

Halal Foods

Our Food

Food Safety and Control System

Halal foods

- Deep changes in production, ingredients and packaging enhances shelf life, food colour and texture.
- Global spread of exotic foods and rapid changing of nutritional habits makes it important to verify the lawfulness of food in compliance with the commands of the Islam.

Halal foods

- The commandments of the Qur'an, the Wholy Book, and religious ethics permit Muslims to consume only halal food.

Halal foods

Global trade

‘Muslims are allowed to eat food prepared by people who are of other beliefs (5:5) and Muslim food is permitted to be eaten by them, on condition that these foods are pure and permitted foods. They should not be excluded from diet.’ (5:88).

This permits an interchange and living together of Muslims with other groups all over the world. This turns global trade possible.

Precautionary considerations:

‘Do not eat unless Allah's name has been taken and this (not taking Allah's name) practice is transgression’ (6:121)

Unless there is certainty that the Ahlul-kitaab takes the name of God when slaughtering an animal, only then the meat will be permissible.

Haram foods

Gelatine

Pork and its derivates

Meat of dogs

Birds of prey

Frogs and snails

Intoxicants and harmful substances

Blood

Animal fat in baking

Animals that died from

A violent blow

A fall

Being gored

Carrion

Being savaged by a wild animal

Exeptions: that which makes it lawfull

Exceptions are allowed only in emergency, such as being forced by hunger without intention to practice sin. (2:175, 5:5)

Classification of new foods and ingredients can only be done by a muslim expert.

Haram foods

- Any product or by-product which contains any one or more of haram products in however minute quantity, whether as an ingredient or sub-ingredient or as a processing aid or as a releasing agent or as a glazing agent or as an additive or as a colour or in any other form, is haram.

Halal foods

Milk (Cows, sheep and goats)

Honey

Eggs

Fish

Edible plants (including sea plants) not intoxicant

Fresh or frozen vegetables

Fresh or dried fruits

Nuts like peanuts, cashew nuts, hazel nuts, walnuts

Grains such as wheat, rice, rye, barley, oats

Condiments such as cardamom, cloves, sage leaves, chilli, curcumin

Halal foods

Vinegar, produced from alcohol: Fermentation is only permitted when as final product vinegar is wanted. A rest of 0,5% alcohol is permitted.

Mushbooh

SHUBHAH (Mushbooh): 'Suspected'

- If one does not know the Halal or haram status of a particular food or drink, such a food or drink is doubtful. A practising Muslim prevents himself from consuming doubtful things.

Haram ingredients

Alcohol		Gin	Uric acid
Animal fat	Cider	Kosher gelatin	Snakes
Alcoholic beverages	Cocaine	l-cysteine (if from human hair)	Tallow
Animal shortening	Codeine	Monkey	Vanilla extract (alcohol)
Bacon (porc)	Collagen (pork)	Pepsine (hog)	Wine
Boar	Fermented malt	Pork	Whey (unless the rennet used in its roduction is plant/microbial synthetic)
Carmin E120	Gelatin	Rennet	
Carnivorous animal (Lion, tiger, cheetah, Dog, cat)	Lipase (animal Origine)	Sodium nitrite E250	

Emulsifier

- Use of animal based glycerine as a coating for raisins or as a flour improver and widespread use of complicated emulsifier systems make it necessary to look inside of the nomenclature of these ingredients.

Emulsifier

- An emulsifier is a molecule consisting of a hydrophilic and a hydrophobic (lipophilic) part.
- The hydrophobic part of the emulsifier may consist of a fatty acid. The hydrophilic part of the emulsifier may consist of glycerol, possibly esterified with acetic acid, lactic acid, tartaric acid or citric acid.

Emulsifier

The raw materials of emulsifiers are :

Soy bean oil, rape seed oil and palm oil, animal fats (lard) and glycerol, organic acids such as fatty acids and lactic, citric, acetic and tartaric acids, sorbitol and propylene glycol

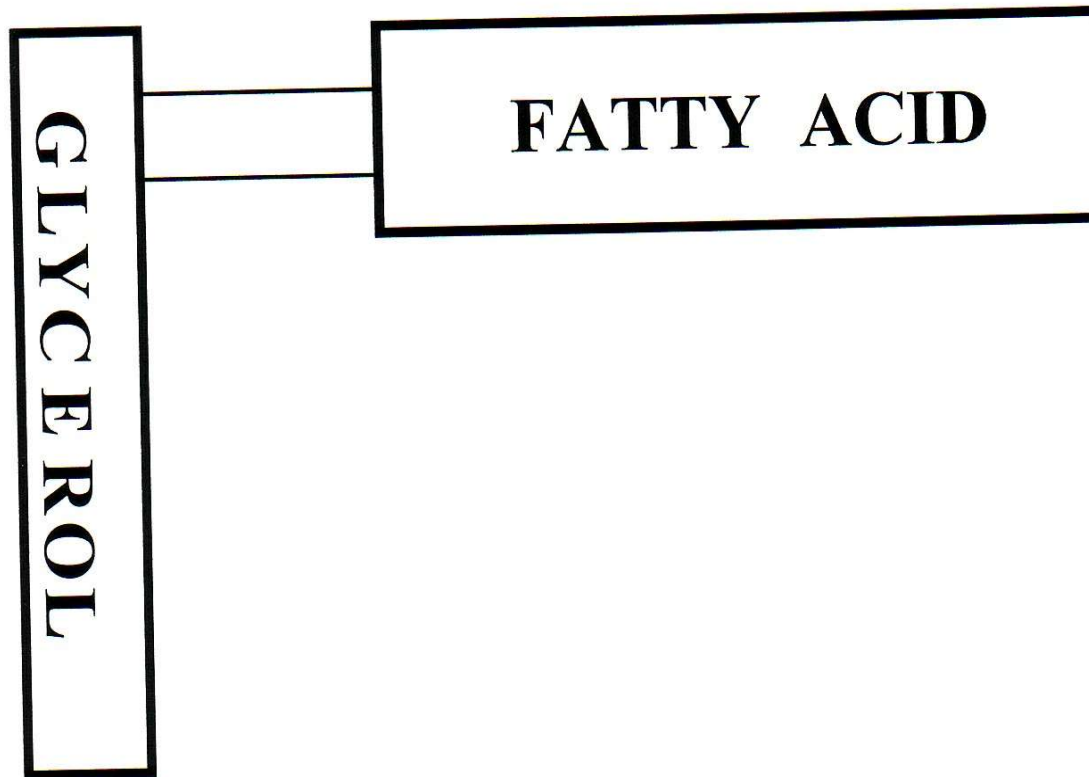
Nomenclature of Emulsifier

Monoglycerides

Singly substituted derivatives do not usually include the prefix 'mono'. This term is used only when required to prevent ambiguity. The absence of a suitable prefix implies 'mono', e.g. Glyceril stearate.

The term 'Glyceride' has been utilized to describe a monoglyceride

Monoglyceride

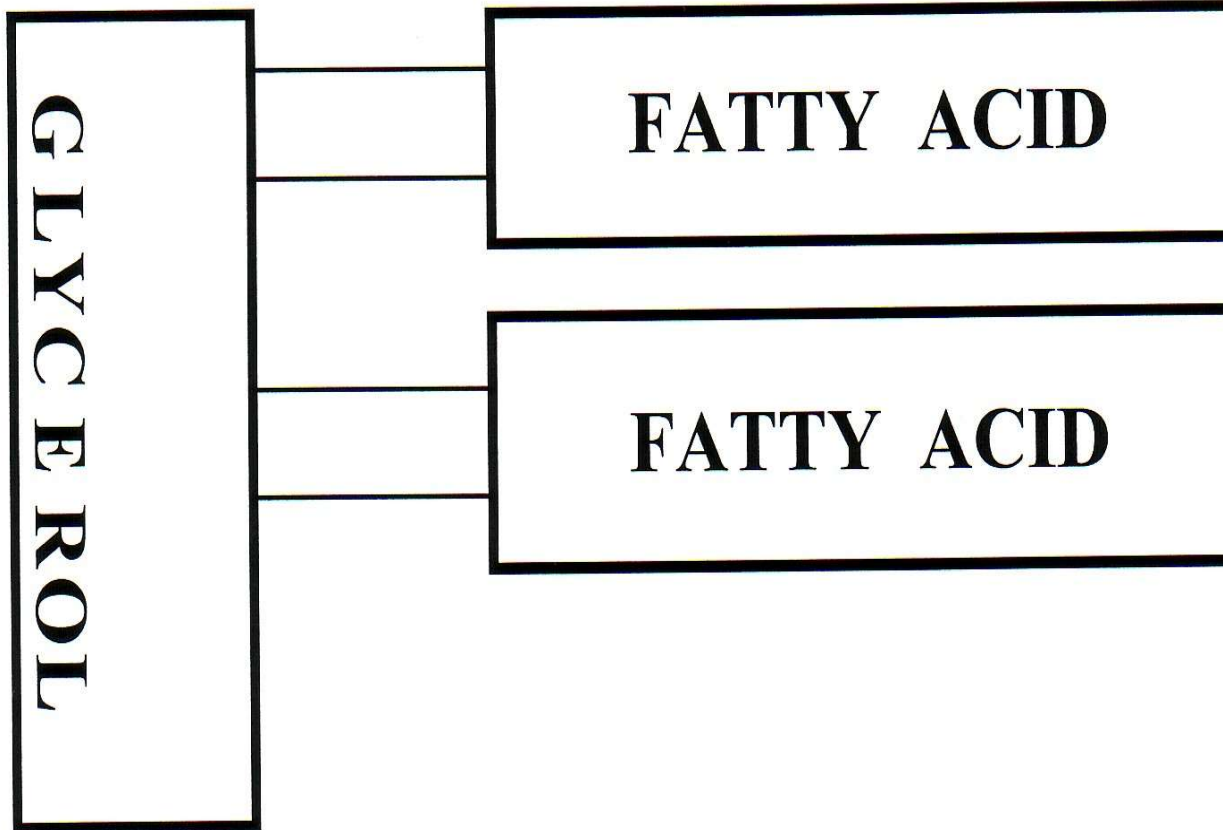


Glyceril Stearate

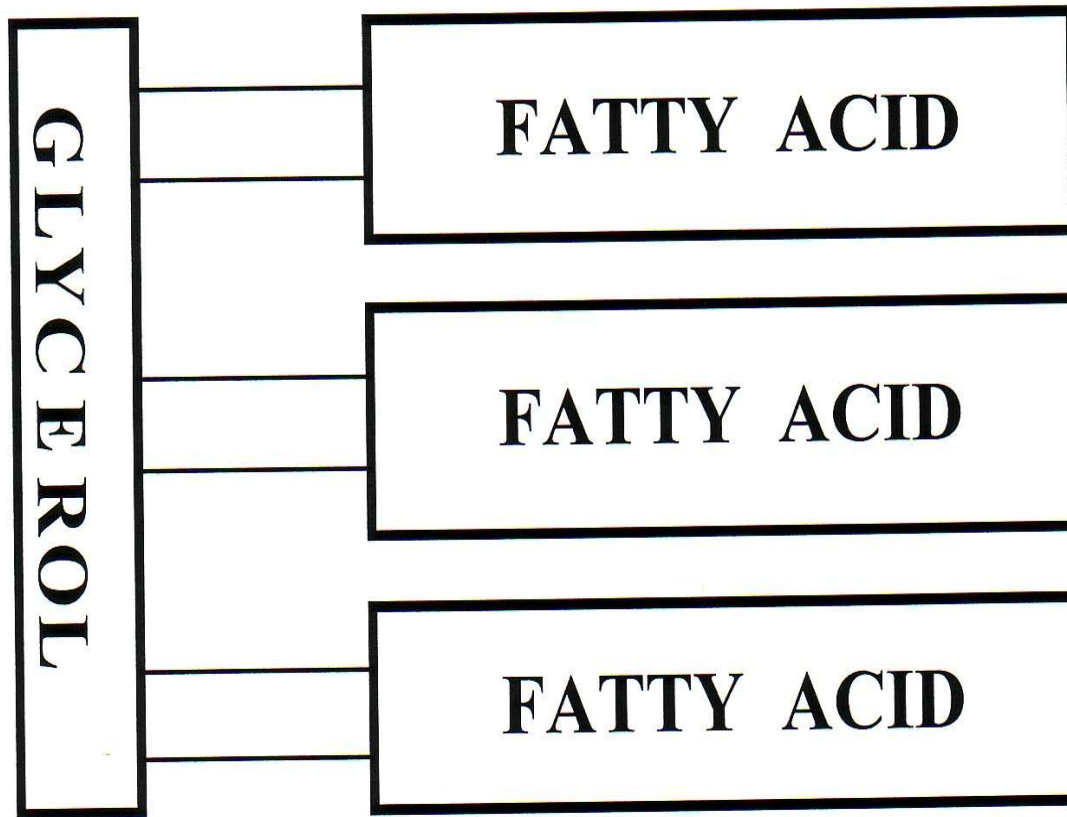
Glyceryl monostearate

Monostearate

Diglyceride



Triglyceride



Emulsifier

- Mixtures of mono-, di- and triglycerides are referred to as 'Glycerides'. Triglycerides are assigned specific nomenclature, e.g. Tristearin.
- Multiple substitution is routinely described with the appropriate prefix such as 'di-', 'tri-' or 'tetra-', e.g. Glyceryl distearate.

Nomenclature Convention

SCCNFP/0299/00 final

Glyceride

stands for

Monoglyceride

Glycerides

stands for

**Mixture of mono-
di- and triglycerides**

**Specific nomenclature
for triglycerides**

Stands for

Triglycerides

e.g.

Tristearin

Stright chain fatty acids

Chain lenght	Acid	Alcohol
C8	Caprylic acid	Caprylyl alcohol
C10	Capric	Hexyl
C12	Lauri	Lauryl
C14	Myristic	Myristil
C16	Palmitic	Cetyl
C16:1	Palmitoleic	Palmitoeyl
C18	Stearic	Stearyl
C18:1	Oleic	Oleyl
C18:2	Linoleic	Linoleyl
C18:3	Linolenic	Linolenyl
C20:4	Arachidonic	Arachidonyl
C22	Behenic	Behenyl
C22:1-n11	Cetoleic	Cetoleyl
C22:1-n9	Erucic	Erucyl

Glycerol

Non-kosher to Kosher

- Glycerol was considered to be a non-kosher food, today there is an abundant amount of glycerin that is manufactured from petrochemical sources, which would then qualify to be approved as kosher. Today glycerol is made from vegetable oil.
- As a result of food technology certain ingredients, which previously were always kosher, and are now made differently have become non-kosher.

Emulsifier

- Production of ready to eat foods, margarine, milk replacer, non-dairy creamer should use kosher or halal certified emulsifier in all their products to avoid cross over from haram to halal production lines.

Emulsifier

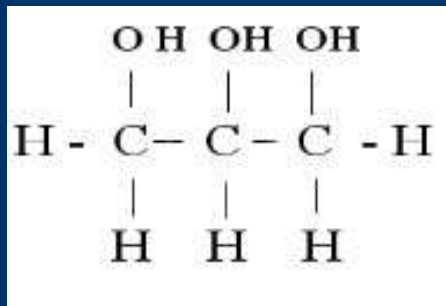
Glycerol and polyglycerol esters

Oil and water emulsification for dietetic, bakery and confectionery and a lot of other products.

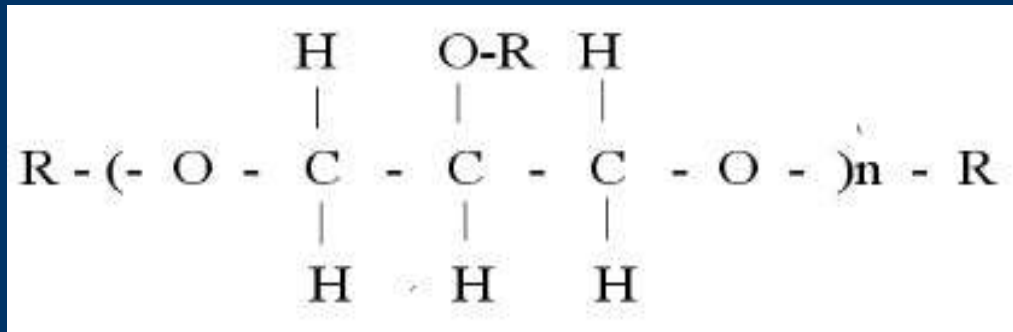
The individual components are normal constituents of the human diet, i.e. glycerol, glycerol mono-, di- and tri-fatty acid esters and individual fatty acids.

Emulsifier

Glycerol



Polyglycerol ester: the average value of n is no more than 3 and R is partly a fatty acid or partly hydrogen radical.



Kosher emulsifiers

Oleates: Kosher oleates such as Glycerol monooleate, Ethoxylated mono/di-glyceride, Glycerol monoleate .

Stearates: Kosher Glycerol Stearates such as Glycerol monostearate, Triglycerol monooleate, Decaglycerol tetraoleate, Glycerol monostearate .

Use of emulsifiers

Other Kosher emulsifiers

Wide range of emulsifiers with Kosher and Halal certification are being sold such as Hexaglycerol monooleate :

Margarine, coffee whitener, peanut butter, chewing gum, snack foods, pasta & cereals, Dispersing and solubilizer for salad dressings.

Emulsifier

Kosher grade antioxidants: Antioxidant production of kosher grade. Vitamin-based antioxidants, in particular, are a popular solution for delaying the onset of rancidity in vegetable oil.

Kosher vitamin-based blends: with ascorbyl palmitate and tocopherol, which provide a vitamin C and vitamin E effect respectively, and traditional blends with BHT, BHA, TBHQ and propyl gallate are available.

Rosemary Extract meets the growing desire among some manufacturers to opt for natural solutions.

	Butyric C4	Caproic C6	Capryl C8	Capric C10	Lauric C12	Myristic C14	Palmitic C16	Stearic C18	Arachidic C20	Palmitoleic CC16:1	Oleic C18:1	Linoleic C18:2	Linolenic C18:3	Higher C20/22
Beef suet	-	-	-	-	-	4	30	20	-	4	39	3	-	-
Pork fat, lard	-	-	-	-	-	2	27	14	-	4	45	8	-	-
MilkButter	3	2	2	3	3	9	24	13	2	6	30	2	1	-
Wale oil	-	-	-	-	-	10	18	1	-	16	32	5	-	18
Herring oil	-	-	-	-	-	7	18	2	4	10	10	2	-	47
Kokosnut oil	-	1	8	8	48	15	9	3	-	-	6	2	-	-
Palmkernel	-	-	3	5	50	15	8	2	-	-	15	2	-	-
Palm oil	-	-	-	-	-	1	40	5	-	1	43	10	-	-
Cotton sseed	-	-	-	-	-	3	20	2	-	1	24	50	-	-
Olive oil	-	-	-	-	-	2	15	2	-	2	71	8	-	-
Peanut oil	-	-	-	-	-	-	10	3	6	-	50	31	-	-
Maize germ	-	-	-	-	-	-	13	4	-	-	32	50	1	-
Sunflower	-	-	-	-	-	-	5	2	1	-	27	65	-	-
Safflower	-	-	-	-	-	-	7	3	-	-	15	75	-	-
Soybean oil	-	-	-	-	-	-	10	3	1	-	24	54	8	-
Rapseed oil	-	-	-	-	-	-	4,5	1,5	-	0,5	56	21	10	6,5
Linseed oil	-	-	-	-	-	-	7	3	-	-	18	14	58	-

Karl Heinz Wilm

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Halal foods

- Three most important rules of Halal food:
 - 1- Meat must be slaughtered in a particular way. Zibah
 - 2- Only certain animal products are allowed.
 - 3- Technological processing, like processing aids, cleaning materials and equipment used in production must be free from prohibited food traces.

The Islamic dietary laws which rule the production of foods is a religious matter which can be handled only by a Muslim expert.

Ritual slaughter

Zibah

- Animals should be slaughtered according to Islam ritual.
- Exceptions: animals shot during hunting and regulations for wild life (5:5)

Ritual slaughter

- Licensed Muslim slaughterer should slaughter invoking the name of Allah
- The animal must be alive and healthy at the moment of slaughter
- Animal skin or fur or feathers must be clean prior to slaughter, free of faeces, mud or other unhygienic substances
- Cut the throat, jugular vein, carotid artery and gullet with one stroke without damage of the the spinal cord
- stunning is not permitted
- Flowing blood drain out by natural convulsion

Mechanical slaughter

- **Mufti Ebrahim Desai, Darul Ifta, Madrasah In'aamiyyah, Camperdown, South Africa**
- **Mechanical transportation but manual slaughter:** Chickens are transported to the place of slaughter through a conveyer belt and are manually slaughtered. This procedure is unanimously permissible and recommended
- **Mechanical transportation and slaughter:** Chickens are transported by means of the conveyer belt to the mechanical slaughter blade. Once the mechanical plant comes into operation, the blade also comes into operation and cuts the chicken. This procedure is not permissible.

Stunning

- **Germany:** Religious slaughter without pre-stunning is allowed. (BVG 15.02.2002)
- **EU:** Religious slaughter without pre-stunning is allowed. (93/119/EC)
- **Egypt:** University Al Azhar in Cairo has accepted stunning with electro shocks. Not according to the opinion of the majority of Muslims which consider such slaughter as Haram.
- **UK:** Exception for Islamic slaughter without stunning is provided in UK regulation.

Mechanical methods of stunning

Mainstream slaughter

Captive bolt: Widely used for all farm animals and rabbits. Gun powder (cartridge), compressed air and spring under tension drive bolts through the skull of animals.

Concussion stunning: A mechanically operated instrument delivers a blow to the brain and concusses the brain. Used for cattle, sheep, calves, rabbits.

Free bullets: Used for animals difficult to handle such as wild pigs, bison, deer, horses or in emergencies.

Gas stunning

Mainstream slaughter

Carbon dioxide: Carbon dioxide is used to stun pigs in the UK and other EU countries. Pigs exposed to 90% CO₂ die within approx. 5 minutes, but times vary and can be significantly longer.

Carbon dioxide and argon: This gas mixture is used for stun/kill chickens and turkeys.

Electrical stunning

Mainstream slaughter

Head-only stunning: An electric current is applied to the head which is supposed to cause temporary loss of consciousness.

Cardiac arrest stunning: An electric current is either sent through the head and body at the same time to span the brain and heart or is sent through the head first and then across the chest.

Waterbath stunning: Used for poultry. Birds are shackled upside down on a moving conveyor which carries them to an electrified water bath into which their heads are supposed to be immersed.

Stunning

Islam interpretation

Gassing strangulation: Are considered as cruel and unlawful in Islam, therefore chemical gassing should not be used as a stunning method.

Concussion: Animals that die from a violent blow are haram.

Captive bolt pistol, water bath: Animals that die from a fall - some Muslims have interpreted this command to mean that if an animal has died from concussion or drowning (as a cow falling in a well would be killed by drowning) it is forbidden.

Electrical stunning

Islam experts interpretation

Dr Abdel Aziz El Khayat, Dean of the Faculty of Islamic Law, University of Jordan

Some say electrical stunning is legal so long as the animal is still alive when slaughtered and so long as the motive is to ease suffering and quicken the process.

Others say it is forbidden because the shock can cause pain; quickens decay of the flesh; causes haemorrhaging so diseases can't be checked for and may kill the animal outright.

Van de Wals and Warrinton: All stunning methods trigger a massive secretion of epinephrine.

Electrical stunning

Islam experts interpretation

New Zealand and Australia

New Zealand has developed an electrical stunning apparatus that meets Muslim standard.

Head-only electric stunning prior to Muslim slaughter is used in almost all sheep slaughter plants in New Zealand and Australia.

Electrical stunning

Islam experts interpretation

Dr Ahmad Sakr, expert on Halal certification in USA:

He says it is not Halal because of the effect electric shock has on blood drainage. Using electric shock means that all of the animal's blood does not leave its body, because electric shock affects the central nervous system.

Captive bolt stunning

Sheikh Aboul Yusr Abdin: Many Muslims do believe (and many do not!) that stunning is permitted so long as the animal is killed by cutting the throat. It is more acceptable to stun cows to speed up throughput but much less so to stun smaller animals which are easier to handle.

Dr Abdel Aziz El Khayat: Most Muslims allow the captive bolt.

Australia, New Zealand and Ireland: Non-penetrating concussion stunning prior to slaughter has received approval from some Muslim authorities.

The Talmud

Detailed anatomical information what is to be done during slaughter and the subsequent post-mortem inspection.

The Jewish religious codes require that allowed animals be slaughtered by a specially trained Jewish male called "shochet" using a special knife, called the "chalef".

While the Muslims allow any believing Muslim man or women, to slaughter allowed animals.

Animal slaughter in abattoir

- Constant supervision of a Halal certifier.
- The premises, machinery and equipment must be cleansed according to Islamic Sharia before any production takes place.
- The Slaughterer must be a mature and pious Muslim
- Only acceptable live animals and birds can be slaughtered.

Animal slaughter in abattoir

- The slaughter must be done manually using a stainless steel knife.
- Facilities must be available for rinsing the knife after each kill.
- The slaughterer must sever the respiratory tract, oesophagus and jugular vein.
- The animal must be completely dead before skinning takes place.
- Only Halal animals and birds are Halal Slaughtered.

Evaluation of religious slaughter

Stressfulness of restraint methods,

Pain perception during the incision

Latency of onset of complete insensibility.

Restraint

Europe

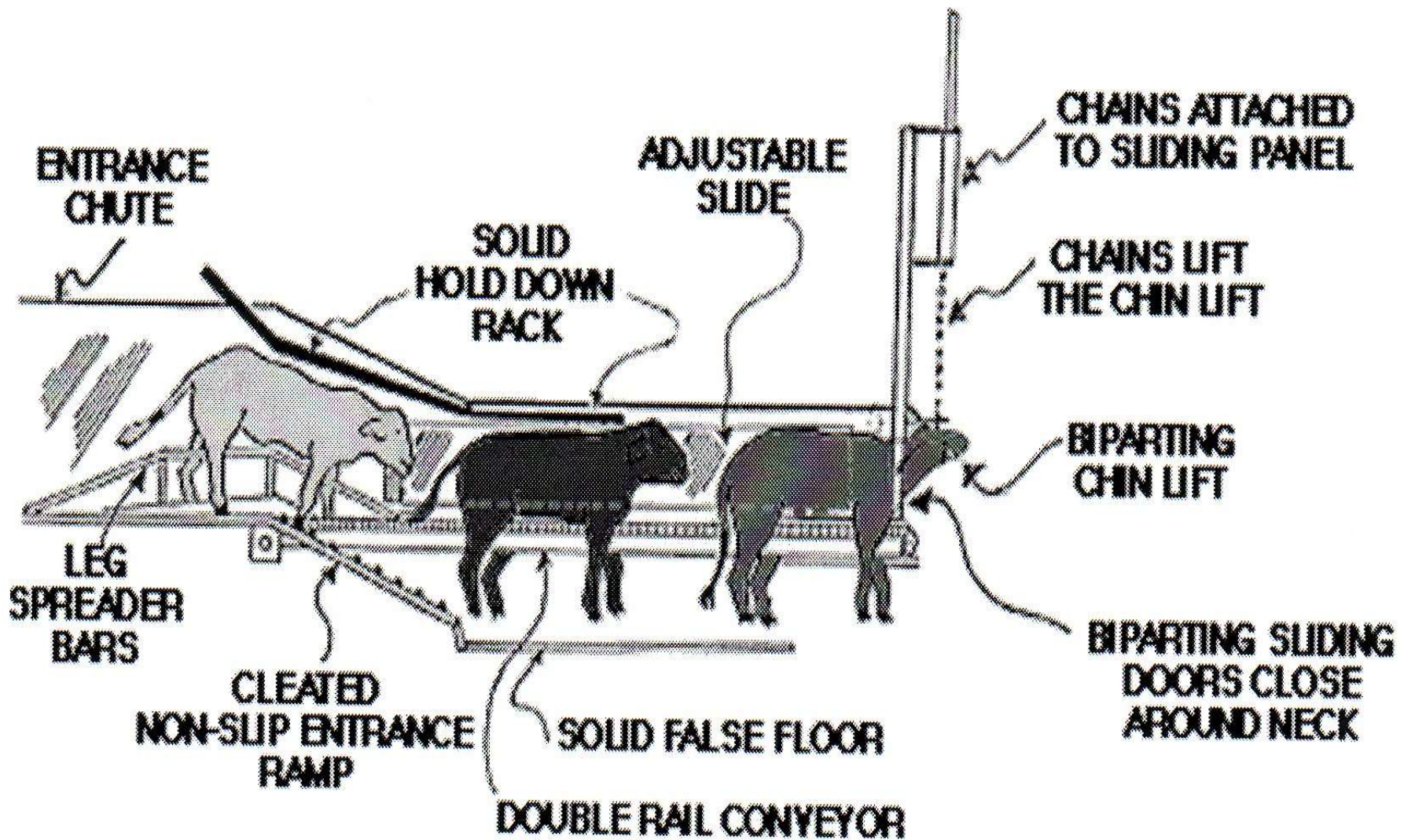
The casting pen inverts cattle onto their backs, being more stressful than upright restraint devices. Cattle resist inversion and twist their necks in an attempt to right their heads.

Restraint devices

Weinberg casting pen: It is very stressful.

Facomia pen: Less stressful than Weinberg pen but upright restraint would be better.

US: Poorly designed upright restraint boxes apply excessive pressure to the thoracic and neck areas of cattle.



Upright restraint device according to Grandin

Loss of consciousness after incision

Sheep and goats: 2 to 15 seconds

Cattle: immediately to 30 seconds. Calm cattle will usually collapse within 10 to 15 seconds.

Upright restrain

Upright restraint: Special device by Grandin

Good upright restraint equipment is available for low stress, comfortable restraint of sheep, calves and cattle

Excessive bending of the neck should be avoided. For that, the bovine's forehead should be parallel to the floor.

Welfare aspects of slaughter

Many welfare concerns in Europe are centred on restraint, driven by their concerns about forceful immobilisation and clamping of cattle

A failure rate of 3 to 5 in captive bolt stunning requiring a second shot could be avoided with proper head restrain devices.

Animal slaughter researche

University of Hanover:

Germany Professor Schultz and Dr. Hazim used Electroencephalograph (EEG) and electrocardiogram (ECG) to compare the pain caused by Islamic slaughter and western method using captive bolt stunning.

Industrial habits

Slaughter by machines: Several supermarket chains have sold chicken slaughtered by machines with Halal labelling. Consumers do not agree with that.

Product change on line: Changing between different products of the same category with meat and vegetarian products on a same line is practised in actual food industry.

However, changing from meat product to a vegetarian one, haram meat and animal fat can contaminate this product

Industrial habits

Cross-over: Halal food should be free of unlawful ingredients, or contamination, even in low level. Cross-over should not be tolerated

False claims: A claim on vegetarian food of a fast food chain was not sustained as the company had to admit of having used beef extract on their French fries and hash browns.

Halal is a distinct set of dietary rules which should be recognized by all the businesses and global food industry and must be clearly separated from vegetarian diet, vegan diet, organic food and Hindu food.

Organizations and Companies

Certifying Muslim food

World Halal Food Council: The Council Congress meeting on 2001 was looking forward to greater cooperation among Halal certifying organizations.

Halal certifying organizations:

IFANCA (Islamic Food and Nutrition Council of America) (USA)

ISNA-Canada (Islamic Society of North America-Canada) .

The Muslim Food Board (UK) It is one company which investigates and certifies foods.

Codex Alimentarius

labelling of Hallal food CAC/GL-24-1997

The Codex Alimentarius Commission accepts that there may be minor differences in opinion in the interpretation of lawful and unlawful animals and in the slaughter act, according to the different Islamic Schools of Thought.

Codex Alimentarius

Haram animal foods

- Pigs and boars.
- Dogs, snakes and monkeys.
- Carnivorous animals with claws and tusks such as lions, tigers, bears, and similar animals.
- Birds of prey with talons, such as eagle, vulture and similar animals.
- Pests like rats, centipedes, scorpions and similar animals.
- Animals which according to Islamic laws should not be killed such as ants, bees and woodpecker.
- Repulsive animals such as lice, flies worms and similar animals.
- Animals which can live on land and in water such as frogs, crocodiles and similar animals.
- Mules and similar animals.
- All poisonous and dangerous animals of the sea.
- All animals which have been slaughtered disregarding the Islamic laws.
- Blood.

Codex Alimentarius

Haram vegetable foods and beverages

Haram vegetable foods: All poisonous and dangerous plants are considered as haram, unless the poison or the danger is being discarded during processing.

Haram beverages: All alcoholic beverages are haram as well all forms of poisoning and dangerous beverages.

Alcohol

The industry of beverages could do a lot reducing their output of alcoholic products in favour of non-alcoholics. The Qur'an, the Holy Book for Muslims opens the way to it:

Gradual prohibition of alcohol:

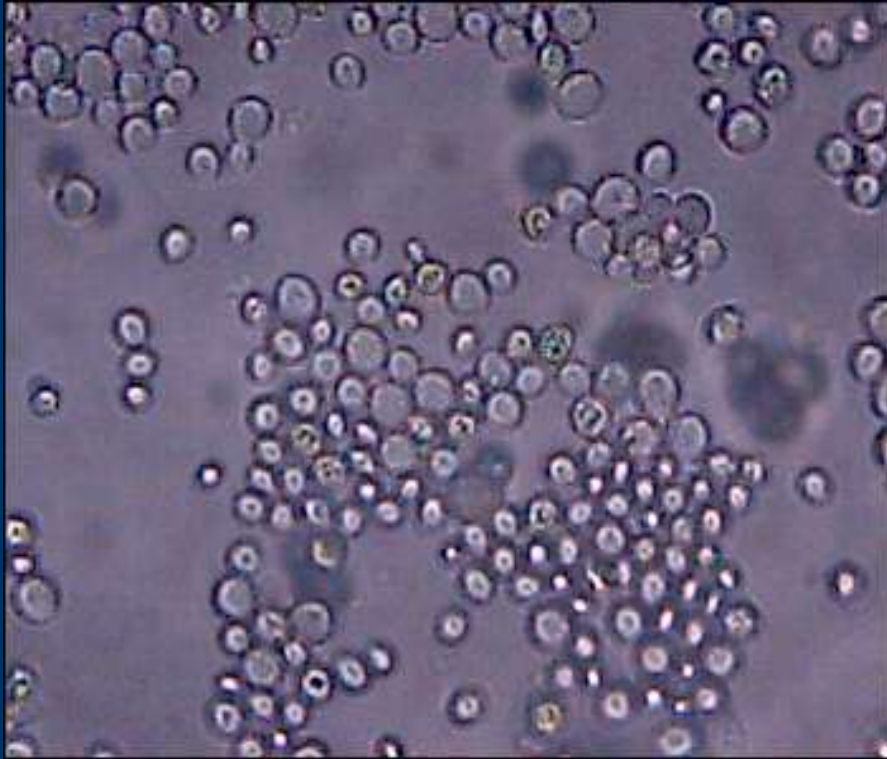
When Islam was first established over fourteen centuries ago alcohol was not immediately eradicated.

Acknowledged the benefits for example its medical applications, but pointed out that its harms out-weighed those benefits by far. (2:220)

Next, it forbade believers from praying whilst under the influence of alcohol, thus making it clear that spirituality and drunkenness don't mix. (4:43)

Finally it was altogether prohibited as the handiwork of the devil. (5:91)

Alcohol labelling



Saccharomyces cerevisiae

In Germany 1,2% alcohol is permitted to be added to food without declaration.

Declaration as “alcohol-free “ is admitted with a certain level of alcohol, such as malt beer which has 0,3% to 1% of alcohol.

Alcohol can be labeled as ethylalcohol, ethanol, spirit, C_2H_5OH and some author cite also glycerin (glycerol) as well as Mono- and Diglycerides as alcohols.

Foods with hidden alcohol

Confectionery: Cakes, bakeries and confectionery as well as ice cream, jams, desserts, tiramisu (Tuscan Trifle), sabbaione contains often alcohol in form of brandy, marsala, rum, sherry, cherry brandy, amaretto, vine, just to mention some of the spirits used.

Soups: such as chicken cream soup, chanterelle soup, oxtail soup.

Sauces: like barbecue, cocktail sauce, tomato sauce.

Aroma: Vanilla essence.

Soft cheese: different types.

Cheese

Cheese slices and block cheeses contain animal rennet and enzymes. Microbial enzymes instead of these haram ingredients could be used. However the microbial enzymes are often produced by transgene microbes.

Other problems with halal food

Dutch chicken with animal protein hydrolysates:

This is not allowed as the consumer does not want to have other animal proteins than chicken in frozen poultry.

Other problems with halal food

Campylobacter

Chicken: Campylobacter is a food borne bacteria which is present in free living birds and nowadays in 30 to 70% in broiler chicken herds and laying hens.

Milk: Contamination of milk results from an infection of the udder or contact with manure of herds where campylobacter jejuni has developed a specific resistance to this environment.

Other problems with halal food

Campylobacter

Surface water: Untreated drinking water is a source of infection of cattle and humans.

Bovine meat: The bovine meat from abattoir have very low levels of Campylobacter bacteria. This seems to be due to drying and refrigeration techniques from these plants.

Other infection sources: Raw sea foods and contact with pets.

Resistance to antibiotics: High resistance of Campylobacter jejuni and Campylobacter coli to erythromicine and fluoroquinolone are increasing worldwide.

Avoiding Campylobacter infections

Cross infection in industry and in kitchen must be avoided.

Thorough heating of chicken meat is very important (Frying 3 minutes each side, followed by another 5 to 6 minutes high temperature holding time).

Infectious materials are chicken, milk, water and direct contact with feces. Infection in animals are often. Asymptomatic *Campylobacter fetus* subspecies *fetus* can lead to miscarriage.

Vinegar

Vinegar or Apple Vinegar (In UK fermentation of apple juice = Haram)

Distilled Vinegar/Spirit Vinegar/Grain Vinegar (Halal)

Malt Vinegar (Halal)

Wine Vinegar (haram)

Balsamic Vinegar (haram)

Tartaric acid

Tartaric Acid and cream of tartar: It occurs naturally in grapes. It is used in grape and lime flavoured beverages and jellies and baking powder as an acidifier.

Cream of Tatar: It is the acid potassium salt of tartaric acid. It is used as a chemical leavening to release carbon dioxide, which produces loaf volume in bake products.

Tartaric acid and Cream of Tartar in USA is made from not fermented crushed grapes according to Tartaric Acid manufacturer. So both are Halal since it is made from not fermented crushed grape.

Tartaric acid from leftover from wine production is haram.

Natural food colours

Magazine advertising ingredient carmin cochenille

und dem Farbstoff:

„*Karmin de Cochenille*“ für die typische, angenehme, rote Fleischfarbe, die dafür sorgt, daß die Farbstabilität auch bei längerem Lichteinfluß deutlich besser ist als bei herkömmlichen Umrötehilfsmitteln.

„*Karmin de Cochenille*“

ist ein natürlicher Farbstoff, der bereits in vielen Nahrungsmitteln mit großem Erfolg eingesetzt wird. Jetzt ist es zum ersten Mal als Kombinationsprodukt mit Umrötemittel im RAPS-Lieferprogramm.

ROT-PLUS muß bei loser Ware nur mit „Farbstoff“, in der Zutatenliste

für Fertigpackungen als „Antioxidationsmittel:

Ascorbinsäure,
Farbstoff: Echtes
Karmin“
angegeben
werden.

- Aufschnitt
- Fleischwurst
- Würstchen
- Leberkäse
- Rohwurst
- Feiner Leberwurst



*Lyoner-Anschnitt
ohne ROT-PLUS*

Lyoner without

& with carmin

Natural food colours: Halal

Anatto, bixin, norbixin E160b

Antocyanins E163

Beet root juice and betanin E162

Canthaxanthin E161g

Caramel 150a

Beta-carotene 160a (Halal only

Vegetable oil is used as a carrier)

Paprika powder

Turmeric powder

haram if extracted with alcohol

Paprika oleoresin

Turmeric oleoresin

Haram: Cochineal and carminic acid E120 (They are not considered as Halal because all insects are haram)

Synthetic food colours

All the synthetic colourants which are certified by FDA and bear an E number are not automatically Halal. They have to be certified as such. The FDA allows the following solvents for dispersion and carrying agents:

Glycerin (haram, if it is from pork fat)

Propylene Glycol (Halal)

Dextrose (Halal)

Sucrose (Halal)

Vegetable Oil (Halal)

Water (Halal)

Coloured Cherries

Colored cherries

The cherries are artificially coloured with carmine E120 which is haram. If the cherries are coloured with other colours there is a chance to contain pork glycerin as a solvent. Coloured cherries have to be Halal or Kosher certified.

Symbols for Halal and Kosher

Symbols for Halal: If the product is Halal certified it has a Halal symbol which is a "H" under Triangle on the product.

Symbol for kosher foods: The symbol for kosher is a U or UD, Circler K, Triangle K, CRC, COR, V, kuf K which appears on the food product.

New techniques for ingredients

- Encapsulation
- Micro fluidization combining high pressure homogenization and heat denaturization
- Liposomes which is a lipid (fat) cavity
- Coacervation where two liquids mixed together through colloid
- Milk fat coated microcapsule
- Matrix material for coating
- Lecithin vesicles
- Timely release capsules
- Fluid bed
- Spray drying
- Use of modified food starch for coating.

Halal material used for capsulation: Arabic gum, cellulose gum modified starch, pure milk fat and other halal colloidal material may be used.

Sugar replacer

A new sugar replacer called isomalt for the used in both foods and pharmaceutical products. It is also provide low calorie. It is manufactured by Palatinit Mannheim, Germany. It is made with beet sugar with out the use of bone charcoal.

This product is Halal certified by Islamisches Zentrum Aachen. No alcohol or pork by-products are used in its manufacturing process.

This is an example that modern reseache, technology and food innovations can be done in accordance to Islamic believes.

Conclusions

All products should have a list of ingredients on their labels.

Meat products from the supermarket should be bought only if they have the name of the Halal certifying company on their label or the meat comes from a halal meat store nearby.

Purely vegetarian or vegan diet at a fast food place should be under special control and free from cross contamination with other foods.

Global food industry should consider the Islamic food laws when developing new products .