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HALAL FOOD SCIENCE AWARENESS TRAINING

About Qdot

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Qdot managed by a team of experienced professionals, is committed to promote quality & excellence culture in GCC (UAE, QATAR, KSA, Oman, Kuwait, Bahrain)by providing below mentioned services.

Management System Services

- ISO 9001, ISO 14001, ISO 45001, HACCP, ISO 22000, FSSC 22000, BRC GS, Halal, ISO 22716 (GMP),Organic Certification, ISO 27001, ISO 41001, ISO 37001, ISO 50001, ISO 55001, ISO 17020 & ISO 17025 etc

Training Services

- IRCA Approved Lead Auditor
- Awareness & Trainings on ISO Standards

Product Registration

- SABER, SQM, SFDA, CITC, IECEE, ECAS, EQM, RoSH, EESL, SLCP, G-Mark etc

Social Compliance

- SEDEX-SMETA, SA 8000, amfori BSCI, ISO 26001, WRAP, GRLI, ESG, CTPAT etc



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Housekeeping

Location of:

- Fire Escapes
- Toilets
- Smoking



As a courtesy to others
please **TURN OFF** your
mobile phone

*...no its just
someone
talking about
HALAL
- carry on.*



HALAL or HARAM??????

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Who should decide?????



- “A religious friend”?? Teacher? Parents?
List from internet??
- Personal opinion
 - Different (knowledge, personality, personal interest, etc)
- More confused!!!

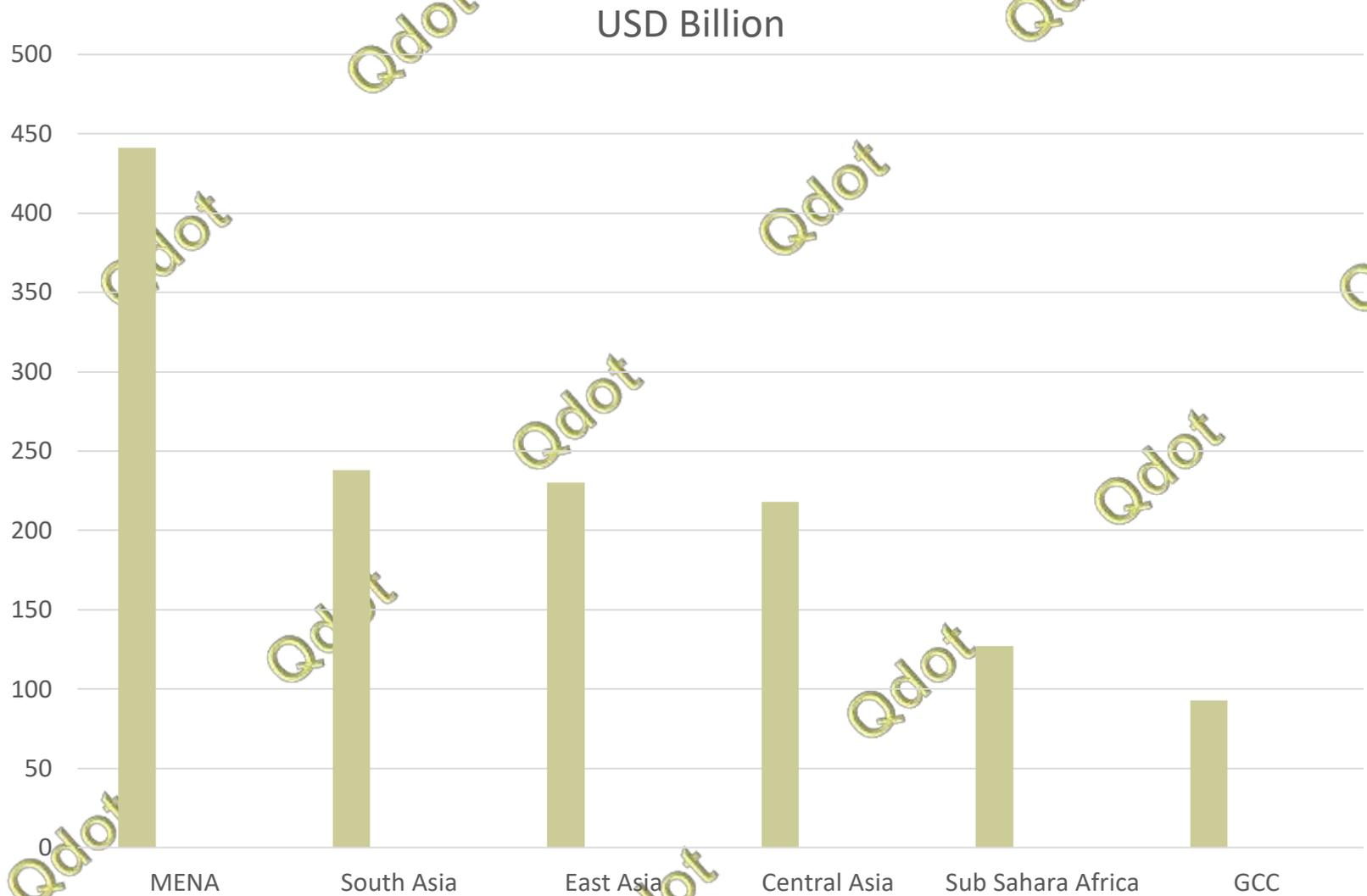


HALAL GLOBAL MARKET



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Muslim Consumer Market

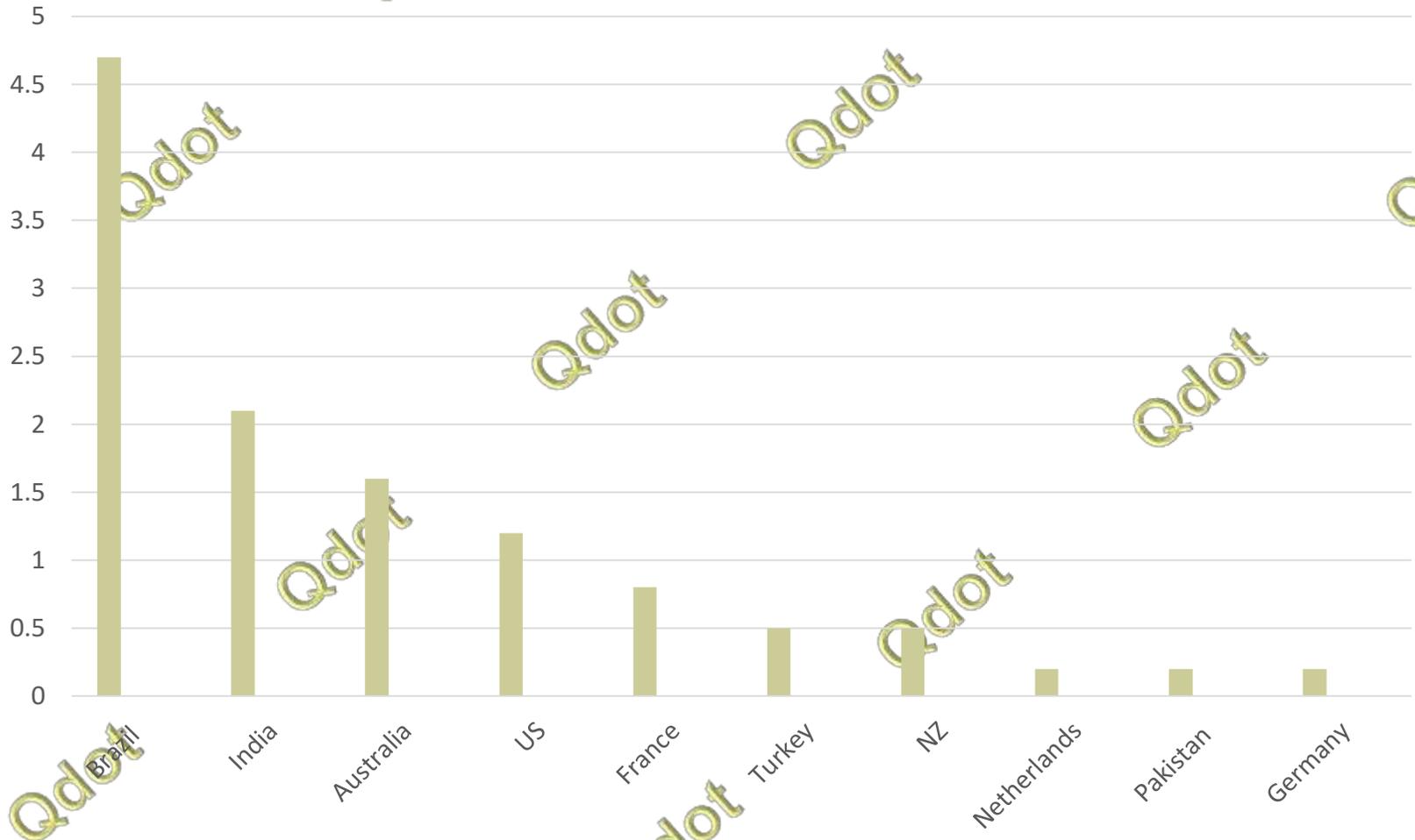


Meat & Livestock Market



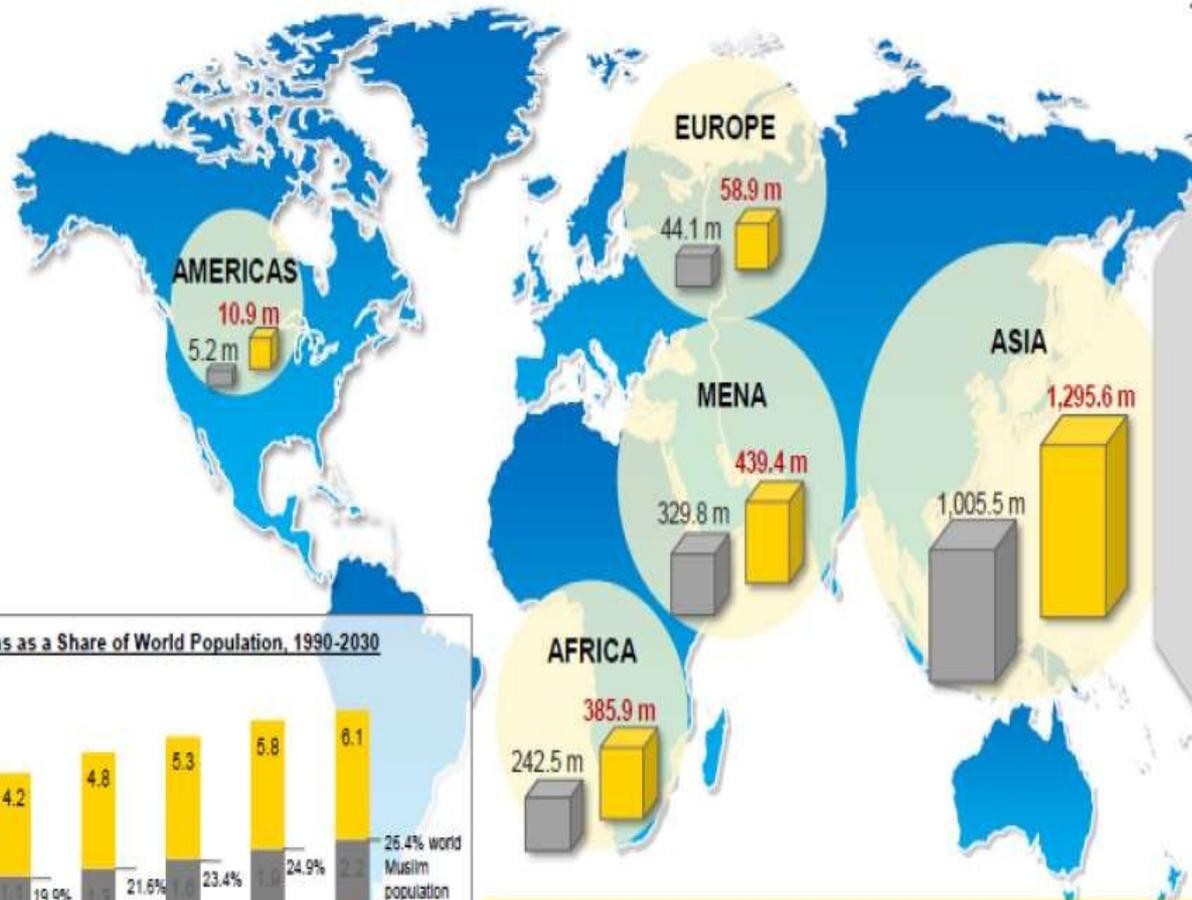
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Top 10 countries exporting Meat & Livestock to OIC (USD Billions)



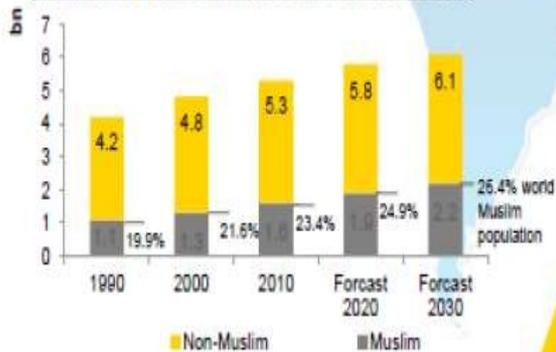
Global Muslim Population Estimated (2010) and Forecasted (2030)

2010 2030



Country	Estimated Muslim Population (mil)
Indonesia	204.6
Pakistan	178.1
India	177.3
Bangladesh	148.1
China	40.0

Muslims as a Share of World Population, 1990-2030



HALAL & PRINCIPLES OF HALAL



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Halal

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It means “permissible” or “allowed” according to Islamic Law,

sometimes translated as ‘acceptable’ or ‘not forbidden’

Halal and Haram are universal terms that apply to all facets of life. These terms are commonly used in relation to food products, meat products, cosmetics, personal care products, pharmaceuticals, food ingredients, and food contact materials. While many things are clearly halal or Haram, there are some things which are not clear. Further information is needed to categorize them as halal or Haram. Such items are often referred to as mashbooh, which means doubtful or questionable

In general every food is considered halal in Islam unless it is specially prohibited by the Qur'an or the Hadith



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Islamic Guidelines when selecting food and drink;

1. The consumption of the food or drink **must not be prohibited by Allah**
2. The means to obtaining the food or drink has to be **within halal methods**
3. The food and drink **must not be harmful to health**



Halal foods are those that are:

- a) Free from any component that Muslims are prohibited from consuming according to Islamic law (Shariah).
- a) Processed, made, produced, manufactured and/or stored using utensils, equipment and/or machinery that have been cleansed according to Islamic law.



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In the meat and poultry food industry, animals such as cows, veal, lamb, sheep, goats, turkeys, chickens, ducks, game birds, bison, venison, etc, are considered halal, but they must be prepared according to Islamic laws in order for their meat to be suitable for consumption.

Fish and seafood are generally acceptable for Muslims but as always check first, as there may be a personal dietary preference or allergy.



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In necessity, prohibited things may become permissible (halal) for the duration of the emergency or need, as Islam puts a priority on life over death.

Refer to Qur'an at Chapter 2:173

(Al Baqarah)

Concept of Halal

Quran as book of Law.



يٰۤاَيُّهَا الَّذِيْنَ اَسْكُنُوْا اَرْضًا فَاْكُلُوْا
مِمَّا رَزَقْنَاكُمْ وَلَا تَتَّبِعُوْا اٰخِطٰوَاتِ الشَّيْطٰنِ
لَهُۥ لَكٰفٌ مِّنْ عَدُوٍّ مُّبِيْنٍ

O mankind ! eat the lawful and good things out of what is in the earth, and do not follow the footsteps of the Shaitan; surely he is your open enemy.” (Surah Al-Baqarah: 168)

Food which are definitely Halal

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- a) Milk (from cows, sheep, camels and goats)
- b) Honey
- c) Fish
- d) Plants which do not contain intoxicants
- e) Fresh or naturally frozen vegetables
- f) Fresh or dried fruits
- g) Legumes (nuts)
- h) Grains (wheat, rice, rye, barley, oats)

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Food Ingredients Sources

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- Animals (Milk, Eggs, Meat, Seafood)
- Plants (Fruits, Vegetables, Spices, Seafood)
- Synthetic (Flavours, Colours, Additives)
- Fermented (Organic acids, Cultures, Enzymes)



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Halal Ingredients

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- Only **ALLAH, the Supreme Law Giver** can ordain what is Halal and what is Haram.
- **Halal food** means food fit for human consumption and permitted by laws of Islam or permissible and lawful.
- The food or its ingredients do not contain any parts or products of animals that are non-Halal or products of animals which are not slaughtered according to Laws of Islam.



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Halal Ingredients

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- **Halal ingredients** must not be Najis
- **Halal ingredients** must safe and not harmful
- **Halal ingredients** are neither prepared, processed or manufactured using Najis equipments nor remained in contact with Najis items.



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Sources of Halal Ingredients

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■ Vegetable ingredients

All Halal except intoxicating

■ Animal derived ingredients

Animals must be of the Halal species

Halal animals slaughtered by sane Muslim

Ensure complete removal of blood from carcass

Humane handling to be practiced

■ Synthetic ingredients: All Halal



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Haram

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Unlawful for Human Consumption,

Other definitions for the word haram are 'Unacceptable' and 'Forbidden'

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Haram Ingredients

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- **Haram Foods** means foods or drinks strictly prohibited by Quran and Sunnah
- Haram foods include those containing:
 - Pork
 - Alcohol
 - Blood
 - Dead animals
 - Animals slaughtered without reciting the name of ALLAH



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Items declared Haram by Sharia



- a. Pork / swine and its by-products
- b. Dog and its by-products
- c. Animals having protruding teeth (i.e. elephants, bears, cats)
- d. Reptiles and insects (i.e. snakes, lizards, worms, lice, flies)
- e. Amphibious animals (i.e. frogs, crocodiles, turtles)
- f. Pests (i.e. scorpions, centipedes, rats)
- g. Animals which Islam forbids to kill (i.e. bees and woodpeckers)
- h. Undesirable birds / birds of prey (i.e. owls, eagles, vultures)
- i. Domesticated donkeys
- j. Bodies of dead Halal animals due to strangulation, blow to the head (clubbing), headlong fall, and natural causes, being gored or attacked by other animals
- k. Halal animals which are not slaughtered according to Islamic rights, or are improperly slaughtered (fish are exempted from the slaughtering process)



Items declared Haram by Sharia

- l. Halal animals slaughtered by a non-Muslim*
- m. Halal animals acquired from betting or gaming activities
- n. Meat that has been cut from live animals (i.e. limbs and tails)
- o. Wine, alcohol, harmful substances, poisonous and intoxicating plants or drinks (i.e. opium, modern narcotics)
- p. Blood and its by-product
- q. Food additives that are not permitted; their ingredients extracted from any of the non-Halal items
- r. All forms of impurities (najs)

Mashbooh

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Doubtful for Human Consumption

It is derived from 'Shubhah' is an Arabic term which means 'doubtful'.

If one does not know the halal or Haram status of a particular food or drink, consuming it must be prevented.

Foods containing ingredients such as gelatin, enzymes, emulsifiers, and flavors are questionable / Doubtful, because the origin of these ingredients is not known.

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Doubtful / Mashbooh Ingredients



Mashbooh is an Arabic term means suspected or doubtful ingredient about which we are not sure of the source

- **Gelatin:** Pork, Beef, Fish
- **Glycerin/glycerol:** Saponification of animal fats
- **Emulsifiers:** Animals
- **Enzymes:** Animal, Microbial, Biotechnological
- **Dairy Ingredients:** whey, cheese
- **Drinks**
- **Animal Protein/Fat**
- **Flavourings and Compound Mixtures**

Najs



'Najs' is defined as things or persons that are regarded as ritually unclean. Contact with najas brings a Muslim into a state of ritual impurity (najasat), which requires the individual to undergo ritual purification before performing religious duties such as prayers .

■ Three Categories:

- **Light** (urine from a male boy below age 2, only on mother's milk diet)
- **Moderate** (waste, intoxicant, fur, milk, etc of forbidden animals, etc)
- **Severe** (pig/swine & dog derivatives)

■ Ritual Cleansing:

- **Light** (washed & dried)
- **Moderate** (wash to remove smell & color then 3 times with clean water)
- **Severe** (wash 6 times with water & 1 time with mixture of clean water & soil)

- *"Truly, God loves those who turn unto Him in repentance and loves those who purify themselves." (Quran 2:222)*



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Islamic Slaughter

Muslims are only allowed to eat meat that has been prepared according to Islamic law.

This method is often challenged by animal rights activists as 'causing unnecessary suffering to the animal'. Muslims disagree and say that Islamic law on killing animals is designed to reduce the pain and distress that the animal suffers.

Islam has strict rules with regards to slaughter.

Is this a cruel way to kill an animal??

Islamic Slaughtering Rules



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- The slaughterer must be a sane adult Muslim.
- The slaughterer must say the name of God before making the cut.
- The name of God is said in order to emphasize the sanctity of life and that the animal is being killed for food with God's consent.
- The animal must be killed by cutting the throat with one continuous motion of a sharp knife.
- The cut must sever at least three of the trachea, esophagus, and the two blood vessels on either side of the throat.
- The spinal cord must not be cut.
- Animals must be well treated before being killed.
- Animals must not see other animals being killed.
- The knife must not be sharpened in the animal's presence.
- The knife blade must be free of blemishes that might tear the wound.
- The animal must not be in an uncomfortable position.
- The animal must be allowed to bleed out and be completely dead before further processing.

PERMISSIBILITY AND IMPERMISSIBILITY IN THE HANAFI SCHOOL



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Fish & Sea Food



1. Animals that have been clearly and explicitly prohibited in the Qur'an or Sunnah are without doubt Haram, such as a swine, donkey, etc.
2. Animals that are born and live in water are all Haram with the exception of fish. All types of fishes are Halal, with the exception of that which dies naturally in the sea without any external cause. However, if a fish was to die due to some external cause such as cold, heat, being thrown to the shore by the water, colliding with a stone, etc, then it would be Halal.

Allah Most High says: **“Forbidden to you (for food) are: dead meat, blood, the flesh of swine.....”**
(Surah al-Ma'idah, V: 53)

Fish & Sea Food...



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In the above verse, Allah Almighty forbade the meat of all dead animals without differentiating between sea-animals and land-animals. Thus, all sea-animals would also be included in this general prohibition. However, fish has been exempted from this general ruling due to the explicit mention of its permissibility by the Messenger of Allah (Allah bless him & give him peace).

Sayyiduna Abd Allah ibn Umar (Allah be pleased with him) narrates that the Messenger of Allah (Allah bless him & give him eternal peace) said: **“Two types of dead meat and two types of blood have been made lawful for our consumption: The two dead meats are: fish and locust, and the two types of blood are: liver and spleen.”**

(Sunan Abu Dawud, Musnad Ahmad and Sunan Ibn Majah)

Moreover, there is no mention in the Sunnah literature that the Messenger of Allah (Allah bless him & give him peace) or his Companions (Allah be pleased with them all) ever consumed the meat of a sea-animal besides the fish, hence if it was permitted, it would have at least been consumed once in order to show its permissibility.

(Dars Tirmidhi, 1/280)

Fish & Sea Food...



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As far as the fish which dies naturally in the sea without an external cause (samak al-tafi) is concerned, Sayyiduna Jabir ibn Abd Allah (Allah be pleased with him) narrates that the Messenger of Allah (PBUH) said:

“What the sea throws up and is left by the tide you may eat, but what dies in the sea and floats you must not eat.”
(Sunan Abu Dawud, no: 3809 & Sunan Ibn Majah)

Sayyiduna Ali (Allah be pleased with him) forbade the selling of naturally dead fish (floating fish) in the markets.
(Bada'i al-Sana'i, 5/36 and al-Ikhtiyar)

In light of the above, all sea-animals are Haram except for fish. It will be permitted to eat a fish even without slaughtering it according to the rules of Shariah. However, a fish that dies naturally without an external cause and begins to float on the surface of the water (Samak al-Tafi) is also considered Haram.

Land Animals (No Blood)



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Amongst the land-animals, those that have no blood in them are considered Haram, such as a hornet, fly, spider, beetle, scorpion, ant, etc.

Allah Most High says:

“...for he (the Prophet) commands them what is just and forbids them what is evil; he allows them as lawful what is good (and pure) and prohibits them from what is bad (and impure)...”

(Surah al-A'raf, V: 157)

Thus, animals that don't contain blood such as spiders and others are considered to be from “what is impure” because a sound natured person would detest their consumption.

Land Animals (No Blood)..



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The only exception is that of a locust, for the Messenger of Allah (Allah bless him & give him peace) clearly permitted its consumption, in the Hadith of Sunan Abu Dawud and Musnad Ahmad quoted earlier.

Similarly, Ibn Abi Awfa (Allah be pleased with him) was asked concerning the consuming of a locust and he said:

“I fought with the Messenger of Allah (Allah bless him & give him peace) in six or seven battles, and we used to eat it (locust) with him. “

(Sunan Abu Dawud, no: 3806)

Land Animals (Have blood but not flowing)



Land-animals who have blood in them but the blood does not flow, in other words animals that do not have flowing blood, are also considered Haram, such as a;

- snake,
- lizard,
- chameleon, etc.

Land Animals (Have Flowing Blood)



Land-animals who have flowing blood in them and they survive on grass and leaves, and do not prey on other animals (i.e. non-predatory terrestrial animals) are all considered Halal, such as a camel, cow, goat, buffalo, sheep, deer, etc,

There is a slight difference of opinion within the Hanafi School with regards to the consumption of horse-meat.

Also, a donkey is exempted from this general ruling, in that its meat is considered Haram for consumption.

“And cattle (an’am), He has created for you, from them you derive warmth, and numerous benefits, and of their (meat) you eat.”

(Surah al-Nahl, V: 5)

“It is Allah Who made cattle for you, that you may use some for riding and some for food.”

(Surah al-Mu’min, V: 79)

In the above two verses, Allah Most High uses the term “al-An’am” (cattle) which refers to non-predatory animals, according to the unanimous agreement of all the linguistics.

Land Animals (Have Flowing Blood)



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Horse

As far as the consumption of horse-meat is concerned, Imam Abu Hanifa (Allah have mercy on him) considers it somewhat disliked (makruh tanzihan) due to its honour and due to the fact that a horse is needed in Jihad. Imam

Abu Yusuf and Imam Muhammad (Allah have mercy on them both) consider it Halal, and it is said that Imam Abu Hanifa also retreated to this opinion. Thus, it would be permitted to consume horse-meat, although better to avoid.

Land Animals (Have Flowing Blood)

Donkey & Mule

“And (He has created) horses, mules, and donkeys, for you to ride and use for show; and He has created (other) things of which you have no knowledge.”

(Surah al-Nahl, V: 8)

So, in regards to all other non-predatory animals, Allah Almighty mentions that He has created them for consumption (as we have seen in the verses mention earlier). However, with regards to donkeys and mules, He mentions that they are for riding and adornment (zeenah). Had consumption of these animals been Halal, Allah Almighty would surely have mentioned it.

Moreover, Sayyiduna Abd Allah ibn Umar (Allah be pleased with him) narrates that the Messenger of Allah (Allah bless him & give him peace) **forbade the meat of donkeys on the day of the battle of Khaybar.**” (Sahih al-Bukhari, no: 5202)

If one parent of an animal is Halal and the other Haram, consideration will be taken of the mother. Thus, if the mother is a Halal animal, the offspring would also be Halal, such as a mule whose mother is a Horse. If however, the mother is a Haram animal, the offspring would also be Haram, such as a Hinny whose mother is a donkey.



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Land Animals (Have Flowing Blood)



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Pests

All types of pests (hasharat al-Ardh) are also considered Haram, such as a mouse, hedgehog, jerboa, etc.

The reasoning behind the prohibition of these animals is the same verse of Surah al-A'raf quoted above, in that they are considered impure (khabith) for consumption.

Land Animals (Have Flowing Blood)

Predatory animals and beasts

All terrestrial predatory animals and beasts, i.e. animals that hunt with their teeth, are considered Haram, such as lion, cheetah, tiger, leopard, wolf, fox, dog, cat, etc

Prohibited the eating of all fanged beasts of prey, and all the birds having talons.”

(Sahih Muslim, no: 1934)

Land Animals (Have Flowing Blood)



Birds

All birds of prey, i.e. those that hunt with their claws/talons, are considered Haram, such as falcon, eagle, kite, hawk, bat, etc.

Birds who do not hunt with their claws and do not prey on other animals, rather they merely eat grains and crop, are all considered Halal, such as a chicken, duck, pigeon, dove, sparrow, crow, etc.

Sayyiduna Abu Musa al-Ash'ari (Allah be pleased with him) says:

“I saw the Messenger of Allah (Allah bless him & give him peace) consuming (the meat of) chicken.”

(Sahih al-Bukhari, no: 5198)

Halal Animal

Consumes Impure Things

If a Halal animal only consumes impure things to the extent that it creates bad odour in its meat and milk, then it will be Makruh to consume its meat and drink its milk. However, if it consumes other things along with the impure, or if it does not create bad smell in its meat and milk, then the meat and milk will be totally Halal. (Radd al-Muhtar, 6/340)

It is stated in al-Fatwa al-Hindiya:

“A chicken will only be considered a jallalah (hence makruh) if the majority of what it eats is impure, and that it penetrates into the meat in such a way that it creates a bad smell.” (See: al-fatawa al-Hindiyya, 5/289)



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HALAL MANAGEMENT SYSTEM



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10 Halal Management Principles

1. Establish the Halal Team
2. Define the product / nature of business
3. Construct and verify the flow diagram
4. Identify Halal threats and their control measures
5. Determine Halal CCPs (Critical Control Points), their allowable limits and prescribed practices.
6. Establish Monitoring system for each CCP
7. Establish Corrective Action for each CCP
8. Establish Documentation & Record keeping system (If QMS not established & Implemented already)
9. Verify the Halal System
10. Review / Audit the Halal System for continual improvement after defined intervals.



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Food Processing

- Set of methods and techniques used to transform raw ingredients into food or to transform food into other forms for consumption by humans or animals either in the home or by the food industry.



Hazards

What is a hazard?

**'A hazard is anything with the potential to cause harm'
Present in raw materials or introduced in production**

(Micro) biological (CMS)

Foodborne illness

e.g. E. coli



Physical (C)

Cuts to mouth, choking,
broken teeth, internal injury, burning
e.g. glass, nails/bolts, string, jewellery

Chemical (C)

Food poisoning, chronic illness

e.g. cleaning chemicals, pesticides
weedkillers, additives, poisonous foods

Non-Halal (C)

**All non-Halal items or practices
explained in Sharia**

Key: C = Contamination M = Multiplication S = Survival

Microbiological hazards (contamination) and control measures



What is contamination?

The presence or introduction of a hazard



What is cross-contamination?

The transfer of bacteria from contaminated food (usually raw) to ready-to-eat foods by direct contact, drip, or indirect contact using a vehicle such as the hands or a cloth



What are control measures for contamination?

- Approved supplier
- Effective instruction, supervision and training
- Well-designed premises /equipment
- Correct cleaning and disinfection
- Keep raw and ready-to-eat foods apart
- High standards of hygiene esp. personal hygiene
- Prevent pest infestations
- Care with waste disposal.



What microbiological hazards are there?

Bacteria

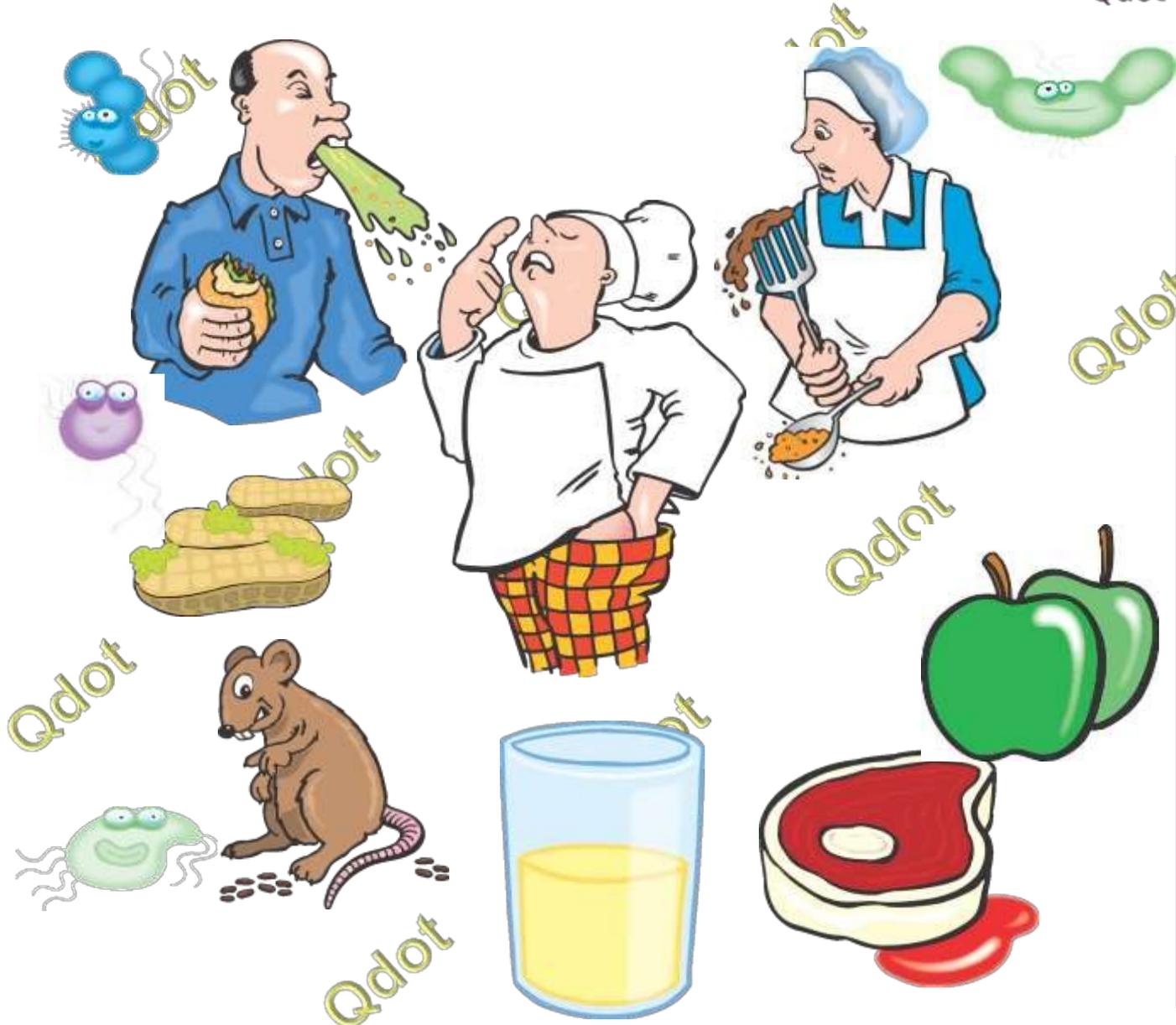
Viruses

Protozoa

Moulds

Parasites

Algae.



Microbiological hazards (multiplication)

**Multiplication/toxin production/survival
spore germination**

What factors affect the multiplication of bacteria?

Temperature

Time

pH

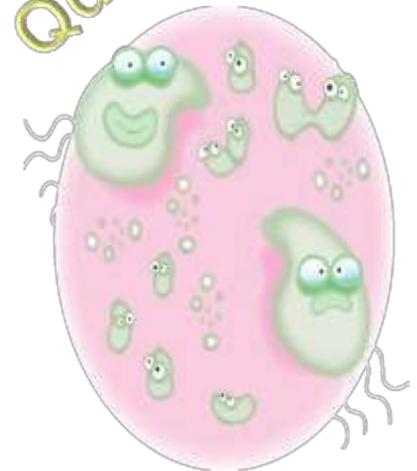
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Oxygen

Nutrients

Size/shape/weight

Preservatives.



What are the sources of chemical hazards?



Present in raw materials

- Pesticides/herbicides/fungicides/ fertilizers (vegetables)
- Metals (fish and vegetables)
- Antibiotics/hormones (meat)
- Natural toxins
- Industrial chemicals



Contamination during preparation

- Fumes
- Cleaning chemicals
- Pesticides
- Metals
- Excess additives
- Migration from packaging.



Define the terms

Which hazards?

- Microbiological
- Physical
- Chemical
- **Non-Halal**

Decide on scope:

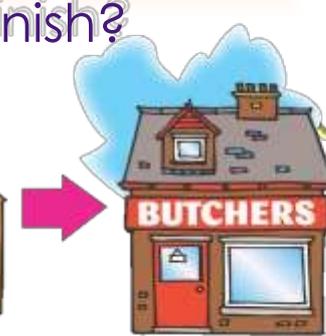
- Which operation or process?
- Which products?
- Which steps including start and finish?



Farm



Slaughterhouse



Butchers



Café.



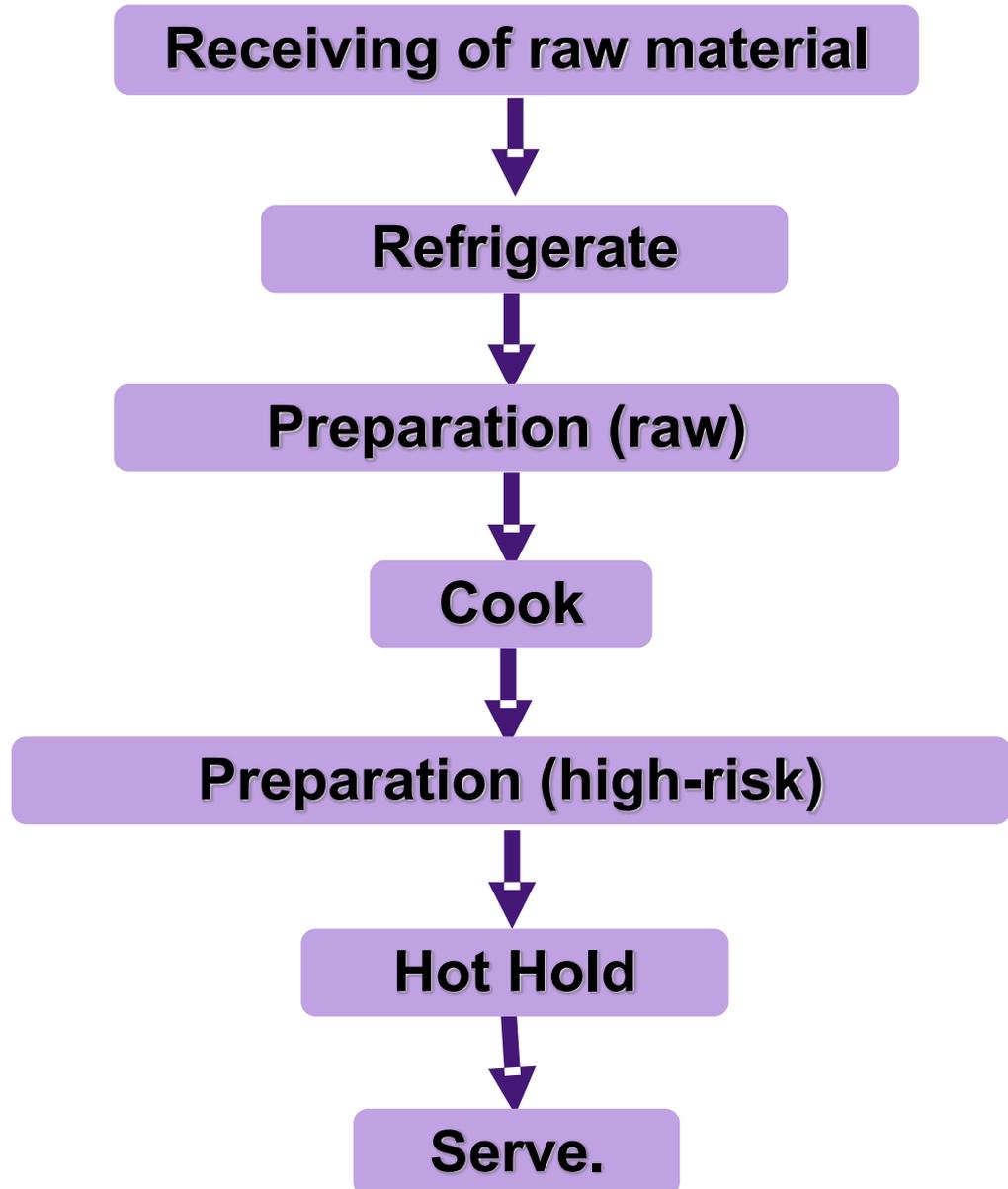
What is a Halal flow diagram?

A systematic representation of the sequence of steps or operations involved with a particular food item or process, usually from receipt of raw material to end user



On-site validation of the process flow diagram - is it right for every occasion?.

Linear Flow



Halal control chart



Process Step	Hazards	Control Measures	CCP Y/N/P	Critical Limit	Monitoring (include frequency and person responsible)	Corrective Action & Responsibility

What is hazard analysis?



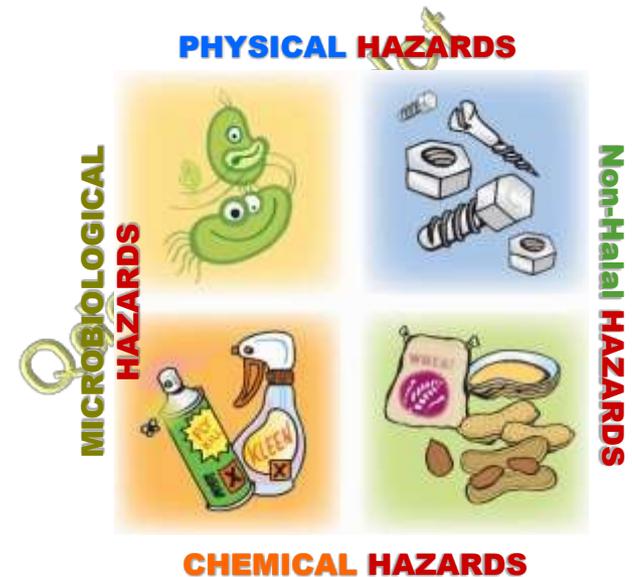
‘Evaluating information on hazards and conditions leading to their presence to decide those which are significant to food safety. Analysis of a food process to determine where, if things go wrong, the food products made may be harmful’

Consider:

- Contamination, multiplication and survival (toxins/spores) at each step

■ Raw ingredients

- Characteristics/composition
- Processing/preparation
- Microbiology
- Premises/equipment design
- Packaging
- Distribution
- Intended use/consumer.



Deciding which hazards are significant



What is 'risk'?

The likelihood that a hazard will occur

What is 'risk assessment'?

The process of identifying hazards, assessing likelihood of occurrence and severity, and evaluating their significance

- Complaint history/experience
- Epidemiological information

What is 'severity'?

The magnitude of the hazard or the seriousness of the possible consequences

- Seriousness of symptoms (acute/chronic)
- Mortality/morbidity rate
- Vulnerable groups.



Scientific information required



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Potential hazards/risks?

Processing/cooking temperature/times to destroy any microbiological hazards

Cooling times

Preservative concentrations

pH and a_w

Post-process contamination/multiplication risk

Risk from packaging

Risk during distribution

Shelf life.



Risk assessment matrix

RISK High > Med > Low	High Risk (1,000) Low Severity (10) RxS = 10,000 Bone in fish	High Risk (1,000) Med Severity (100) RxS = 100,000 CCP Salmonella in under cooked chicken	High Risk (1,000) High Severity (1,000) RxS = 1,000,000 CCP E. coli O157 in under cooked beef burger.
	Med. Risk (100) Low Severity (10) RxS = 1,000 Stone in Jam	Med. Risk (100) Med. Severity (100) RxS = 10,000 Mouse in product	Med Risk (100) High Severity (1,000) RxS = 100,000 CCP Botulism in low-acid food
	Low Risk (10) Low Severity (10) RxS = 100 Cardboard in cooked chicken meal	Low Risk (10) Med. Severity (100) RxS = 1,000 Pin in cooked chicken	Low Risk (10) High Severity (1,000) RxS = 10,000 Razor blade in loaf of bread
	Low >	SEVERITY >	High

‘Used to assess significant hazards or to ensure Critical Control Points are critical’

Control Measures



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What are control measures?

‘Actions required to prevent or eliminate a food safety hazard or Halal hazard or reduce it to an acceptable level’



Controls can be applied to:

Temperature

Time

pH

a_w

Size/shape/weight

Additives

Appearance/
texture/colour.



What are the hazards being controlled by these generic controls?

Contamination

Approved suppliers
(prerequisite)

Contamination

Multiplication

Survival

Staff vigilance and training
(prerequisite)

Contamination

Survival

Cleaning and disinfection
(prerequisite)

Multiplication

Stock rotation
(prerequisite)

Contamination

Colour coding
(prerequisite)

Contamination

Multiplication

Survival

Effective maintenance
(prerequisite)



What are the hazards being controlled by these generic controls?



Contamination

Segregation of raw and ready-to-eat foods (Prerequisite)



Multiplication

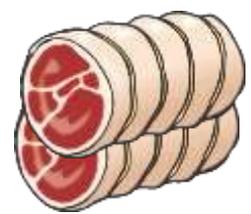
Salt/sugar/acid/adjust pH/keep dry



pH

Multiplication

Size, weight and shape of joint/ time management/storage temperature



Survival.

Cooking/processing



Critical Control Points



Qdot

What is a Critical Control Point?

Critical Control Point

A step in a process at which control can be applied and is essential to prevent or eliminate a food safety or Halal hazard, or reduce it to an acceptable level

A Decision Tree may be used to identify Critical Control Points in the HALAL study. It is a series of questions to determine if a step is a CCP

Identification of CCPs

Knowledge of team members

Scientific information

Trade information

Decision tree

Based on risk, severity and existence of control measures

Codex – minimize numbers of CCPs.



Simplified Decision Tree

If I lose control is it likely that food poisoning/injury/harm will result?

No

Control Point
(good hygiene practice)

Yes

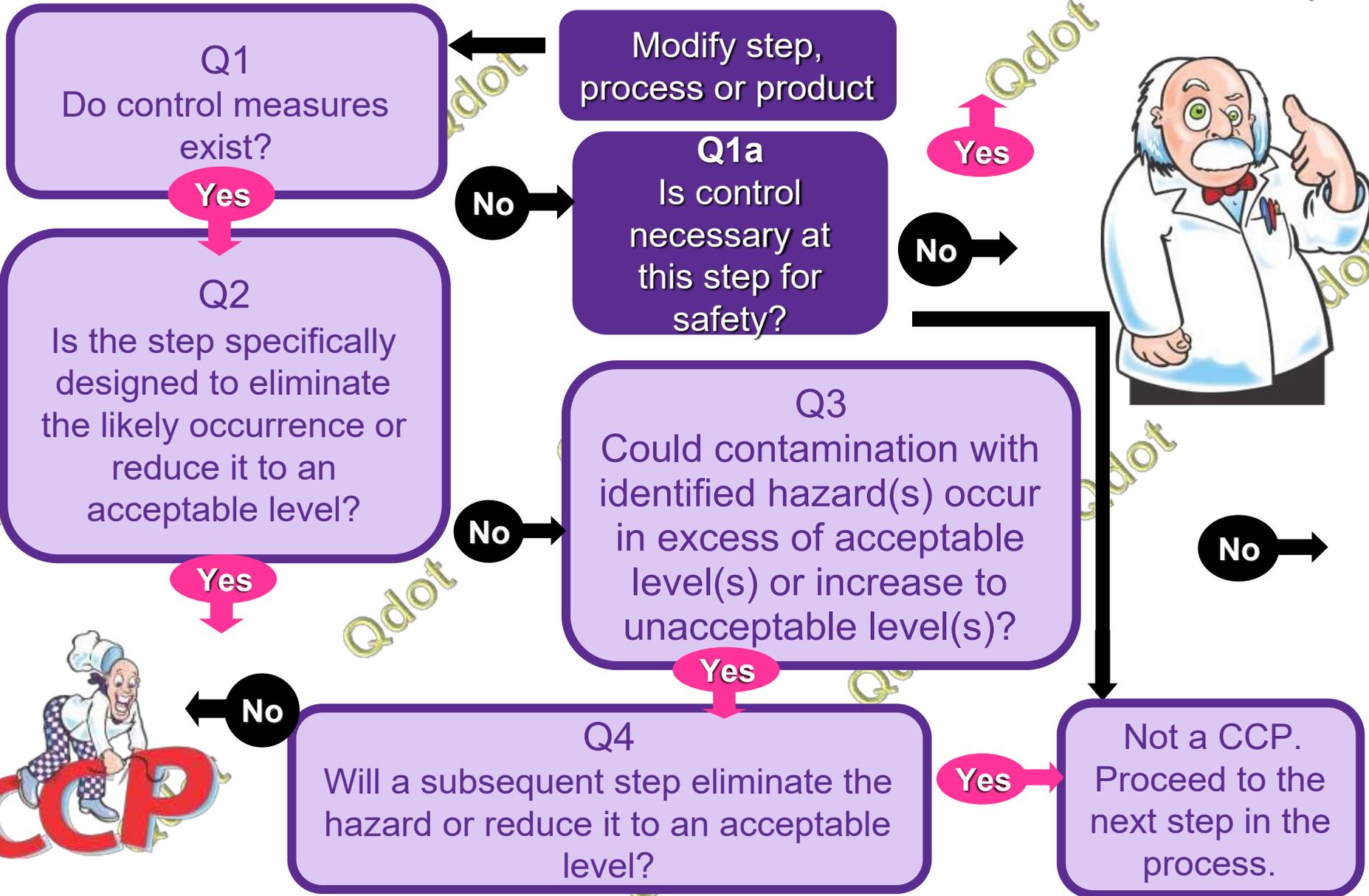
Will a subsequent step eliminate the hazard or reduce it to an acceptable level?

No

CCP
Critical Control Point.



CCP Decision Tree (Codex)



What are critical limits & deviations?



8°C

63°C

Critical limit

The value of a monitored action which separates the acceptable from the unacceptable

-15°C

75°C

Deviation

Failure to meet a critical limit.

What are target levels and tolerances?

5°C

Target level

Control criterion that is more stringent than the critical limit, and which can be used to reduce the risk of a deviation

65°C

-18°C

78°C

Tolerance

The specified degree of latitude for a control measure which, if exceeded, requires immediate corrective action

2°C

3°C

Establishing critical limits

Criteria used.

Critical limit



	Critical limit	Target	Tolerance	Action Level
Refrigerator	8°C	5°C	3°C	7°C
Cooking temperature	75°C	78°C	3°C	76°C

Variables
(thermometer $\pm 1^\circ\text{C}$)

Refrigerator

Cooking Temperature

Critical Limit

Target

7°C

4°C

76°C

79°C.



What does 'monitoring of controls' mean?



Monitoring
'Planned observations and measurements of control parameters to confirm the process is under control and critical limits are not exceeded'

Required to:

- Confirm CCP under control
- Ensure target levels not breached
- Identify deviations
- Provide records
 - Verification
 - Complaints
 - Due diligence

Permit rapid detection and correction

Manual, automatic, continuous, set of frequencies.

Methods of monitoring



Organoleptic
(senses)



Visual inspections
(of premises,
vehicles or practices)



Checking controls/
records



Checking competency



Observation/
supervision



Measuring
(temperature/weight/
volume/time).



Monitoring systems

Monitoring systems should state:

What

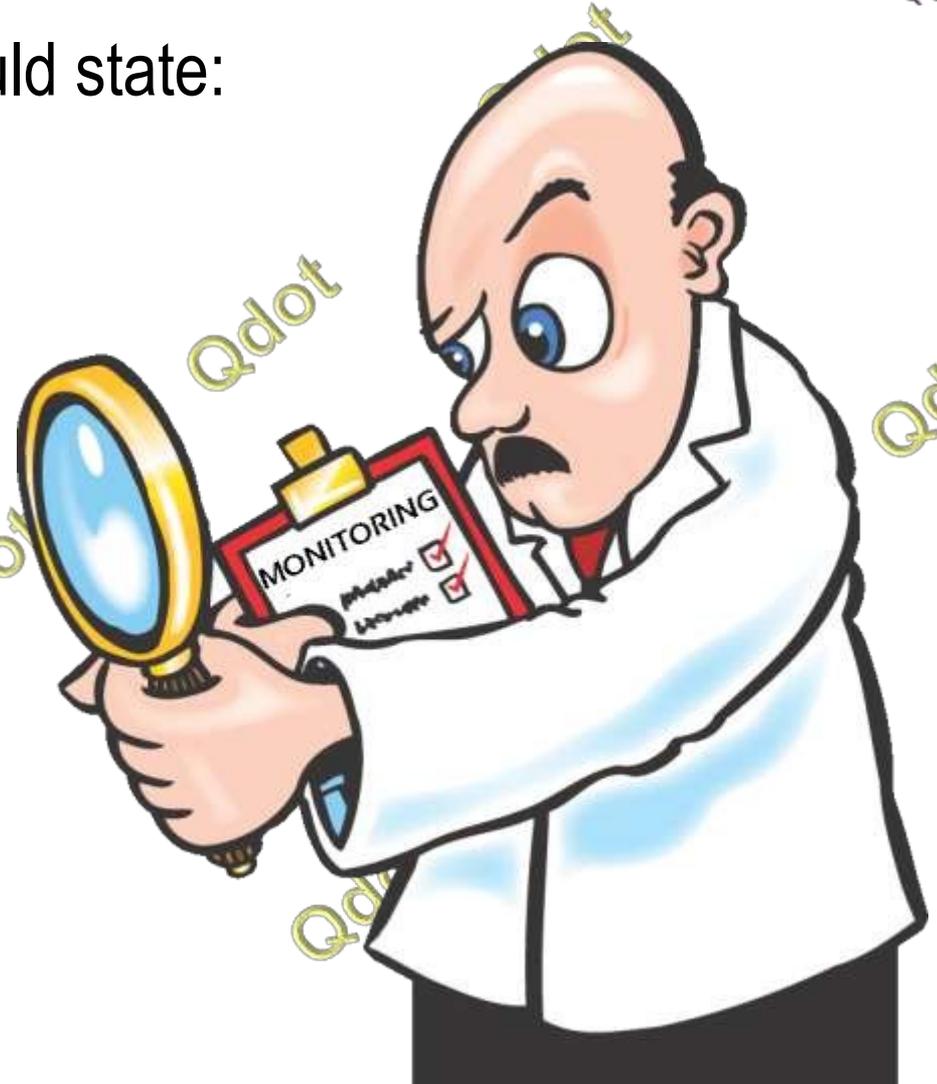
How

Where

Who

When

Microbiological testing.



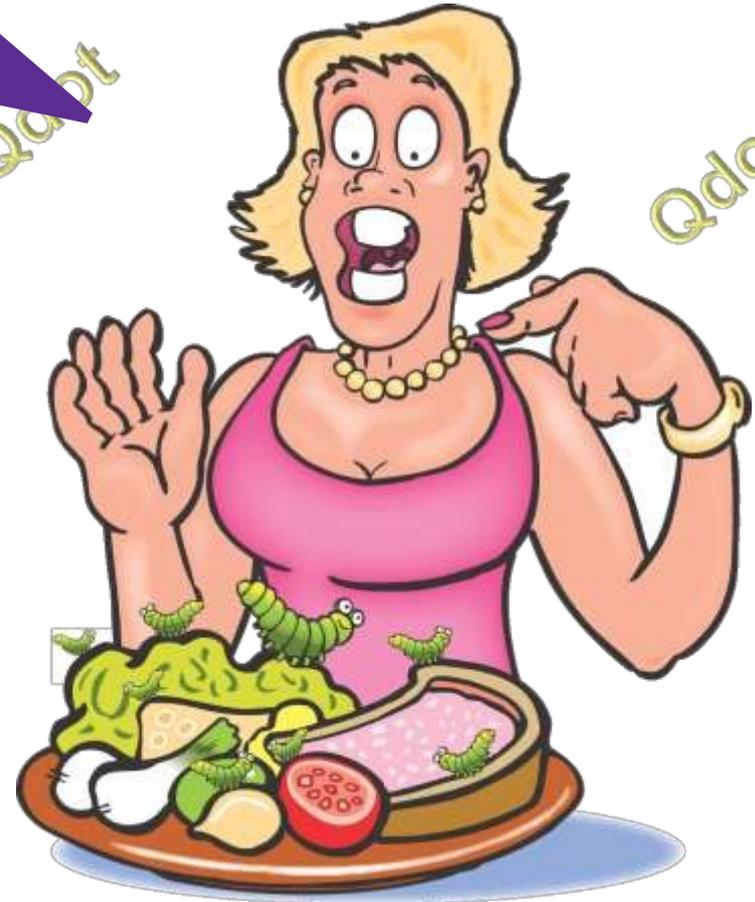
What is corrective action?



Corrective action

The action to be taken when a critical limit is breached. Remedial action should be taken before a critical limit is breached

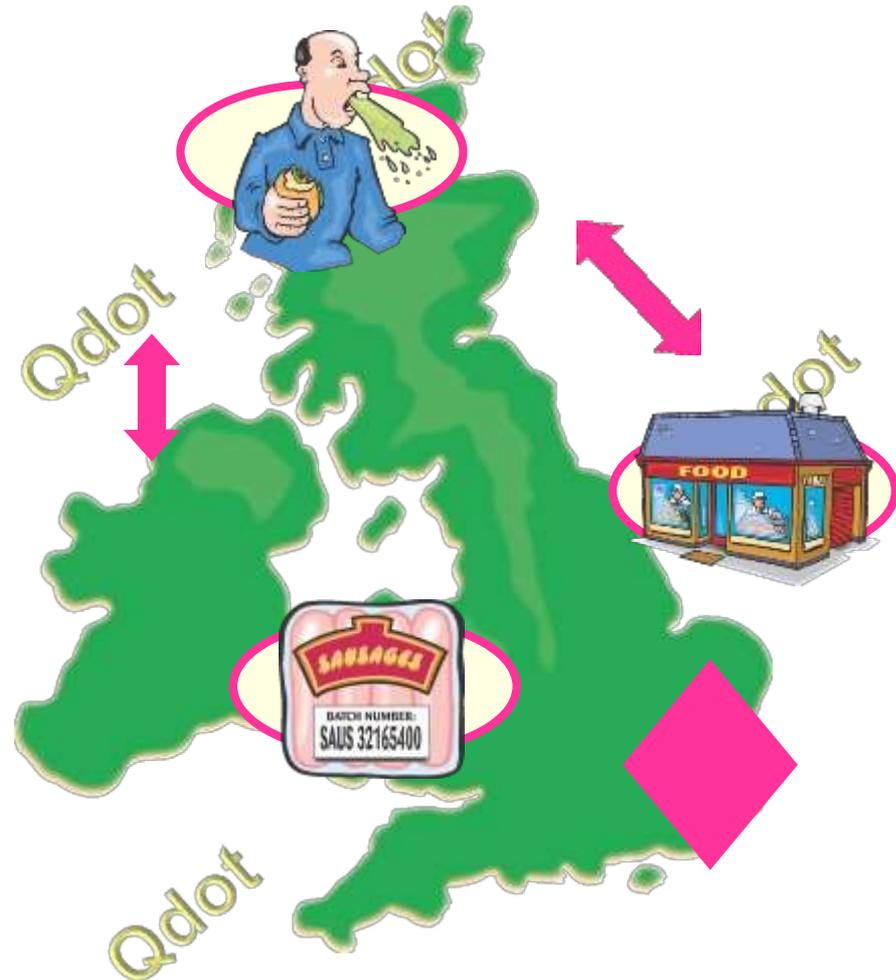
Corrective action should bring the CCP under control and deal with any affected product.



Traceability and recall

All products clearly labelled and traceable

Clear identification of batches/specific ingredients



What are validation and verification?

Validation

Obtaining evidence that elements of the HALAL plan are effective, especially the critical control points and critical limits

Verification

The methods, procedures, tests and other evaluations, in addition to monitoring, to establish if the HALAL system is functioning as planned, i.e. in compliance with the HALAL plan

Review

A reassessment of the HALAL system to ensure its continued validity.



Verification/validation techniques

- Audit against the HALAL plan (in-house/third party)
- Enforcement audits
- CCPs under control
- Data and complaint analysis
- Microbiological/chemical testing
- Challenge testing
- Re-examine scientific data
- Research/awareness of new technology/science/epidemiology



*A HALAL Audit is an independent examination to determine if the system complies with the HALAL plan.

Validation questions against the HALAL plan

The process flow diagram:

- Is it accurate?
- Does it contain sufficient detail?
- Has it been validated?
- Is it an accurate representation of the process at all times?
- Has rework been included?

Hazard analysis:

- Have all the significant hazards been included – not just the obvious?
- Have irrelevant hazards been included?
- What expertise was utilized at the hazard analysis stage?
- HALAL control chart:
 - Does the plan contain sufficient detail?
 - Have they identified the right CCPs?

Failure in implementing HALAL Management System

- Poor hygiene practices (prerequisites)
- Lack of management commitment
- Externally imposed
- Lack of resources
- Too complex – not understood
- Lack of knowledge/training
- Poor records/too much paperwork
- System sits in manager's office
- Too many critical control points
- Unreliable critical limits.



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