HALAL ISSUES IN GM FOOD

ASSOC. PROF. MARIAM ABDUL LATIF
FACULTY OF FOOD SCIENCE AND NUTRITION
SEMINAR KESEDARAN GMO KEBANGSAAN, PETALING JAYA
2 NOVEMBER 2016
Introduction

• The result of technology that has altered the DNA of living organisms (animals, plants or bacteria).

• Genetically modified (GM) foods are foods derived from organisms whose genetic material (DNA) has been modified in a way that does not occur naturally, e.g. through the introduction of a gene from a different organism.
Benefits of GMO

1. Higher yielding crops, more efficient use of land
2. Longer shelf life, less waste: Example: Tomatoes from genetically modified seeds stay fresh longer.
3. Enhanced taste and quality
4. Increased and improved nutrients and stress tolerance
   - A single gene genetically engineered into cauliflower can increase production of beta-carotene 100 times.
   - A gene can be implanted into a soybean upgrading the soy protein to a quality equal to that of milk.
   - Corn can be modified to contain its two limiting amino acids, lysine or tryptophan
5. Improved resistance to disease or illness - Foods can be enhanced with phytochemicals that help maintain health and reduce the risks of chronic disease.
HALAL STATUS OF GMF?

• The government of Malaysia is positive about the capability of biotechnology to generate wealth and promote society well being.

• The Malaysian Agricultural Research and Development Institute (MARDI), one of the key actors in research and development of biotechnology in Malaysia, has developed transgenic papaya which is resistant to papaya ring spot virus and transgenic pineapples which are resistant to black heart rot.

• Despite the government’s commitment to develop GMF, the public have raised ethical concerns about it. One of the most concerned issues is about the halal status of the GMF.
THE CONCERN ABOUT GMF CONTINUES…..

• Apart from that, there are concerns about the potential risks of the GMF.
• The Consumer Association of Penang, Malaysia had voiced out its objection to GMF since April 1997. It had suggested to the government to hold moratorium on the import, sales and commercial plantation of the genetically modified crops.
• In December 2007, a resolution was made during the ‘National Seminar on Biotechnology in Food and Consumer Products: Islamic Perspective’. It recommends that thorough and independent researches should be carried out on the effects of genetic modification on the human health and environment.
FATWA ON GMF BY THE NFC

• The Muslims have the obligation to obey God and the Prophet and those in authority. This means the obligation to refer to the Quran and Sunnah in any dispute that arises (Al-Nisa’ : 59) “O you who have believed, obey Allah and obey the Messenger and those in authority among you”.

• The National Fatwa Council (NFC) was established in 1970 under provision II “Peraturan Majlis Kebangsaan Bagi Hal Ehwal Islam Malaysia (MKI)” under JAKIM.

• Its objectives include:
  • Consider, decide and issue a fatwa on any matters of the religion of Islam referred to it by the Conference of Rulers; &
  • Forward any views of the committee to MKI which will channel the recommendation to the conference of Rulers
FATWA ON GMF BY THE NFC

• Fatwa is very important because it explains God’s law and interprets it

• As fatwa relates to Allah’s laws, the Muslim jurists or muftis are very cautious when dealing with the issuance of fatwa

• Fatwa is a formal legal opinion on Islamic law. It is considered a fardhu kifayah.

• Fatwa is an answer to noble / new / unprecedented cases issued by a qualified and authorised body or individual. In Malaysia it is issued by the NFC of JAKIM.
The NFC has issued two fatwa regarding the application of GMF.

- The first fatwa was declared on the 12th July 1999; that materials, food and drink produced from genetic modification that involves swine gene are considered haram (unlawful).

- This fatwa was issued after a request made by the Food Safety and Quality Control Unit, Ministry of Health Malaysia, for the Council to declare on the permissibility of the technique applied in the production of GMF, especially when it involves gene transfer from swine to food, drink or plant substances.
Islam prescribes certain rules about which foods are permissible (halal) and which are not permissible (haram). The consumption of swine is forbidden in Islam, as Allah directly commands in the Quran, verse 173, chapter al-Baqarah, which can be translated as follows:

- He has only forbidden you *dead meat, and blood, and the flesh of the swine, and that on which any other name has been invoked besides that of Allah*. But if one is forced by necessity, without wilful obedience, nor transgressing due limits - then he is guiltless. For Allah is Oft-Forgiving and Most Merciful.
Haram Foods
ISSUANCE OF FATWA ON GMF BY THE NFC

• A series of briefing on the scientific process of genetic modification were given by Mariam Abdul Latif from the Ministry of Health Malaysia and Associate Professor Dr. Suhaimi Napis from Universiti Putra Malaysia in front of the members of the NFC.

• Among the important points that was explained by Dr. Suhamim was that animal DNA (deoxyribonucleic acid) which is transferred to the host is no longer an original copy since it had undergone several processes including the cloning of the gene in the bacteria called *E. coli* and gene transfer from the bacteria to plant mediated by *Agrobacterium tumefaciens* or gene gun.

• The resulting protein in the genetically modified plant is identical to original protein in donour organism (swine). Therefore, the GMF do not have any physical substance from the swine, but it has donour’s copy of the genetic information.
ISSUANCE OF FATWA ON GMF BY THE NFC

• The NFC had reviewed that the method of producing genetically modified plant as aforementioned is not similar to conventional cross breeding of pig with goat and swine hormone injection to cattle; therefore the ruling of these methods cannot be used as analogy (qiyas) to provide ruling of the GMF.

• The council decided that the DNA copy that is inserted into host plant cannot be considered as being transformed through istihalah, a process that changes the nature of forbidden substance to produce a different substance in names, properties and characteristics. This process justifies that prohibited materials can become pure and permissible, for example wine is prohibited but it becomes permissible when it had transformed into vinegar.
ISSUANCE OF FATWA ON GMF BY THE NFC

• This decision was made based on the consideration that the copy of the gene in the genetically modified plant still has relation with the original gene in the swine. Therefore the council takes mindful approach for not declaring that plant as permissible.

• **Swine** is classified as highly impure (Najis Mughallazah) in Islam, and Muslims normally avoid using any products that contain swine substance as far as possible. Therefore the use of swine DNA in the production of GMF can cause bewilderment to the community.

• This decision is based on the principle ‘preventing harm takes precedence over securing benefit’. Other principles of fiqh that had been considered are ‘all things are permissible unless proven to be unlawful’ and ‘when the lawful and unlawful things are mixed up, the unlawful prevails’.
ISSUANCE OF FATWA ON GMF BY THE NFC

- The council had also reviewed the advantage of GMF to overcome food shortage due to increasing world population as well as to alleviate hunger in the Third World.

- They opined that these problems cannot be used as justification to permit the consumption of GMF that contain swine substance. This is because they believe that the root cause of the problem is unfair distribution of food among the society.

- The issued fatwa is also based on the fact that there are many other choices of available halal food and drink for Muslims and that they are not yet in the state of darurah (necessity).
ISSUANCE OF FATWA ON GMF BY THE NFC

• Twelve years later (in June 2011), the second fatwa was made based on the meeting held to discuss on the ruling of GMF in the more general context.

• This fatwa states that it is not permissible to use genes from halal animal that is not properly slaughtered according to shari’ah compliant method.

• The production of GMF that may bring harm to human health and unknown long-term risks on the environment is also prohibited.

• The briefing was given by Almarhum Prof. Dato’ Dr. Yaakob Che Man, the Director of Halal Product Research Institute, Universiti Putra Malaysia. Among the important points that he explained was that halal as well as non-halal genes have been used in the production of GMF.
ISSUANCE OF FATWA ON GMF BY THE NFC

• The council had reviewed that Islam has put utmost importance on eating of halal and tayyib food which do not bring harm to human soul and intellect, and the processing of the food does not bring bad impact to human health and the environment.

• Among the fiqh principles that had been considered in the discussion were ‘preventing harm takes precedence over securing benefit’ and ‘permitting the beneficial and prohibiting the harm’.

• The council had also given attention to the issue of using gene from halal animal that was being slaughtered by using method that is not compliant with shari’ah. They decided that GMF which contains this gene is not halal because compliant to slaughtering method is one big factor that determines the permissibility to eat the halal animals.
ISSUANCE OF FATWA ON GMF BY THE NFC

• This fatwa had answered ethical questions that were being raised by the Muslim community on the impact of the potential risks of the GMF on its halal status.

• It is clearly stated that the teachings of Islam promotes preservation of the environment.

• Nevertheless, Muslim scholars do not put much emphasis on causing no harm to environment as one of the characteristics of halal food.
Malaysia and Brunei Darussalam:
“Foods and drinks containing products of genetically modified organisms (GMOs) or ingredients made by the use of genetic material of animals that are non-halal by Shariah law are not halal” (MS1500:2009, 3.5.1.6 and PBD24:2007, 3.1.6). The Brunei standard uses “Hukum Syara’” in place of Malaysia standard’s “Shariah law.”

Indonesia:
HAS23201 differs in wording, but the intent appears the same: “For microbial materials from recombinant microbes then...the microbes should not use gene[s] derived from pigs or humans” (4.3e). The only difference here is the addition of human genes as non-halal.
The Trade Description Order (Definition of halal) 2011 published by the Attorney General’s Chambers Malaysia, states that the definition of halal food is as follows:

a) does not consist of or contain any part or matter of an animal that is prohibited by Islamic law for a Muslim to consume or that has not been slaughtered in accordance with Islamic law
b) does not contain anything which is impure according to Islamic law;
c) does not intoxicate according to Islamic law
d) does not contain any part of a human being or its yield which are not allowed by Islamic law
e) is not poisonous or hazardous to health
f) has not been prepared, processed or manufactured using any instrument that is contaminated with impurity according to Islamic law; and
g) has not in the course of preparing, processing or storing been in contact with, mixed, or in close proximity to any food that fails to satisfy paragraphs a) and b).
The Halal Food Concept

The underlying principle for a Muslim’s diet is that food has to be:

- **halal** *(permissible – Syariah compliant)*, and
- **tayyiban** *(wholesome: healthy, safe, nutritious, quality).*

Herbivorous animal  
Nutritious & wholesome  
Eco-friendly
The Principle on Halal Food

The lives of every Muslims, including their dietary requirements and daily use, are guided by the Shariah Law

• Shariah Law means Islamic Law based on the Qur’an, Hadith, Ijma’ and Qiyas
• A particular food or consumer products become halal or haram by Shariah Law if it is considered so through by any one of the above mentioned sources or Fatwa (religious edicts) issued by a competent Islamic Authority.
CONCLUSION

• Religious element has central influence on the bioethical tradition of the Malay-Muslim Community.
• Its framework is based on the Divine ethics, whereby Shari’ah and its extension, Fiqh are the main elements.
• The National Fatwa Council is an authoritative institution which remains the main referral for the community to know Islamic perspective on any bioethical issue that has no direct evidence in the Qur’an and Sunnah.
• The council uses a collective approach to produce fatwa on the issues related to the application of modern science and technology. This approach involves the prior briefings and discussions with selected experts from related fields of science and technology.
CONCLUSION

• In order to declare a fatwa relating to the application of biological sciences, the Council had reviewed the basic guidelines in the main references of Shari’ah. The Council has also taken all factors into consideration and given priority to the general aim of Shari’ah which is to serve the interests of mankind and to save them from harm.

THANK YOU