

Halāl Salami

Subjects: **Food Science & Technology**

Contributor: Maria Martuscelli , Annalisa Serio , Oriana Capezio , Dino Mastrocola

The quality assessment and authentication of halāl products are issues raising a growing interest in European Community Countries (France, Sweden, Germany, Greece, Spain, Italy), in Switzerland, in Russia and other countries in the world (Asia, the UK, South and North America). Considering that top producers of halāl products (including meat) are countries where Muslims are a minority, future research should take into consideration halāl standards, immigration and integration of qualified Muslim workers.

halal meat products

dry fermented sausages

quality

safety

authenticity

The review derives from an in-depth study concerning the different disciplines, starting from the importance of a regulatory system for market controls of halal certified dry-meat products, dealing with food safety, and quality issues, without neglecting to focus the attention on the halal assurance and traceability systems and halāl authenticity analysis methods.

Often the reasons for religious prescriptions for food are dictated by practical principles . This is the case of the sacred cow for Hinduism, or the prohibition of pork for the Middle East, shared by Muslims and Jews. For the faithful Hindu, the cow represents the incarnation of many gods, thus slaughter and consumption is prohibited both by religious precepts and by laws of the Indian state. The pig ban could be motivated by a demographic increase in the regions of the Middle East, thus creating unfavourable conditions for its breeding. This is linked to the anatomy of the animal that, being a monogastric species and therefore not being able to metabolize cellulose and its derivatives, its diet has to include foods common to the human diet (therefore subtracting them from human food). Another motivation supporting this food limit is that pigs are unable to provide milk, wool or workforce (contrary to ruminants), and large quantity of water, generally scarce in the warm countries, are necessary for its growth.

Dietary prescriptions characterize the Islamic culture. On the basis of precise indications provided by the Koran, to which is added the teaching of the Prophet, the Koranic law has laid down detailed food standards that all the believers must observe. In the Cow Sura of the Koran, it is written: [172] 'O you who have believed, eat from the good things which We have provided for you and be grateful to Allah if it is [indeed] Him that you worship. [173] 'He has only forbidden to you dead animals, blood, the flesh of swine, and that which has been dedicated to other than Allah. But whoever is forced [by necessity], neither desiring [it] nor transgressing [its limit], there is no sin upon him. Indeed, Allah is Forgiving and Merciful'. (Koran: 2, 172-173). The Sura of the Table (Koran: 5, 3-5) also contains detailed information regarding what is lawful and what is not. For the Koran, it is therefore lawful to eat the meat of animals but only by hunting and killing them "only for sustenance and praying". In particular, it is forbidden to eat meat of pork/pig, animals died of natural causes, donkeys and mules or animals equipped with carnivorous canines (all species of cats, dogs, wolves, foxes, i.e. to which are assimilated the elephants as well), birds of prey or pets.

Prescriptions on slaughtering animals according to the Islamic ritual are part of the broader framework of the food prescriptions for Muslim people. For ḥalāl meat products, the raw materials must be obtained from animal killed/butchered according to a certain ritual. First of all, the killing must be done in the name of God, saying *bismi 'Llah, Allah akbar* (In the name of God, God is the greater); different animal species must be hit in specific parts of the neck in order to ensure a quick death and to avoid unnecessary suffering. The law recognizes as legitimate the slaughter done by Jews and Christians but, in fact, it cannot accept modern methods of slaughtering done by Western countries. On the day of sacrifice, '*id al-adha*, (considered as one of the biggest holidays of the Muslim calendar, and celebrated during the month of pilgrimage) each Muslim, who can afford it, is required to purchase alive animals to sacrifice (one sheep for individual, or a camel to ten people) in the name of God. In countries where the prescriptions of Koran are not automatically respected, it relies on the Islamic authorities to recognize or not the legality of the foods.

Research on halal foods are mainly written by scientists from Muslim countries (e.g. Malaysia, Saudi Arabia, etc.), while intention of this article was to focus on the European Union, where Muslims are even more present in countries where other religions are professed. Furthermore, for European small and medium-sized enterprises, the halal market is considered as a new opportunity to enlarge the sales potential so, for this purpose, in addition to market research it is essential to investigate technological aspects that guarantee quality and authenticity at the same time.

For halal meat products, such as halal salami, processing determines various critical issues as concerns the product quality, safety and the sensory characteristics also related to the compliance with halal provisions. For these reasons, we have collected, examined and reported an extensive range of relevant references, providing starting points that could be deepen in the detailed manuscripts.

In our review, we wanted to highlight the fields where is necessary to address both the scientific research (e.g. comparison between halal and not halal analogous products, need to determine the slaughtering method in the final meat products, and so on) and the industrial research of the processing plants (e.g. focus on technological issues, suitability of ingredients, product quality, compliance to European regulations and halal prescriptions, etc.).

The authenticity of meat products is an issue of great importance for researchers; in fact, frauds regarding meat products are among the most frequent in the food sector, as it was also reported in the presentation by Franz Ulberth (European Commission, Belgium) during the 2nd Food Chemistry Conference, in Seville (2020). The concepts of quality and authenticity for halal foods of animal origin, are defined, more than in any other food, starting from the current legislation as well as from ethical, religious and socio-cultural considerations.

A particular attention was given to the most recent studies carried out on the certification system and on the analytical methods carried out to solve problems such as fraud and adulteration of ḥalāl salami and other halal meat-based foods.