
HALAL

FOOD PRODUCTION



Mian N. Riaz
Muhammad M. Chaudry

 **CRC PRESS**

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DEDICATION

This book is dedicated to food scientists who continuously strive
to seek knowledge to serve humankind

PREFACE

The word *halal* has become quite common in the Western food industry in the past 2 decades, primarily due to the export of food products to the Middle East and Southeast Asia. The meaning of this Arabic word, “permitted” or “lawful,” is very clear. Nevertheless, its practical interpretation varies a great deal among food-importing countries, as does its understanding by companies that produce food. Students of food science and technology generally are not taught about dietary requirements of different religions and ethnic groups and are only exposed to concepts such as kosher, halal, and vegetarian in industry, whereas product development, quality assurance, procurement, and other key personnel are forced to learn about these concepts to meet their customers’ requirements.

The books currently in the market for people interested in the subject of halal have been published to help Muslim consumers decide what to eat and what to avoid among the foods already present in the marketplace. There is no book written for the food industry itself that provides the information industry needs to produce food products that meet the needs of both domestic and international consumers.

Both authors, Mian N. Riaz (working at a university) and Muhammad M. Chaudry (working in the food industry), have recognized this gap in the vital information about halal available to the food professionals. Both authors are food scientists, with collectively more than 30 years of practical experience in this area. This book is the result of their practical experience and knowledge in halal food requirements and halal certification.

This book is written to summarize some of the fundamentals to be considered in halal food production. It is an excellent starting point for the food scientist and technologist and other professionals who are in the halal food business. There is a wealth of information about halal food laws and regulations, general guidelines for halal food production, domestic and international halal food markets, and trade and import requirements

for different countries. The book also covers specific halal production requirements for meat, poultry, dairy products, fish, seafood, cereal, confectionary, and food supplements. The role of gelatin, enzymes, alcohol, and other questionable ingredients for halal food production is addressed in some detail. Guidelines with examples of labeling, packaging, and coatings for halal food are also presented. The new topic of biotechnology and genetically modified organisms (GMOs) in halal food production is discussed. A brief discussion of the growing concern about animal feed is also provided. A complete chapter is dedicated to the differences among halal, kosher, and vegetarian food production. For food companies that would like their products to be certified halal, a procedure is included for obtaining halal certification. This book also contains 14 appendices, which cover halal food-related information that can be used as guidelines by halal food processors.

The authors believe that this book can serve as a source of information to all who are involved or would like to be involved in any aspect of the halal food business. For persons who are new to this area, this book will serve as a guide for understanding and properly selecting food ingredients for processing halal foods. In view of the growing halal food markets worldwide in food service, branded packaged foods, and direct-marketed products as well as food ingredients, both academia and industry will benefit from this work.

They are deeply indebted to a number of individuals who provided information and inspiration, and guided us in the right direction to complete this book.

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Completion of this book provides an opportunity to recognize a number of very important individuals. We particularly express our heartfelt gratitude to Dr. Joe Regenstein of Cornell University for his exhaustive suggestions and guidance toward the preparation of the manuscript. His combination of sage advice, the capacity to listen and discuss, the ability to challenge us to expand, and a never-ending willingness to share his time will always be greatly valued. He was extremely helpful in providing the most accurate information and critique throughout this work.

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Mian M. Riaz
Muhammad M. Chaudry

AUTHORS

Mian N. Riaz, Ph.D., received B.S and M.S. degrees in food technology from the University of Agriculture, Faisalabad, Pakistan, and a Ph.D. in food science from the University of Maine, Orono. He is currently head of the Extrusion Technology Program and a research scientist at the Food Protein Research and Development Center at Texas A&M University, College Station. Dr. Riaz is also on the graduate faculty in the Food Science and Technology Program at Texas A&M University.

Muhammad Munir Chaudry, Ph.D., is currently director of the halal certification program at the Islamic Food and Nutrition Council of America, Chicago, Illinois. Until 1993, he was vice president of total quality and quality assurance at the Heller Seasonings and Ingredients, Inc., Bedford Park, Illinois. Dr. Chaudry received his B.Sc. (Hons) and M.Sc. (Hons) in food technology from the West Pakistan Agricultural University, Lyallpur, Pakistan; an M.S. in food science from the American University of Beirut, Lebanon; and a Ph.D. in food science from the University of Illinois, Urbana-Champaign.

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1

INTRODUCTION

The food industry, like any other industry, responds to the needs and desires of the consumer. People all over the world are now more conscious about foods, health, and nutrition. They are interested in eating healthy foods that are low in calories, cholesterol, fat, and sodium. Many people are interested in foods that are organically produced without the use of synthetic pesticides and other nonnatural chemicals. The ethnic and religious diversity in America and Europe has encouraged the food industry to prepare products which are suitable to different groups such as the Chinese, Japanese, Italian, Indian, Mexican, Seventh Day Adventist, vegetarian, Jewish, and Muslim.

Islam is the world's second largest religion, also the fastest growing, both globally and in the U.S. More than 7 million Muslims live in the U.S. (Cornell University, 2002), and the worldwide Muslim population is ca. 1.3 billion (Chaudry, 2002). The Muslim population is estimated to reach 12.2 million in 2018 in the U.S. (*USA Today*, 1999). Islam is not merely a religion of rituals — it is a way of life. Rules and manners govern the life of the individual Muslim. In Islam, eating is considered a matter of worship of God, like ritual prayers. Muslims follow the Islamic dietary code, and foods that meet that code are called halal (lawful or permitted). Muslims are supposed to make an effort to obtain halal food of good quality. It is their religious obligation to consume only halal food. For non-Muslim consumers, halal foods often are perceived as specially selected and processed to achieve the highest standards of quality.

Between 300 and 400 million Muslims are estimated to live as minorities in different nations of the world, forming a part of many different cultures and societies. In spite of their geographic and ethnic diversity, all Muslims follow their beliefs and the religion of Islam. Halal is a very important and integral part of religious observance for all Muslims. Hence, halal constitutes a universal standard for a Muslim to live by.

By definition, halal foods are those that are free from any component that Muslims are prohibited from consuming. According to the Quran (the Muslim scripture), all good and clean foods are halal. Consequently, almost all foods of plant and animal origin are considered halal except those that have been specifically prohibited by the Quran and the Sunnah (the life, actions, and teachings of the Prophet Muhammad).

Until now, there has been no book available combining the religious and production issues that can guide food manufacturers in understanding halal food production. Producing halal food is similar to producing regular foods, except for certain basic requirements, which will be discussed in this book. Halal foods can be processed by using the same equipment and utensils as regular food, with a few exceptions or changes. In the chapters that follow, food manufacturers will learn the requirements of halal food production and gain some knowledge about Muslims and the Muslim markets.

The book is divided into various chapters covering halal laws in general, production guidelines for various product types (including meat and poultry, fish and seafood, dairy products, cereals, food ingredients), labeling, biotechnology, and several other areas of concern to the halal consumers.

The book presents the laws and regulations in a format understandable by non-Muslims. Terminology and concepts that are generally associated with religious jurisprudence have been avoided wherever possible. The laws have been translated into general guidelines for the food industry and kindred product industries. Several chapters have been devoted to specific industries in which the authors feel that halal activity is currently the greatest:

- Meat and poultry products (Chapter 6) — this is the most highly regulated segment of the food industry in regard to halal requirements. Out of five prohibited food categories, four belong to this group.
- Dairy products (Chapter 7) — cheese and whey proteins have received wide acceptance in nondairy food products. Controversy over the use of porcine enzymes before the development of chymosin-type products as rennet replacers or extenders still continues among the Muslim consumers. We have tried to project a balanced picture of these products' requirements, with special emphasis on enzymes.
- Fish and seafood (Chapter 8) — although not very significant in international trade, fish and seafood products are subject to more controversy than any other food group among Muslim consumers. This chapter covers explanations of the status of various types of fish, shellfish, crustaceans, and other seafood products.

- Cereal-based products (Chapter 9) — cereal-based products, candy, and other products have been discussed in much briefer formats because of the relatively fewer controversial issues in these products for different Muslim consumers. Information on nutritional supplements (Chapter 10) has been included to reflect the high visibility and demand for halal certified products throughout the world, but specifically in the Southeast Asian countries.
- Food ingredients (Chapter 14) — this chapter covers the many diverse items used all across the food industry and produced from plants, animals, microorganisms, or by synthetic processes. More emphasis has been placed on flavors, amino acids, oils and extracts, and blended products. Two key food ingredients that require more extensive discussion are included as separate chapters — gelatin (Chapter 11), enzymes (Chapter 12), and alcohol (Chapter 13).

In the chapters covering halal requirements for different products categories, the concept of hazard analysis and critical control points (HACCP) has been used to identify halal control points (HCPs). The objective here is not to replace HACCP, which address the food safety issues, but to complement these requirements by adding key points for halal compliance. HCPs have been presented in an easy-to-understand flowchart format. By using the guidelines provided herein, the companies are encouraged to devise their own HCPs and include them in their standard operating procedures as a self-compliance tool.

Marketing and trade aspects of halal foods have been included in two chapters: one covers the domestic and international trade of halal food products, and the second covers import requirements for various Muslim countries as well as the Muslim population and level of activities relevant to halal.

Finally, information has been included about procedures for getting halal certification. Food manufacturers can obtain supervision from different halal food certifying agencies such as the Islamic Food and Nutrition Council of America (IFANCA) as well as reliable information about Islam and Muslims in North America and their critical food issues. These halal-certifying agencies provide consultation services and help food industry professionals develop products that comply with Islamic food laws. These agencies also offer supervision and certification for halal foods, consumer products, and halal-slaughtered meat and poultry. Their registered trademark certification symbol, for example, the Crescent M[®], appears on many product packages. The demand for halal products and number of Muslim consumers can easily be an inducement for manufacturers to provide halal products. Halal markings are an important part of the general acceptance of halal products by the Muslim consumer worldwide. Certain key infor-

mation with respect to halal food production is included in several appendices, such as the relevant section of Codex Alimentarius and the guidelines for labeling halal products in a number of representative countries, the halal status of common and E-numbered ingredients, halal industrial production standards, and halal food laws of several states in the U.S.

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2

HALAL FOOD LAWS AND REGULATIONS

The basic guidance about the halal food laws is revealed in the Quran (the divine book) from God (the Creator) to Muhammad (the Prophet) for all people. The food laws are explained and put into practice through the Sunnah (the life, actions, and teachings of Muhammad) as recorded in the Hadith (the compilation of the traditions of Muhammad).

In general, everything is permitted for human use and benefit. Nothing is forbidden except what is prohibited either by a verse of the Quran or an authentic and explicit Sunnah of Muhammad. These rules of Shariah (Islamic law) bring freedom for people to eat and drink anything they like as long as it is not haram (prohibited).

There are five fundamental pillars of belief in Islam: (1) to believe that there is no god but Allah, and Muhammad is his last prophet; (2) to pray five times in a day; (3) to give zakat (charity) to the poor; (4) to fast in the month of Ramadan; and (5) to perform the pilgrimage to Mecca once in a lifetime (if one can afford it). In addition, guidelines direct the daily life of a Muslim. Included in these guidelines is a set of dietary laws intended to advance wellness. These laws are binding on the faithful and must be observed at all times, even during pregnancy, periods of illness, or traveling (Twaigery and Spillman, 1989). The life of a Muslim revolves around the concept of halal and haram. The laws are quite comprehensive, because they are applicable not only to eating and drinking, but also to earning one's living, dress code, and dealing with others. This discussion will focus primarily on food.

Food is considered one of the most important factors for interaction among various ethnic, social, and religious groups. All people are concerned about the food they eat: Muslims want to ensure that their food

is halal; Jews that their food is kosher; Hindus, Buddhists, and certain other groups that their food is vegetarian. Muslims follow clear guidelines in the selection of their food. The principles behind halal food are described here.

PRINCIPLES REGARDING PERMISSIBILITY OF FOODS

Eleven generally accepted principles pertaining to halal (permitted) and haram (prohibited) in Islam provide guidance to Muslims in their customary practices (Al-Qaradawi, 1984):

- The basic principle is that all things created by God are permitted, with a few exceptions that are specifically prohibited.
- To make lawful and unlawful is the right of God alone. No human being, no matter how pious or powerful, may take this right into his own hands.
- Prohibiting what is permitted and permitting what is prohibited is similar to ascribing partners to God.
- The basic reasons for the prohibition of things are impurity and harmfulness. A Muslim is not required to know exactly why or how something is unclean or harmful in what God has prohibited. There might be obvious reasons, and there might be obscure reasons.
- What is permitted is sufficient, and what is prohibited is then superfluous. God prohibited only things that are unnecessary or dispensable while providing better alternatives.
- Whatever is conducive to the “prohibited” is in itself prohibited. If something is prohibited, anything leading to it is also prohibited.
- Falsely representing unlawful as lawful is prohibited. It is unlawful to legalize God’s prohibitions by flimsy excuses. To represent lawful as unlawful is also prohibited.
- Good intentions do not make the unlawful acceptable. Whenever any permissible action of the believer is accompanied by a good intention, his action becomes an act of worship. In the case of haram, it remains haram no matter how good the intention, how honorable the purpose, or how lofty the goal. Islam does not endorse employing a haram means to achieve a praiseworthy end. Indeed, it insists not only that the goal be honorable, but also that the means chosen to attain it be proper. “The end justifies the means” and “Secure your right even through wrongdoing” are maxims not acceptable in Islam. Islamic law demands that the right should be secured through just means only.
- Doubtful things should be avoided. There is a gray area between clearly lawful and clearly unlawful. This is the area of “what is

doubtful.” Islam considers it an act of piety for Muslims to avoid doubtful things, and for them to stay clear of the unlawful. Muhammad said (Sakr, 1994): “Halal is clear and haram is clear; in between these two are certain things that are suspected. Many people may not know whether these items are halal or haram. Whosoever, leaves them, he is innocent toward his religion and his conscience. He is, therefore, safe. Anyone who gets involved in any of these suspected items, he may fall into the unlawful and the prohibition. This case is similar to the one who wishes to raise his animals next to a restricted area, he may step into it. Indeed the restrictions of Allah are the unlawful.”

- Unlawful things are prohibited to everyone alike. Islamic laws are universally applicable to all races, creeds, and sexes. There is no favored treatment of any privileged class. Actually, in Islam, there are no privileged classes; hence, the question of preferential treatment does not arise. This principle applies not only among Muslims but between Muslims and non-Muslims as well.
- Necessity dictates exceptions. The range of prohibited things in Islam is very narrow, but emphasis on observing the prohibitions is very strong. At the same time, Islam is not oblivious to the exigencies of life, to their magnitude, or to human weakness and capacity to face them. It permits the Muslim, under the compulsion of necessity, to eat a prohibited food in quantities sufficient to remove the necessity and thereby survive.

Five major terms are used to describe the permissibility of food:

- Halal means permissible and lawful. It applies not only to meat and poultry, but also to other food products, cosmetics, and personal care products. The term also applies to personal behavior and interaction with the community.
- Haram means prohibited. It is directly opposite of halal.
- Mashbooh is something questionable or doubtful, either due to the differences in scholars' opinions or the presence of undetermined ingredients in a food product.
- Makrooh is a term generally associated with someone's dislike for a food product or, while not clearly haram, is considered dislikeable by some Muslims.
- Zabiha or dhabiha is a term often used by Muslims in the U.S to differentiate meat that has been slaughtered by Muslims as opposed to being slaughtered by Ahlul Kitab (Jews or Christians) or without religious connotation.

HALAL AND HARAM

General Quranic guidance dictates that all foods are halal except those that are specifically mentioned as haram. All foods are made lawful according to the Muslim scripture *The Glorious Quran* [Arabic text and English rendering by Pickthall (1994)]:

O ye who believe! Eat of the good things wherewith We have provided you, and render thanks to Allah, if it is (indeed) He whom ye worship.

Chapter II, Verse 172

The unlawful foods are specifically mentioned in *The Glorious Quran* in the following verses:

He hath forbidden you only carrion, and blood, and swine flesh, and that which hath been immolated to (the name of) any other than Allah...

Chapter II, Verse 173

Forbidden unto you (for food) are carrion and blood and swine flesh, and that which hath been dedicated unto any other than Allah, and the strangled, and the dead through beating, and the dead through falling from a height, and that which hath been killed by (the goring of) horns, and the devoured of wild beasts saving that which ye make lawful (by the death-stroke) and that which hath been immolated unto idols. And (forbidden is it) that ye swear by the divining arrows. This is an abomination...

Chapter V, Verse 3

Consumption of alcohol and other intoxicants is prohibited according to the following verse:

O ye who believe! Strong drink and games of chance, and idols and divining arrows are only an infamy of Satan's handiwork. Leave it aside in order that ye may succeed.

Chapter V, Verse 90

Meat is the most strictly regulated of the food groups. Not only are blood, pork, and the meat of dead animals or those immolated to other

than God strongly prohibited, it is also required that halal animals be slaughtered while pronouncing the name of God at the time of slaughter.

Eat of that over which the name of Allah hath been mentioned, if ye are believers in His revelations.

Chapter VI, Verse 118

And eat not of that whereon Allah's name hath not been mentioned, for lo! It is abomination. Lo! the devils do inspire their minions to dispute with you. But if ye obey them, ye will be in truth idolaters.

Chapter VI, Verse 121

Accordingly, all foods pure and clean are permitted for consumption by the Muslims except the following categories, including any products derived from them or contaminated with them:

- Carrion or dead animals
- Flowing or congealed blood
- Swine, including all by-products
- Animals slaughtered without pronouncing the name of God on them
- Animals killed in a manner that prevents their blood from being fully drained from their bodies
- Animals slaughtered while pronouncing a name other than God
- Intoxicants of all types, including alcohol and drugs
- Carnivorous animals with fangs, such as lions, dogs, wolves, or tigers
- Birds with sharp claws (birds of prey), such as falcons, eagles, owls, or vultures
- Land animals such as frogs or snakes

From the Quranic verses, the hadith, and their explanations and commentary by Muslim scholars, the Islamic food (dietary) laws are deduced. Additional verses in *The Glorious Quran* related to food and drinks are as follows:

O' mankind! Eat of that which is lawful and wholesome in the earth, and follow not the footsteps of the devil. Lo! he is an open enemy for you.

Chapter II, Verse 168

Oh ye who believe! Fulfill your indentures. The beast of cattle is made lawful unto you (for food) except...

Chapter V, Verse 1

They ask thee (O Mubammad) what is made lawful for them. Say: (all) good things are made lawful for you. And those beasts and birds of prey which ye have trained as bounds are trained, ye teach them that which Allah taught you; so eat of that which they catch for you and mention Allah's name upon it, and observe your duty to Allah. Allah is swift to take account.

Chapter V, Verse 4

This day are (all) good things made lawful for you. The food of those who have received Scripture is lawful for you and your food is lawful for them...

Chapter V, Verse 5

Oh ye who believe! Forbid not the good things, which Allah had made lawful for you, and transgress not. Lo Allah loveth not transgressors.

Chapter V, Verse 87

Eat of that which Allah hath bestowed on you as food lawful and good, and keep your duty to Allah in whom ye are believers.

Chapter V, Verse 88

How should ye not eat of that over which the name of Allah hath been mentioned, when He hath explained unto you that which is forbidden into you, unless ye are compelled thereto.

Chapter VI, Verse 119

And eat not of that whereon Allah's name hath not been mentioned, for lo! It is abomination. Lo! the devils do inspire their minions to dispute with you. But if ye obey them, ye will be in truth idolaters.

Chapter VI, Verse 121

And of the cattle He produceth production some for burden and some for food; Eat of that which Allah hath bestowed upon you, and follow not the footsteps of the devil, for lo! he is an open foe to you.

Chapter VI, Verse 142

Say: "I find not in that which is revealed unto me ought prohibited to an eater that he eat thereof except it be carrion, or blood poured forth, or swineflesh — for that verily is foul — or the abomination which was immolated to the name of other than Allah. But who so is compelled (there to), neither craving nor transgressing, (for him) Lo! Your Lord is forgiving, merciful.

Chapter VI, Verse 145

So eat of the lawful and good food, which Allah has provided for you and thank the bounty of your Lord if it is Him ye serve.

Chapter XVI, Verse 114

He hath forbidden for you only carrion, and blood and the swine flesh, and that which hath been immolated in the name of any other than Allah; but he who is driven thereto, neither craving nor transgressing, Lo! then Allah is forgiving, merciful.

Chapter XVI, Verse 115

The haram foods are mainly pork, alcohol, blood, dead animals, and animals slaughtered while reciting a name other than that of God. This may also include halal items that have been contaminated or mixed with haram items. In general, most Muslims deem meat and poultry items not slaughtered in the name of God to be haram or makrooh at best.

BASIS FOR THE PROHIBITIONS

In the Islamic faith, Allah is the Almighty God. He has no partners. The first requirement of a Muslim is to declare: "There is no god but God (Allah)." So everything has to be dedicated to God only. There is no challenge to this fact, and no explanations are required or necessary. The basis for the prohibition of the above categories is purely and strictly Quranic guidance. However, some scientists have attempted to explain or justify some of these prohibitions based on their scientific understanding as follows:

- Carrion and dead animals are unfit for human consumption because the decaying process leads to the formation of chemicals which are harmful to humans (Awan, 1988).
- Blood that is drained from the body contains harmful bacteria, products of metabolism, and toxins (Awan, 1988; Hussaini and Sakr, 1983).
- Swine serves as a vector for pathogenic worms to enter the human body. Infection by *Trichinella spiralis* and *Taenia solium* are not uncommon. Fatty acid composition of pork fat has been mentioned as incompatible with the human fat and biochemical systems (Awan, 1988; Hussaini and Sakr, 1983; Sakr, 1993).
- Intoxicants are considered harmful for the nervous system, affecting the senses and human judgment. In many cases they lead to social and family problems and even loss of lives (Al-Qaradawi, 1984; Awan, 1988).

Although these explanations may or may not be sound, the underlying principle behind the prohibitions remains the divine order, which appears in the Quran in several places: “Forbidden unto you are...” is what guides a Muslim believer.

HOW DOES ONE TRANSLATE MAJOR PROHIBITIONS INTO PRACTICE IN TODAY'S INDUSTRIAL ENVIRONMENT?

Let us look at how the laws are translated into practice:

- Carrion and dead animals — it is generally recognized that eating carrion is offensive to human dignity, and probably nobody consumes it in the modern civilized society. However, there is a chance of an animal dying from the shock of stunning before it is properly slaughtered. This is more common in Europe than in North America. The meat of such dead animals is not proper for Muslim consumption (Chaudry, 1992).
- Proper slaughtering — there are strict requirements for the slaughtering of animals: the animal must be of a halal species, that is, cattle, lamb, etc.; the animal must be slaughtered by a Muslim of proper age; the name of God must be pronounced at the time of slaughter; and the slaughter must be done by cutting the throat of the animal in a manner that induces rapid, complete bleeding and results in the quickest death.

Certain other conditions should also be observed. These include considerate treatment of the animal, giving it water to prevent thirst, and using

a sharp knife. These conditions ensure the humane treatment of animals before and during slaughter. Any by-products or derived ingredients must also be from duly slaughtered animals to be good for Muslim consumption.

- Swine — pork, lard, and their by-products or derived ingredients are categorically prohibited for Muslim consumption. All chances of cross-contamination from pork into halal products must be thoroughly prevented. In fact, in Islam, the prohibition extends beyond eating. For example, a Muslim must not buy, sell, raise, transport, slaughter, or in any way directly derive benefit from swine or other haram media.
- Blood — blood that pours forth (liquid blood) is generally not offered in the marketplace or consumed, but products made from blood and ingredients derived from it are available. There is general agreement among religious scholars that anything made from blood is unlawful for Muslims.
- Alcohol and other intoxicants — alcoholic beverages such as wine, beer, and hard liquors are strictly prohibited. Foods containing added amounts of alcoholic beverages are also prohibited because such foods, by definition, become impure. Nonmedical drugs and other intoxicants that affect a person's mind, health, and overall performance are prohibited too. Consuming these directly or incorporated into foods is not permitted. However, there are certain acceptable allowances for naturally present alcohol or alcohol used in processing of food, as discussed in Chapter 13.

Foods are broadly categorized into four groups for the ease of establishing their halal status and formulating guidelines for the industry.

- Meat and poultry — this group contains four out of five haram (prohibited) categories. Hence, higher restrictions are observed here. Animals must be halal. One cannot slaughter a pig the Islamic way and call it halal. Animals must be slaughtered by a sane Muslim while pronouncing the name of God. A sharp knife must be used to sever the jugular veins, carotid arteries, trachea, and esophagus, and blood must be drained out completely. Islam places great emphasis on humane treatment of animals, so dismemberment must not take place before the animal is completely dead, as described earlier.
- Fish and seafood — to determine the acceptability of fish and seafood, one has to understand the rules of different schools of Islamic jurisprudence, as well as the cultural practices of Muslims living in different regions. All Muslims accept fish with scales; however, some

groups do not accept fish without scales such as catfish. There are even greater differences among Muslims about seafood, such as molluscs and crustaceans. One must understand the requirements in various regions of the world, for example, for exporting products containing seafood flavors.

- Milk and eggs — from the halal animals are also halal. The predominant source of milk in the West is the cow, and the predominant source of eggs is the chicken. All other sources are required to be labeled accordingly. There are a variety of products made from milk and eggs. Milk is used for making cheese, butter, and cream. Most of the cheeses are made with various enzymes, which could be halal if made with microorganisms or halal-slaughtered animals. The enzymes could be haram if extracted from porcine sources or questionable when obtained from non-halal-slaughtered animals. Similarly, emulsifiers, mold inhibitors, and other functional ingredients from nonspecified sources can make milk and egg products doubtful to consume.
- Plants and vegetables — these materials are generally halal except alcoholic drinks or other intoxicants. However, in modern-day processing plants, vegetables and meats might be processed in the same plant and on the same equipment, increasing the chance of cross-contamination. Certain functional ingredients from animal sources might also be used in the processing of vegetables, which make the products doubtful. Hence, processing aids and production methods have to be carefully monitored to maintain the halal status of foods of plant origin.

From this discussion on laws and regulations it is clear that several factors determine the halal or haram status of a particular foodstuff. It depends on its nature, how it is processed, and how it is obtained. As an example, any product from pig would be considered as haram because the material itself is haram. Similarly, beef from an animal that has not been slaughtered according to Islamic rites would still be considered unacceptable. And, of course, a stolen foodstuff or any products that are acquired through means that are incompatible with Islamic teaching would also be haram. Food and drink that are poisonous or intoxicating are obviously haram even in small quantities because they are harmful to health.

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3

GENERAL GUIDELINES FOR HALAL FOOD PRODUCTION

In Chapter 2, we discussed halal laws and regulations, and in this chapter we will try to explain how these laws and regulations apply to real situations in the production of halal food. The guidelines in this chapter are general in nature, and specific guidelines for different product types appear in subsequent chapters. Here, foods are broadly classified into four groups to establish their halal status and to formulate guidelines for halal production and certification.

MEAT AND POULTRY

It is understood that meat of only halal animals is allowed for consumption by Muslims. An animal must be of halal species to be slaughtered as halal. The animal must be slaughtered by a sane adult Muslim while pronouncing the name of God. A sharp knife must be used to cut the throat in a manner that induces thorough removal of blood and quick death. Islam places great emphasis on humane treatment of animals. The animals must be raised, transported, handled, and held under humane conditions. However, these are only desirable actions and mishandling of animals does not make their meat haram. Stunning of animals before nonreligious slaughtering is generally accepted in the U.S. and Canada where methods of stunning generally are non-lethal. In many European countries, the type and severity of stunning usually kills the animals before bleeding, which makes it unacceptable for halal. Moreover, dismemberment (i.e., cutting off the horns, ears, lower legs) of an animal must not take place before the animal is completely dead (Chaudry, 1997).

Conditions and Method of Slaughtering (Dhabh or Zabih*)

Dhabh is a clearly defined method of killing an animal for the sole purpose of making its meat fit for human consumption. The word dhabh in Arabic means purification or rendering something good or wholesome. The dhabh method is also called dhakaat in Arabic, which means purification or making something complete.

The following conditions must be fulfilled for dhabh to meet the requirements of the shariah (jurisprudence).

The Slaughter Person

The person performing the act of dhabh must be of sound mind and an adult Muslim. The person can be of either sex. If a person lacks or loses the competence through intoxication or loss of mental abilities, he or she may not perform halal slaughter. The meat of an animal killed by an idolater, a nonbeliever, or someone who has apostatized from Islam is not acceptable.

The Instrument

The knife used to perform dhabh must be extremely sharp to facilitate quick cutting of the skin and severing of blood vessels to enable the blood to flow immediately and quickly, in other words, to bring about an immediate and massive hemorrhage. Muhammad said: "Verily God has prescribed proficiency in all things. Thus if you kill, kill well; and if you perform dhabh, perform it well. Let each of you sharpen his blade and let him spare suffering to the animal he slays" (Khan, 1991). Muhammad is reported to have forbidden the use of an instrument that killed the animal by cutting its skin but not severing the jugular vein. It is also a tradition not to sharpen the knife in front of the animal about to be slaughtered.

The Cut

The incision should be made in the neck at some point just below the glottis and the base of the neck. Traditionally, camels used to be slayed by making an incision anywhere on the neck. This process is called nahr, which means spearing the hollow of the neck. With modern restraining methods and stunning techniques, this procedure might not be appropriate any longer. The trachea and the esophagus must be cut in addition to

* Dhabh or zabih is the same word pronounced differently. It means the method and conditions of slaughtering.

the jugular veins and the carotid arteries. The spinal cord must not be cut. The head is therefore not to be severed completely. It is interesting to note that the kosher kill is very similar to the traditional method of dhabh described, except that the invocation is not made on each animal.

The Invocation

Tasmiyyah or invocation means pronouncing the name of God by saying Bismillah (in the name of Allah) or Bismillah Allahu Akbar (in the name of God, God is Great) before cutting the neck. Opinions differ somewhat on the issue of invocation, according to three of the earliest jurists. According to Imam Malik, if the name of God is not mentioned over the animal before slaughtering, the meat of such animal is haram or forbidden, whether one neglects to say Bismillah intentionally or unintentionally. According to the jurist Abu Hanifah, if one neglects to say Bismillah intentionally, the meat is haram; if the omission is unintentional, the meat is halal. According to Imam Shaf'ii, whether one neglects to say Bismillah intentionally or unintentionally before slaughtering, the meat is halal so long as the person is competent to perform dhabh (Khan, 1991).

It is also enough to state here that the above tradition does not prove that the pronouncing of God's name is not obligatory in performing dhabh. In fact, the tradition emphasizes that the pronouncing of God's name was a widely known matter and was considered an essential condition of dhabh (Khan, 1991).

Abominable Acts in Slaying of Animal

- It is abominable to first throw the animal down on its side and sharpen the knife afterwards. It is narrated that the Prophet once passed by a person who, having cast a goat to the ground, was pressing its head with his foot and sharpening his knife while the animal was watching. The Prophet said, "Will this goat not die before being slain? Do you wish to kill it twice? Do not kill one animal in the presence of another, or sharpen your knives before them" (Khan, 1991).
- It is abominable to let the knife reach the spinal cord or to cut off the head of the animal. In South Asia, the term used for cutting of the head, usually by hitting the animal from behind the neck, is called jhatka or killing with a blow. There is general abhorrence in the Muslim community to such killing.
- It is abominable to break the neck of an animal or begin skinning it or cut any parts while it is convulsing or before its life is completely departed. Muhammad said, "Do not deal hastily with the souls (of

animals) before their life departs” (Khan, 1991). It is sometimes the practice in fast-paced commercial slaughterhouses to start removing the horns, ears, and front legs while the animal still seems to be alive. This is against the principles and requirements of dhabh and must be avoided.

- It is abominable to perform dhabh with a dull instrument. Muhammad commanded that knives be sharpened and be concealed from animals to be slain.
- It is also abominable to slaughter one animal while the next in line is watching the animal being killed. This is against the humanness of the process of slaughtering.

From the foregoing description, it is clear that both intention and a precise method are conditions for the validity of dhabh. The insistence on pronouncing the name of God before slaying an animal is meant to emphasize the sanctity of life and the fact that all life belongs to God. Pronouncing the tasmiyyah induces feelings of tenderness and compassion and serves to prevent cruelty. It also reinforces the notion that an animal is being slaughtered in the name of God for food and not for recreational purposes. It is not allowed in Islam to kill an animal for the sole purpose of receiving pleasure out of killing it.

Advantages of Halal Slaughtering

The actual method of dhabh has many advantages. To begin with, the speed of the incision made with the recommended sharp knife shortens the total time to slaughter and seems to inflict less pain than stunning. In a modern slaughterhouse, where animals are stunned before slaying, some of the animals do not become unconscious with one blow and have to be hit more than once.

The method of dhabh allows rapid and efficient bleeding of the animal. It is also obvious that blood being enclosed in a closed circuit can be removed faster by cutting the blood vessels. The force of the beating of the heart puts the blood into circulation. Therefore, the stronger the heart beat, the greater the quantity of blood poured out. It seems that the blood gushes out with dhabh slaughter; while it pours out somewhat slower when the animal has been stunned. The body of the dhabh animal convulses involuntarily more than the stunned animal. Convulsions produce the squeezing or wringing action of the muscles of the body on the blood vessels, which helps to get rid of maximum amount of blood from the meat tissue into the circulation (Khan, 1991).

The physiological conditions described have a bearing on the removal of blood from an animal's body, but they operate fully only if the animal is bled while alive by cutting across its throat and sparing the vertebral column without stunning the brain of the animal in any way (Khan, 1991). With the type of stunning and the force of the blow or shock used in North America, animals are usually alive for several minutes after stunning. The throat is generally cut within the first two minutes after stunning. Due to these reasons, stunning of cattle with captive bolt and poultry with electrified water is practiced in some dhabh slaughter. In some other countries, the blow of stunning is severe enough to kill the animal. In Australia, some organizations contend that stunning renders the animals dead; hence, these organizations do not permit stunning for halal slaughter (AFIC, 2003).

FISH AND SEAFOOD

To determine the acceptability of fish and seafood, one must understand the rules in different schools of Islamic jurisprudence as well as the cultural practices of Muslims living in different regions. Fish with scales are accepted by all denominations and groups of Muslims. Some groups do not consume fish without scales (e.g., catfish). There are additional differences among Muslims about seafood, especially molluscs (e.g., clams, oysters, and squid) and crustaceans (e.g., shrimp, lobster, and crab). The requirements and restriction apply not only to fish and seafood but also to flavors as well as ingredients derived from such products.

MILK AND EGGS

Milk and eggs from halal animals are also halal. Predominantly, milk in the West comes from cows and eggs come from hens. All other sources are required to be labeled accordingly. Numerous products are made from milk and eggs. Milk is used to make cheese, butter, and cream. A variety of enzymes are used in the production of cheeses. Types of enzymes used in the making of cheeses are very important. Enzymes can be halal or haram, depending on their source of origin. Enzymes from microbial sources or halal-slaughtered animals are halal. However, an enzyme from a porcine source is haram. Depending on the enzymes used in production of cheeses or other dairy products, the products are classified as halal, haram, or questionable. On the same basis, other functional additives such as emulsifiers or mold inhibitors should also be screened to take the doubt out of milk or egg products (Riaz, 2000).