantly aware on organic food in their daily intake (Chiew et al., 2014)

However, there could be adverse health implications due to the long-term consumption of food that contains food additives. In this case, regulatory authorities, such as the FDA, could obtain information on health risks posed by food additives and its excessive intake, but the dissemination of information to consumers is not always effective (Salminen & Tahvonen, 2002). Hence, there is a need for non-governmental agencies that provide exposure and awareness on this matter. For example, in Malaysia, such non-governmental organizations (NGOs) are the Consumer's Association of Penang (CAP) and the Malaysian Islamic Consumer Association (PPIM).

Some of the health risks posed by the effects of food additives is the intake of BHA (Butylated hydroxyanisole) and BHT (Butylated hydroxytoluene). BHA and BHT are food additives that act as antioxidants and used in the production of oil-based products, such as cooking oil and biscuits. It is added to oil-containing foods as a preservative that delays rancidity. The World Health Organization's International Agency for Research on Cancer considers BHA to be a possible human carcinogen (Hui, 2006). The second example is monosodium glutamate (MSG), which is widely used as a flavour enhancer in food products such as canned soups, crackers, meats, salad dressings etc. Some of the side-effects of MSG are tightening in the chest, headaches and a burning sensation in the neck and forearms (Shreffler, Yuan & Asp, 2012).

Zink (1997) stated that the consumer's choice of processed foods is increasing daily. This fact does not exclude the possibility that selected products could contain food additives, such as BHA / BHT, MSG etc. For the intake of MSG to be generally recognized as safe (GRAS) under the FDA guidelines, it should be less than 0.5 grams per day (FDA, 2014). Similarly, with BHA and BHT, the quantity generally recognized as safe (GRAS) is 0.5 and 0.05 mg / kg per day (Hayes, 2008), respectively. It is questionable whether the side-effects of food additives can be contained if almost all processed foods contain food additives that cumulatively exceed the GRAS guidelines. This poses a serious problem to people who are dependent on these food products to meet the characteristics of their current life style.

Therefore, the aim of this paper was to investigate six food products (herein referred to as specimens of this study). The investigation started by identifying types of food additives used in selected food products. Table 2 below shows 22 types of food additives found in the six specimens. All six specimens were certified halal by the Department for Islamic Development, Malaysia (JAKIM). The maximum permissible level for these food additives are determined according to food law as mention in the Codex Alimentarius Commission procedures, European Food Safety Authority, Malaysian Food Act 1983 and Food Regulation 1985. The effects of consuming food additives are also presented in Table 2.

Table 2: Types of Food Additive in Six Selected Halal Certified Food Product

Specimen	Type of Food Product	Ingredient	No.	Food Additives contained in ingredients	Maximum Level Permitted by law	The Effect of Excessive Consumption
1	Breakfast Cereal	Cereal Grains, Sugar, Fat-Reduced Cocoa Powder, Barley Malt Extract, Palm Oil with Antioxidant: Ascorbyl Palmitate (E304), Minerals (Calcium Carbonate, Reduced Iron), Iodized Salt (Sodium Chloride, Potassium Iodate), Emulsifier (Soy Lecithin, E322), Synthetic Flavouring Substance (Vanilin), Tocopherols and Vitamins (B3, B5, B6, B2, B9)	1	Ascorbyl Palmitate	200 mg/kg	It is combination of ascorbic acid and palmitic acid or known as Vitamin C. It may be potentially caused diarrhea and kidney problem (John, 2017)
			2	Potassium Iodate	187 mg/kg	Oral route caused nausea, vomiting, diarrhea and marked loss of visual acuity (Lewis, 1989)
			3	Tocopherols	300 mg/kg	Increase the risk of heart attack or stroke (Newseed Chemical, 2015)
			4	Synthetic Flavouring	N. D.	Nervous system depression, dizziness, chest pain, headaches, fatigue, allergies, brain damage, seizures, nausea, and much more (Nature's Happiness, 2013)
2	Savoury Snack	Dehydrated Potatoes, Vegetable Oil, Rice Flour, Wheat Flour, Emulsifier (E471) , Maltodextrin , Salt, Modified Rice Starch	5	Maltodextrin	N. D.	Damage to the intestine and increases the risk of inflammatory disease (Adams, 2017)
			6	Emulsifier (E471)	2000 mg/kg	It may contain mono- and diglycerides of fatty acids that may cause heart disease, stroke and diabetes (Kalmus, 2017)
			7	Modified Rice Starch	N. D.	It may contain sulphuric acid, chlorine or other chemicals in the modification process and is unsafe for consumption (Jacob, 2017)
Specimen	Type of Food Product	Ingredient	No.	Food Additives contained in ingredients	Maximum Level Permitted by law	The Effect of Excessive Consumption
3	Bread	High Protein Unbleached Wheat Flour, Filtered Water, Granulated Sugar, Yeast, Vegetable Fat	8	Dough Conditioners	45mg/kg	It may contain azodicarbonamide that can cause cancer of the blood vessels and lungs (Winter, 2009)

		(Non-Hydrogenated, Palm Based), <u>Dough Conditioners</u> (Palm Based), Salt, <u>Calcium Salt (Calcium Sulfate and Calcium Phosphate)</u> , Fermented Grain (Wheat), Milk Derivatives, Yeast Food, Raisin Juice Concentrate, Vinegar, <u>Zinc</u> , Vitamin C, <u>Iron</u> , Vitamin E, Vitamin A	9	Calcium Salt (Calcium Sulfate, Calcium Phosphate)	2500mg/kg	Renal insufficiency, vascular and soft tissue calcification, hypercalciuria (high levels of calcium in the urine), intestinal obstruction, skin and eye irritation and kidney stones (Ogbru, n.d.)
			10	Zinc	680mg/kg	Diarrhoea, nausea, vomiting and stomach pain. Some people may experience irritation in the mouth and throat (Downey, 2017)
			11	Iron	45mg/day	The iron builds up in the liver and damages the organ (Srivastava, 2017)
4	Beverages	Carbonated Water, Sucrose, Caramel Colour, <u>Phosphoric Acid</u> , Flavouring and <u>Caffeine</u>	12	Phosphoric Acid	N. D.	Kidney disease, kidney stones or osteoporosis (Singleton, 2017)
			13	Caffeine	100 mg/kg	It may increase blood sugar and cholesterol levels that increases heart rate, insomnia, frequent urination, depression, anxiety and nausea (Lewis, 1989)
5	Convenience Food ('ready-to-eat')	Wheat Flour, Palm Oil, Wheat Gluten, Salt, <u>Potassium Chloride</u> , <u>Sodium Tripolyphosphate</u> , Stabilizer, <u>Potassium Carbonate</u> , Hydrogenated Palm Oil and Fat, <u>Monosodium Glutamate</u> , <u>Sodium Inosinate</u> and <u>Sodium Guanylate</u>	14	Potassium Chloride	5000 mg/day	Diarrhoea, vomiting, nausea, bloody stools, numbness, weakness, unusual bleeding or bruising, rashes, rapid heartbeat, or swelling of the face, throat or mouth (Lewis, 1989)
			15	Sodium Tripolyphosphate	70 mg/kg	Prolonged use of phosphate salts might upset the balance of phosphates and other chemicals in the body (Shawn, 2014)
			16	Potassium Carbonate	N. D.	Black or tarry stool, uneven heartbeat or severe stomach cramping (Moore, 2017)
Specimen	Type of Food Product	Ingredient	No.	Food Additives contained in ingredients	Maximum Level Permitted by law	The Effect of Excessive Consumption

5	Cont.	Cont.	17	Mono-sodium Glutamate	500mg/day	Tightening in the chest, headaches and a burning sensation in the neck and forearms. Destroys nerve cells in brain and is linked with aggravating or accelerating Huntington's, Alzheimer's and Parkinson's diseases. Causes cancer, DNA damage and foetal abnormalities in animals. Increases hyperactivity.			
						MSG-intolerant people can develop MSG complex symptom, which is characterized by one of more of the following: <ul style="list-style-type: none"> • A burning sensation in the back of the neck, forearms and chest. • Numbness in the back of the neck, radiating to the arms and back. • A tingling, warmth and weakness in the face, temples, upper back, neck and arms. • Facial pressure or tightness, swelling of lips/face • Chest pain, rapid heartbeat • Headache, nausea, drowsiness Bronchospasm (difficulty breathing) in MSG intolerant people with asthma (Culpepper, 2017)			
						18	Sodium Inosinate	4mg/day	Headache, gastric discomfort, and flushed skin (Lewis, 1989)
						19	Sodium Guanylate	N. D.	Should be avoided by people suffering from gout and asthma (Winter, 2009)
Specimen	Type of Food Product	Ingredient	No.	Food Additives contained in ingredients	Maximum Level Permitted by law#	The Effect of Excessive Consumption			

6	Cakes/ Biscuits	Wheat Flour, Vegetable Fat (Palm Oil), Starch, Glucose Syrup, Sugar, Salt, Lactose, Butter (Milk Fat), Dehydrated Vegetables, Yeast, Raising Agents (<u>Ammonium Bicarbonate</u> ; E503), <u>Sodium Bicarbonate</u> (E500), <u>Disodium Diphosphate</u> (E450), Flavouring	20	Ammonium Bicarbonate	N. D.	Irritation of the respiratory tract, nausea, and vomiting (Winter, 2009)
			21	Sodium Bicarbonate	5000 mg/day	May cause gastric and intestinal upset (Bruso, 2017)
			22	Disodium Diphos- phate	1000 mg/day	May cause upset stomach, constipation or diarrhoea (Lewis, 1989)

*N. D. = Non-Determined

Source for column #: MOH (2016), Food Standards Australia New Zealand (2017), Gonen (n.d).

2.2 HALALAN TAYYIBAN QUALITY MANAGEMENT PROCEDURE

In the context of halal food production, especially processed halal food, food additives are not exempt from playing an important role, such as having the ability to reduce wastage costs due to the standing time of food products, which then improves the quality of the food product. The question is; besides that role, can the presence of food additives have an effect on the position of *halalan tayyiban* food? Today, numerous processed food products that have obtained the halal status certification are in the market. Hence, what is the position of *tayyiban* processed foods when taking into consideration the long-term adverse side-effects of food additives? In order to answer this question, the method(s) used in the halal status certification of processed foods should be examined. The next section will discuss the method(s) used in the halal status certification of food, especially the recognition of the halal status in Malaysia.

2.2.1 MALAYSIAN HALAL CERTIFICATION PROCEDURES

In Malaysia, the sole certification body for halal food products is the Islamic Development Department, Malaysia (JAKIM) as well as its arm at the state level, namely the State Islamic Religious Department (JAIN). Management of halal certification is guided by the Procedure Manual for Halal Certification in Malaysia, which covers procedures for application, examination, monitoring and enforcement and also functions as a guideline (JAKIM, 2015).

The Malaysia government through the Malaysian Industrial and Research Institute (SIRIM), Department of Standards, Malaysia (JSM) and the Ministry of Science, Technology and Innovation (MOSTI), has designed and developed the Standards Malaysia MS1500 – Basic Guidelines for the Production, Preparation, Control and Storing of Halal Food as a basic reference for the management of halal certifications. Halal Standards comprises adherence to the Standards for Good Factory Practices (GMP) and Good Cleanliness Practices (GHP) Standards. Besides that, halal status certification must adhere to the Malaysia Food Act 1983 and Food Regulations 1985 (Act 281) under the jurisdiction of the Ministry of Health Malaysia (KKM) and the Health Department in the various states (JKN) (DSM, 2009).

In general, food business operators use halal food production guidelines referred to in the Halal Standards MS1500:2009 and Trade Description Act (Use of the Term 'Halal') 2011. Among the basic matters pertaining to halal principles found in the Halal Standards are as follows (SIRIM, 2009):

- i. Does not contain any part, element or matter originating from animals prohibited for Muslims such as that established by the *syarak* or not slaughtered according to the tenets of *syarak*.
- ii. Does not contain any element or matter that is deemed to be '*najis*' according to the tenets of *syarak*.
- iii. Is not prepared, processed or factory-produced by using any equipment that has elements or matter deemed '*najis*' according to the tenets of *syarak*.
- iv. Abstain from any contact with or placed near any food that does not follow the guidelines in (i), (ii) and any element or matter that is deemed '*najis*' according to *syarak* while preparing, processing, storing and distribution of the food product.

All the basic matters in item (i) to (iv) are determinants of the halal status, or otherwise, of a food product.

As for the guidelines mentioned in the Trade Description Act (Use of the Term 'Halal') 2011 (E-Halal, 2015), there were seven basic elements:

- i. Does not comprise or contain any part or matter from animals forbidden according to the tenets of *syarak* and fatwa
- ii. Does not contain '*najis*' according to the tenets of *syarak* and fatwa,
- iii. Does not intoxicate according to the tenets of *syarak* and fatwa
- iv. Does not contain ingredients or human parts or products thereof that are not allowed by the tenets of *syarak* and fatwa
- v. Is not poisonous or deleterious to health
- vi. Is not prepared, processed or factory-produced using equipment tainted by '*najis*' according to the tenets of *syarak* and fatwa.
- vii. Does not, during the preparation, processing or storing, touch or is placed near any food that fails to meet the conditions in (i) and (ii).

According to the guidelines in the Trade Description Act (Use of the Term 'Halal') 2011, all the items from (i) to (vii) involve the issue of halal certification, while item (v) actually emphasises the *tayyiban* food aspect. The clause that ensures that the food does not contain any poisonous element and does not have a deleterious effect on the health is the realisation of the *tayyiban* concept.

The procedure presented here is the latest procedure in the process of obtaining halal recognition and in ensuring the halal *tayyiban* status is truly realised with integrity. Presently, the certification of the halal status for a food product actually shows its positive development since the history of halal management in Malaysia began in the 1970s (Halal Malaysia, 2000). Since then, the management system involved in the certification of halal status has been constantly improved until it has become a source of reference for foreign halal management organizations (Zaiman, Abd Hair Awang, Sarmila, Suraiya Ishak, Azima, Suhana Saad, & Mohd Yusof Hussain, 2014). Hence, in the *halalan tayyiban* context, if there is any updating done by outlining the *tayyiban* halal food aspect, then the

process of halal recognition in Malaysia could improve and be effective as well as benefit the Muslims who consume halal food.

In the context of food additives used in food production, such as that discussed in this article, it undeniable that the Consumer's Association of Penang (CAP) had made a statement that there are health issues or can be referred to as *tayyiban* issues that have emerged due to the consumption of foodstuff that contain food additives. The question posed by CAP (2006) was whether it is appropriate to issue a confirmation for halal status for food products that use food additives? It cannot be denied that the halal status for food additives contained in halal food products can now be determined but what is its *tayyiban* status.

2.3 THE FUTURE OF HALALAN TAYYIBAN

Elaborating the halal concept is usually based on two aspects, namely the language and terminology aspects. From the language aspect, the word '*halal*' originated from Arabic, from words such as *halla*, *yahillu*, *hillan*, and *wahalalan* (Zawanah Muhammad, Munir Md. Salleh and Abdul Muhaimin Mahmood, 2011). From the terminology aspect, halal means 'permitted' or 'allowed' according to the *syarak*. Halal could also be defined as something that is permissible (*harus*), which means not bound by prohibitions and allowed by *syarak* (Al-Qardhawi, 1994). Something that is permitted by *syarak* means something that is permitted according to Islamic law found in the al-Qur'an, Hadith, *ijmak* and *qiyas*. The tenets of *syarak* are the commands of Allah SWT that demand certain actions from humans. Siti Norlina Muhamad et al. (2005) stated that any foodstuff mentioned in any source (al-Qur'an, Hadith etc.) as being halal or haram would become a decree according to *syarak* or Islamic law, which must be mandatorily obeyed by its followers.

Meanwhile, the *tayyiban* concept usually refers to the definition given by Ibn Rajab (1980), which means sacred (purity), good or the best. Meanwhile, the *toyiyiba* concept connotes good quality (Abdul Aziz Mohamad, Ahmad Syukran Baharuddin & Aminuddin Rustam, 2015).

Discussions on the sacred and free from destruction principles actually refers to the *tayyiban* concept, which is frequently mentioned along with the halal concept and explained in the interpretation of the verses of the al-Qur'an as follows:

'O Mankind! Partake of what is lawful and good on earth, and follow not Satan's footsteps; for, verily, he is your open foe.' (al-Baqarah, 2:168)

'So, then, for the wickedness committed by those who followed the Jewish faith did We deny unto them certain of the good things of life which (aforetime) had been allowed to them, and (We did this) for their having so often turned away from the path of God' (al-Nisa', 4:160)

'They will ask thee as to what is lawful to them. Say: 'Lawful to you are all the good things of life' and as for those hunting animals which you train by imparting to them something of knowledge that God has imparted to yourselves-eat of what that seize for you, but mention God's name over it

and remain conscious of God: verily, God is swift in reckoning' (al-Maidah, 5:4)

'O you who have attained to faith! Do not deprive yourselves of the good things of life which God has made lawful to you, but do not transgress the bounds of what is right: verily, God does not love those who transgress the bounds of what is right' (al-Maidah, 5:87)

'Thus, partake of the lawful, good things which God grants you as sustenance, and be conscious of God, in whom you believe' (al-Maidah, 5:88)

'Enjoy, then, all that is lawful and good among the things which you have gained in war, and remain conscious of God: verily, God is much-forgiving, a dispenser of grace' (al-Anfal, 8:69)

'And so, partake of all the lawful, good things which God has provided for you as sustenance, and render thanks unto God for His blessings, if it is (truly) Him that you worship' (al-Nahl, 16:114)

According to Yusuf al-Qaradawi (1999), among the 11 principles of halal food, the fourth halal food principle is 'the prohibition of things due to its impurity and harmful effects'. Based on the fundamentals of *syariah* law, consumption of food that could lead to death, either immediately or over time, or something that could endanger health, is not permitted. This means that although an issue only involves *tayyiban*, it is still considered haram and is not permitted since it has an impact on the health and lives of humans. Based on this fact, should contemporary food products that use food additives be given a halal status in the actual context? With the development in science and technology, should the halal status certification of food products still be at the same level? Should the *halalan tayyiban* issue be outlined instead of just the halal issue?

The halal principle outlined by Yusuf Al-Qardhawi (1998) actually explains the importance of food recognised as halal food and emphasised according the aspect of quality or *tayyiban*. The emphasis should also be on the quality of food according to an Islamic perspective that not only lays importance on health qualities but also considers the sacred (purity) aspect of the product and the overall production process. Hence, halal recognition or labelling not only includes the definition of food permitted for consumption according to *syarak*, such as food that is not contaminated according to *syarak* or slaughtered according to Islamic rites. Moreover, halal and *tayyiban* values in the preparation aspect should be an important feature when evaluating the halal status, which refers to the overall quality involved in producing halal food. Food that does not fulfil the *halalan tayyiban* criteria according to the actual meaning of the word could lead to the destruction of humankind besides the destruction of societal values and moral dignity as well as numerous other unforeseen negative consequences.

Hence, referring to the question whether it is appropriate to use food additives in the production of halal food, especially when eliciting side-effects and long-term effects on the human body, the application of the *halalan tayyiban* concept practiced today should

be re-examined, specifically procedures regarding the halal status certification for food products.

3. CONCLUSION

Contemporary demand for halal products has been increasing globally. The demand is not only from Muslim consumers but also non-Muslims too. When the growing trend in the halal concept and halal products becomes increasingly universal then the opportunity for evaluation widens for the prospective halal product consumer. This includes evaluation from the aspect of the consumer's safety issues and sustainable health. One of the consumption issues is food additives, which has become the main ingredient in processed foods these days. It functions as a food enhancer to the physical quality of processed foods. However, food additives also have a deleterious effect on human health and this raises an incongruity with the *tayyiban* concept when implementing a *halalan tayyiban* diet. This study found that by applying a systematic analysis, a large part of the production of processed foods that use food additives had received halal status certification. Although some food additives are categorised as halal; however, from a *tayyiban* perspective, it is still an issue. The discussions in this study have had an impact on the improvement of the quality of processed halal foods that are increasing globally today.

ACKNOWLEDGEMENT

This project had received funding from the Ministry of Education, Malaysia under the Fundamental Research Grant Scheme (FRGS) [FRGS/1/2015/SS03/USM/02/4], Universiti Sains Malaysia [203/CISDEV/6711527] titled "Halal-Green Management Model".

REFERENCES

- [1] Adams, A. (2017), "The health risks of maltodextrin", retrieved from Livestrong.Com, <https://www.livestrong.com/article/502241-the-risks-of-maltodextrin/>
- [2] Ajinomoto, (2016), "Fakta sebenar tentang Aji-no-moto: Soal jawab", accessed at <https://www.ajinomoto.com/features/aji-no-moto/ms/truth/qa.html>, 15 August 2016
- [3] Amir Hisyam Rasid, (2016), "Global halal market growing bigger", New Straits Times Online, 13 February 2016. Available: <http://www.nst.com.my/news/2016/02/127261/global-halal-market-growing-bigger>
- [4] Branen, A. L & Haggerty, R. J. (2005), "Introduction to food additives in Food additives", Branen, A. L., Davidson, P. M., Salminen, S., & Thorngate III, J. H., New York: Marcel Dekker, Inc., pp:1-9
- [5] Brody, A. L, & Lord, J. B. (2007), "Developing new food products for changing marketplace (2nd Ed.)", New York: Taylor & Francis Group
- [6] Bruso, J. (2017), "Adverse effects of sodium bicarbonate", retrieved from Livestrong.Com, <https://www.livestrong.com/article/128091-adverse-effects-sodium-bicarbonate/>
- [7] Chemical Newseed, (2015), "Vitamin E side effects", retrieved from <https://www.foodsweeteners.com/vitamin-e-side-effects/>
- [8] CAP, Consumers Association of Penang. (2006), "Halal Haram: An important book for Muslim consumers (A guide)", Penang: Consumers Association of Penang

- [9] Chiew, S. W., Mohd Shoki Md. Ariff, Norhayati Zakuan, Muhammad Naquib Mohd Tajudin, Khalid Ismail, & Nawawi Ishak, (2014), "Consumer perception, purchase intention and actual purchase behaviour of organic food products", *Review of Integrative Business & Economics*, 3(2)
- [10] Culpepper, P. (2017), "The Side Effects of Monosodium Glutamate (MSG)", retrieved from <https://www.livestrong.com/article/378333-the-side-effects-of-monosodium-glutamate-msg/>
- [11] Downey, L. (2017), "The effects of too much zinc", retrieved from Livestrong.Com, <https://www.livestrong.com/article/29333-effects-much-zinc/>
- [12] DSM, Department of Standard Malaysia. (2009), "MS1500:2009. Halal food: Production, preparation, handling and storage – General Guidelines (Second Revision)", Selangor: SIRIM Berhad
- [13] EUFIC, European Food Information Council (August, 2016), "Food Additive Factsheet", available: <http://www.eufic.org/page/en/show/latest-science-news/ftid/Food-Additives-Factsheet/>
- [14] FDA, U.S Food and Drug Administration. (2016), "Questions and answer on Monosodium Glutamate (MSG)", retrieved from <http://www.fda.gov/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/ucm328728.htm>, 15 August 2016
- [15] Food Standards Australia New Zealand, (2017), "Standard 1.3.1: Food Additive", retrieved at <https://www.legislation.gov.au/Details/F2017C00315>
- [16] Gonen, J. (n.d.), "Food Additives", accessed from http://www.gaianaturopathic.com/docs/Food_Additives.pdf on 9 January 2018.
- [17] Hayes, A. W. (2008), "Principles and methods of toxicology (5 Ed.)", New York: Informa Healthcare USA, Inc.
- [18] Hui, Y. H. (2006), "Handbook of food science, technology and engineering (Vol. 2)", New York: Taylor & FrancisGroup
- [19] Ipatenco, S. (2017), "The harmful effect of sodium nitrite in food", retrieve from Livestrong.com, <https://www.livestrong.com/article/416466-the-harmful-effect-of-sodium-nitrite-in-food/>
- [20] Jacob, A. (2017), "The effects of too much starch in a diet", retrieved from Livestrong.Com, <https://www.livestrong.com/article/463973-the-effects-of-too-much-starch-in-a-diet/>
- [21] JAKIM, Jabatan Kemajuan Islam Malaysia. (2015), "Manual prosedur pensijilan halal Malaysia (Semakan Ketiga)", JAKIM: Putrajaya
- [22] John, T. M. (2017), "Is ascorbic acid bad for you?", retrieved from Livestrong.Com, <https://www.livestrong.com/article/368934-is-ascorbic-acid-bad-for-you/>
- [23] Kalmus, S. (2017), "What is bad about mono- & diglycerides?", retrieved from Livestrong.Com, <https://www.livestrong.com/article/445850-what-is-bad-about-mono-diglycerides/>
- [24] Lewis, R. J. (1989), "Food additives handbook", New York: Chapman & Hall
- [25] MOH, Ministry of Health. (2016), "Food Regulations 1985: First Schedules", retrieved at http://fsq.moh.gov.my/v5/images/filepicker_users/5ec35272cb-78/Perundangan/Akta%20dan%20Peraturan/Food_Regs_1985/SCHEDULES_23072015_opt.pdf
- [26] Moore, S. (2017), "What ate the risks for potassium bicarbonate?", retrieved from <https://www.livestrong.com/article/273115-what-are-the-risks-for-potassium-bicarbonate/>

- [27] Nature's Happiness. (2013), "Side effects of artificial flavouring", retrieved from <http://blogs.natureshappiness.com/side-effects-of-artificial-flavoring/>
- [28] Nnama, H. (2017), "Adverse Health effect of potassium sorbate", retrieve from Livestrong.com, <https://www.livestrong.com/article/353871-adverse-health-effects-of-potassium-sorbate/>
- [29] Ogburu, O. (n.d.), "Calcium salts (Cal-Citrate, Calcitrate, Calcium Chloride, Roloids, Oyster Shell, Tums, and others)", retrieved from MedicineNet.Com, https://www.medicinenet.com/calcium_salts/article.htm
- [30] Salminen, S. & Tahvonen, R. (2005), "Food additive intake assessment" in Food additives, Branen, A. L., Davidson, P. M., Salminen, S., & Thorngate III, J. H., New York: Marcel Dekker
- [31] Sharma, S. (2015), "Food preservatives and their harmful effect", *International Journal of Scientific and Research Publications*, 5(4). Retrieved from <http://www.ijsrp.org/research-paper-0415/ijsrp-p4014.pdf>
- [32] Shawn. (2014), "Mono-calsium phosphate side effects", retrieved from http://www.foodchemadditives.com/side_effects_info/639
- [33] Shewfelt, R. L. (2009), "Introducing food science", New York: CRC Press
- [34] Shreffler, W., Yuan, Q., & Asp, K. (2012), "Understanding your food allergies and intolerances: A guide to management and treatment", New York: St. Martin's Paperbacks
- [35] Sikorski, Z. E. (1997), "Chemical and functional properties of food components", USA: Technomic Publishing Company, Inc
- [36] Singleton, B. (2017), "Why is phosphoric acid bad for you?", retrieved from <https://www.livestrong.com/article/468217-why-is-phosphoric-acid-bad-for-you>
- [37] Srivastava, M. (2017), "Side effects of eating too much iron", retrieved from Livestrong.Com, <https://www.livestrong.com/article/436329-side-effects-of-eating-too-much-iron/>
- [38] Vaclavik, V. A., & Christian, E. W. (2009), "Essentials of food science (4 ed.)", New York: Springer
- [39] Winter, R. (2009), "A consumer's dictionary of food additives 7th Edition", New York: Three Rivers Press.
- [40] Yusuf al-Qaradawi. (1999), "The lawful and the prohibited in Islam (al-Halal wa al-Haram fi al-Islam)", Indiana: American Trust Publications
- [41] Zaiman, R., Abd Hair Awang, Sarmila, M. S., Suraiya Ishak, Azima, A. M., Suhana Saad, & Mohd Yusof Hussain. (2014), "Malaysia sebagai pusat halal global: Satu penemuan awal mengenai persepsi halal dalam kalangan pengguna di Malaysia", *Geografia Online: Malaysian Journal of Society and Space*, 10(6), pp. 48-56.
- [42] Zink, D. L. (1997), "The impact of consumer demands trend on food processing", *Emerging Infectious Diseases: Special Issue*, 3(4).