



Meat from cattle slaughtered without stunning sold in the conventional market without appropriate labelling: A case study in Italy

Priscilla D'amico^{a,1}, Nicolò Vitelli^{a,1}, Beniamino Cenci Goga^b, Daniele Nucera^c,
Francesca Pedonese^a, Alessandra Guidi^a, Andrea Armani^{a,*}

^a Department of Veterinary Sciences, University of Pisa, Viale delle Piagge 2, 56124 Pisa, Italy

^b Department of Veterinary Medicine, University of Perugia, Via San Costanzo, 4, 06126 Perugia, Italy

^c Department of Agriculture, Forest and Food Science, University of Turin, Largo Braccini 2, 10095, Grugliasco, Torino, Italy

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ABSTRACT

In the European Union, slaughter without stunning is allowed for religious slaughter to obtain halal and kosher meat. Especially in the case of Jewish slaughtering, cuts which are not deemed as kosher are sold to regular market without any specific labelling. This survey, conducted in Tuscany in 2016, aimed to quantify the carcasses rejected in relation to the type of religious slaughter. 656 bovines were slaughtered without stunning: 538 (82%) for halal and 118 (18%) for kosher. All carcasses slaughtered by the Islamic procedure (dhabiha) were considered halal, while 77.1% of carcasses slaughtered by the Jewish procedure (shechita) did not pass the approval. Carcasses were rejected after chest cavity inspection (50%) and after the lungs control (50%). This study provides an important insight in this field and postulates how to amalgamate the concepts of freedom of religion, as enshrined by the Charter of Fundamental Rights of the EU, with consumer rights and animal welfare.

1. Introduction

As concerns animal slaughter at the European level, Article 4 Paragraph 1 of [Council Regulation \(EC\) No 1099/2009](#) on the protection of animals at the time of killing requires that, prior to slaughter, animals must be rendered unconscious through the application of a stunning method. Stunning is usually applied through electrical, mechanical or gaseous means (approved by [Council Regulation \(EC\) No 1099/2009](#)) and causes immediate loss of consciousness, making animals insensible to pain until death supervenes through exsanguination. However, Par. 4 of the same Article allows slaughter without stunning for particular religious rites, provided that they take place in a licensed slaughterhouse ([Regulation \(EC\) No 1099/2009](#)). This derogation is designed to respect freedom of religion and the right to manifest religion or belief in worship, teaching, practice and observance, as enshrined in Article 10 of the Charter of Fundamental Rights of the European Union (EU) ([European Commission, 2017](#)).

There are many ritual slaughter methods around the world but Islamic and Jewish are the most commercially relevant. Religious slaughter is performed by Muslims and Jewish in order to obtain halal and kosher foods, respectively. According to dietary precepts of these religions, animals that are not conscious, healthy and whole at the time

of killing are not eligible for the consumption of worshippers ([Downing, 2015](#)). Accordingly, both these communities interpret the stunning of animals as not compliant with their religious dietary precepts. However, it should be pointed out that some Muslim authorities and meat certifiers accept certain pre-slaughter stunning methods provided they are reversible that is, animals are able to make full recovery after stunning if neck incision is not performed ([Needham, 2012](#)). According to recent data from the EU Dialrel project, in the EU, about 65% of cattle abattoirs, 50% of small ruminants abattoirs and 50% of poultry abattoirs carry out pre-slaughter stunning and, on average, 84% of cattle, 81% of small ruminants and 88% of poultry are stunned before or after neck cut ([Needham, 2012](#); [Velarde et al., 2014](#)). The global volume and value of trade in halal and kosher meat is vast and it has been increasing especially after the rise of Islamic communities around the world ([Lada, Harvey Tanakinjal, & Amin, 2009](#)). The global and European market for halal food is estimated to be worth around 547 and 77 billion dollars a year respectively ([Lever, & Puig della Bellacasa, M., Miele, M., & Higgin, M., 2010](#)). It should be stated, however, that halal and kosher products are not consumed just for religious reasons. According to the UK Halal Food Authority, while Muslims account for around 3% of the UK population, halal meat makes up about 25% of the domestic meat market ([Lever & Puig de la Bellacasa, 2010](#)). In addition,

* Corresponding author.

E-mail address: andrea.armani@unipi.it (A. Armani).

¹ These authors have equally contributed to this work.

a 2009 survey showed that in the United States only a low percentage (14%) of consumers purchased kosher food following Jewish precepts. Most of them claimed to prefer kosher products for reasons related to food quality and safety (Mintel, 2009).

Dhabihah and Shechita have apparently a similar procedure (slaughter without stunning) but differ in some aspects (Bozzo et al., 2017; Farouk et al., 2014). In both procedures, operators who actually carry out the slaughter must be authorized by their respective religious authority (Farouk et al., 2014; Velarde et al., 2014). The Jewish slaughterer, named Shochet, in order to be licensed must be a practicing worshipper and have attended a specific training course on ritual slaughtering. For Muslim procedures, slaughtering must be done by a sane (mentally competent) adult Muslim (Pozzi, Geraisy, Barakeh, & Azaran, 2015). At European level, religious slaughterers must be authorized by the competent local authority that attests their ability and experience and issues them a license (Ferrari & Bottoni, 2010).

Aside from the peculiarities concerning the operator, dhabihah does not ask for other particular requirements for its execution: there aren't parts of the animal to be considered forbidden, except blood, and a *post mortem* inspection is not required (Anil, 2012; Farouk et al., 2014). On the contrary, shechita is characterized by several and specific dispositions (Bozzo et al., 2017). In particular, the cut of the throat is a very important procedure and the shochet has to avoid the occurrence of one of the “five forbidden techniques” (Table 1) that disqualify a kosher cut and renders animals not-kosher and unsuitable (treif) (Hayes et al., 2015; Pozzi et al., 2015; Rosen, 2004).

After slaughter, the shochet carries out *post-mortem* inspection (bedikah) of the carcasses to detect alterations, especially of the rib cage (pleura), lungs and liver (Bozzo et al., 2017; Farouk et al., 2014; Hayes et al., 2015). During the bedikah, the shochet blows the lungs with air (this only applies to mammals). If signs of disease are found, the animal cannot be considered suitable for consumption (Bozzo et al., 2017; Hayes et al., 2015). Depending on the lesions found in the lungs and liver, the carcasses can be classified as chalakh or glatt (top-quality), kosher (medium-quality) or treif (unsuitable) (Bozzo et al., 2017).

After a kosher animal is properly slaughtered and inspected, it still cannot be consumed until certain large blood vessels, the chelev (a forbidden fat known as ‘Tallow’ or ‘Suet’) (Leviticus 7:25) and the gid hanashe (the sciatic nerve) are removed from the carcass (Gurtman, 2005). The removal of these parts is called nikkur (tunnelling or de-veining in English) and the operator that performs it menakker (porger) (Farouk et al., 2014; Bozzo et al., 2017). Nikkur in the forequarters is significantly easy; the operator has just to remove the blood vessels because the front half of the animal has a low chelev content and does not contain the sciatic nerve (Blech, 2009; Lytton, 2013). On the contrary, nikkur in the hindquarters is very complicated and it requires highly trained operators (Anil, 2012; Blech, 2009; Lytton, 2013). While in Israel nikkur in hindquarters is a routinely practice, it is uncommon and limited in countries abroad (Anil, 2012). This is because skilled operators are difficult to find outside of Israeli borders and the removal

process is time consuming and not very cost-effective (Anil, 2012). Therefore, Jewish communities outside of Israeli borders prefer to directly avoid hindquarters, which are systematically rejected by the shochet, even those from carcasses deemed kosher at the end of the shechita (Anil, 2012; Blech, 2009; Lytton, 2013). All carcasses rejected by the shochet as well as all hindquarters are usually sold to non-kosher markets, giving rise to a series of commercial and ethical disputes (DG SANTE, 2015; Havinga, 2010; Lever, & Puig della Bellacasa, M., Miele, M., & Higgin, M., 2010; Needham, 2012). Concerns have emerged because such meats are marketed on regular commercial channels without being properly labelled as coming from animals slaughtered without stunning (DG SANTE, 2015). Therefore, unwitting consumers may purchase them (Havinga, 2010; Lever, & Puig della Bellacasa, M., Miele, M., & Higgin, M., 2010; Needham, 2012). In recent years, the attention of EU consumers towards animal welfare has significantly increased and consumers do not only ask for safe and quality foods but also that they come from animals ethically farmed and slaughtered (Salamano et al., 2013). Therefore, the lack of information on the use (or not) of a stunning method might adversely affect informed purchasing decisions of consumers.

According to the most recent data, at European level, about 2.1 million cattle (8.5% of the total cattle slaughtered in EU) are slaughtered without stunning annually; however, figures vary according to the local consistency of Jewish and Muslim population (Needham, 2012). Currently, it is estimated that 19 million (3.8% of the EU population) and 1.4 million (0.2%) of Muslims and Jews respectively live in EU (Lipka, 2015; Lugo & Cooperman, 2011). In France, which is considered to have the largest Muslim community in EU, about 40% of calves, 25% of cattle and 54% of ovine are slaughtered without stunning each year (Needham, 2012). In Italy, considering that the percentage of Muslims and Jews over the total population (2.3% Muslims and 0.04% Jews) (Della Pergola, 2017; ISMU, 2016) is significantly below the European average (6% Muslims and 0.2% Jews) (Hackett, 2016; Lipka, 2015), the number of ritual-slaughtered animals is not as high as in other Member States. In 2010, Cenci-Goga et al. estimated that in Italy dhabihah accounts for 4.27% of cattle, 5.47% of small ruminants and 1.31% of poultry, while shechita is practiced for 0.43% of cattle and 4.16% of small ruminants and for almost no poultry.

This study was performed at a small throughput slaughterhouse in Italy (Tuscany) and aimed at assessing the percentage of cattle rejected in the course of ritual slaughter. Our study quantified the amount of meat from animals slaughtered without stunning that enter the regular trade. Figures from this study could be useful to complete and supplement existing data in this sector and discuss further issues related to the labelling of meats, especially given the current lack of specific requirements at EU level.

2. Material and methods

This survey was conducted in a small licensed slaughterhouse (authorized to carry out ritual killing of animals by the Local Health

Table 1
The “five forbidden techniques” to be avoided during the shechita.

Forbidden technique	Description	Examples
Pressing	Hacking or pressing instead of sliding, occurrence of forward and backward movements.	The shochet pushes the knife into the animal's throat against the force of gravity or positions the animal improperly so that its head presses down on the blade as it expires.
Pausing	Hesitation during the incision	The shochet stops the slaughtering process after cutting the trachea or oesophagus but before completing the cut.
Piercing	Cutting above the large ring in the trachea or below upper lobe of the lung (when injected with air)	The shochet cuts the animal's throat so deeply that the entire width of the knife disappears in the wound; knife is too short so that the end disappears in the wound or is buried by fur or hide. It may be caused even by a foreign object fall over the knife so the <i>shochet</i> loses sight of the incision.
Tearing	Tearing the oesophagus or the trachea. It may happen if there is a nick in the knife.	The shochet performs the cut by using a knife with an imperfection on the blade, such as a scratch or nick, that causes a section of blade to be lower than the surface of the blade. It may occur in heavy birds if not correctly restrained.
Digging	The knife is not visible along all the shechita.	

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