

Meeting religious requirements and food safety during ritual slaughter: a case study on how Italian authorities handle the issue

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Implications

- Freedom of religion is a fundamental right within the European constitution, thus *halal* food and drinks should be made available.
- The Islamic *Eid al-Adha* festival rises public order and human- and animal-health-related concerns.
- This case study describes how Italian local authorities and slaughter professionals intervened in such event by building a temporary slaughterhouse.
- In a perspective of social integration, dialog between local and religious authorities should be reinforced.

Key words: *Eid al-Adha*, green deal, *halal* meat, sheep welfare, temporary slaughterhouse

Introduction

The End the Cage Age and the Green Deal are promoting rapid changes in the food production chains in the European Union. Some of the implications in the One Welfare perspective (García Pinillos *et al.*, 2016) are raising standards of animal welfare to improve animal health and food quality, reduce the need for medication and promote biodiversity preservation. Implementing a whole sector approach from farm to fork, involving stakeholders and governmental authorities in the revision of the animal welfare legislation to make it science-based and easier to enforce, and revised trade policies are among actions to guarantee higher levels of animal welfare along with keeping food safe, accessible, and make it sustainable. In this

context, animal slaughter still remains one of the major ethical concerns within the public opinion in regards to farm animal production systems (Benson and Rollin, 2004; Browning and Veit, 2020). In the past sixty years, industrialization of farm animal production raised a wall between production reality and consumer perception, thus animal slaughter in the industrialized world is not usually shown to the general public (Rollin, 2007) and it has moral connotations that may lead to veganism or to more moderate restrictions of consumption patterns, such as reducetarianism, pescetarianism, or vegetarianism (Beck and Ladwig, 2021). As reviewed by Szűcs *et al.* (2012), attention towards animal welfare is cross-sectional across people belonging to different cultures and religions. Slaughter of meat-producing animals, a fundamental process that turns a live animal into health and safe meat for human consumption, is also dealt with by different religions (Bozzo *et al.*, 2021). In fact, the sacred books of the main monotheistic faiths (Bible, Torah, and Qur'an) contain detailed descriptions of the practice. The precepts that regulate slaughter in these sacred books are essential for Orthodox practitioners, especially for Jews and Muslims. For this reason, in the Qur'an, foods are defined *halal* (allowed according to the sacred books) or *haram* (prohibited), and every believer must avoid *haram* food and consume only *halal* food and drink. Similarly, in the Torah, food is defined as *kosher* (pure) only if corresponding to certain categories and animals must be slaughtered in a *kosher* way to be consumable. In Italy and Europe, the right of believers to be able to consume meat butchered in a manner that is consistent with the dictates of their religion is guaranteed by Regulation 625/2017 (The European Parliament and the Council of the European Union, 2017) and Regulation 1099/2009 (The Council of the European Union, 2009) and religious slaughtering may derogate from animal stunning. Every year the Islamic faithful celebrate the day of the Sacrifice (*Eid al-Adha*) which is the feast commemorating the sacrifice of the son of Abraham, an episode taken from the Torah and reported beyond that in the Qur'an and even in the Christian Bible. The ritual takes place every year, about seventy days after the end of the Ramadan fast and lasts for four days during which each head of the

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family carries an animal (usually a sheep or a goat, less commonly cattle or camels) to slaughter (Leylabadlo *et al.*, 2017). During this event a large number of faithful around the world gather in public spaces such as parkings and parks to slaughter and butcher their animals thus this type of meetings may pose a public health risk (Noviyanti, 2017). On the other hand, it is legally essential to guarantee to faithful the possibility of professing freely their religion.

The purpose of this work is to indicate to national health professionals and slaughterhouse representatives the possible challenges that the management of this holiday presents to all the staff of slaughter facilities. This hands-on experience is meant to suggest to slaughter professionals and local authorities a possible way to intervene in the conduct of such events, from a perspective of social integration and the fight against the illegal meat trade ensuring, at the same time, animal welfare and that of operators as much as possible. This work is based on a case study on *Eid al Adha* in Italy.

Background: *Halal* Slaughter

To guarantee freedom of worship and freedom to express their beliefs freely and independent of the state secular dictates, we find indications about it already in the first Italian laws related to safe food consumption. In fact, the last paragraph of article 9 in the Royal decree 3298/1928 (Vittorio Emanuele II, 1928) states: “Slaughtering, to be carried out in compliance with religious precepts, must always take place in full compliance with the rules established by the same precepts”. It is likely that this article laid the foundations for the future peaceful coexistence of different religions in Italy, then taken up by Regulation 1099/2009 and following (The Council of the European Union, 2009; The European Parliament and the Council of the European Union, 2017), that established the methods of stunning animals to guarantee their protection during slaughter, in article 4, but excluded their applications to religious slaughter later in the same paragraph. The purpose of the legislator, first Italian and then European, was to guarantee freedom of religion to practitioners, without forcing them to turn to a possible submerged black market of meat from illegal ritual slaughtering. The purpose is to regulate a practice that was performed without the official State health control with a complete loss of meat track. This regulatory protection means that practitioners can contact major retailers and organizations practicing this type of slaughter. The Torah and the Qur’an refer to different passages from the sacred books. In particular, with regard to the Islamic religion, these criteria are mentioned in the Qur’an and the Hadith (prophetic words of the Prophet Muhammad) and are explained and interpreted by different Islamic scholars (Abdullah *et al.*, 2019). This lack of univocity in the interpretation of the Law by the various scholars creates a particular mosaic of customs and practices that can differ greatly, even among very close believers. Islamic dietary guidelines are binding on Muslims and should be observed at all times. It is, therefore, necessary to carry out checks on the *halal* status of food products supplied to Muslim consumers in order

to allow them to be able to consume food safely. The Qur’an does not give an indication of what exactly is *halal*, but it gives a clear definition of what is not. These precepts of the Qur’an are essential in order to be considered good practitioners, so it is essential for every good Muslim to follow them. For this reason, it is important for the Western world to understand and respect these needs for a harmonious integration of people. Since Muslims cannot consume not *halal* food, they must have a source for this kind of food to avoid their use of unofficial channels that are not regulated and controlled. Globally, the Muslim population reached 1.8 billion individuals already in 2017 and that population is constantly increasing. The *halal* food market has increased in volume along with the growth in the Islamic population, becoming a very interesting earning opportunity for those who have decided to invest in the sector (Abdullah *et al.*, 2019). According to some estimates, people of Islamic faith generated an induction of 1.3 trillion dollars in 2017 in *halal* food and drinks.

Today, the *halal* food market constitutes about 16% of the entire food industry and will become 20% of world trade in the coming years. The European food industry has started investing in the production of *halal* foods, in order to be able to satisfy an important part of its domestic consumers and to be able to start exporting food with European quality standards to the rest of the Islamic world. While the Netherlands is the main import channel into Europe of *halal* food from the African and Middle Eastern markets, the main countries exporting for the *halal* meat market globally are: Brazil, India, Argentina, Russia, and France. These constitute about 28.5% of the total *halal* market. Instead, the main importers of *halal* meat are Saudi Arabia, Malaysia, the Arab Emirates, Indonesia, and Egypt, which make up 42% of the world market (Abdullah *et al.*, 2019). This market, that registers a constant uptrend in recent years, represents a possible source of revenue for European companies besides the fact that the various European states have to consider internally the share of the population that professes the religion. In fact, if the products suitable for consumption by Muslim believers are lacking or insufficient to meet their needs, there is a real risk that they will first turn to the foreign market and, in the extreme cases of people in difficulty, even to a possible underground market. For this reason, it is essential, with a view to peaceful integration within the EU territory, to be able to keep this part of consumers in the tracks of legality, who otherwise could fall back into a submerged provision, no longer traceable and controllable that could create various problems of both, social and public health nature. The precepts (dhabh) for slaughtering *halal* are based on the Qur’an, the Hadith and the law of Shariah reported general rules to consider the flesh suitable for faithful consumers. These provisions probably originate from the indication and “proto-inspection” of foods, given that they contain prescriptions that have an interesting implication of healthiness and quality assurance of foods. According to what is reported in the various sources and their respective interpretations (Al-Teinaz *et al.*, 2020), it is essential that the place where the slaughter takes place is under the close and constant

supervision of an Islamic religious organization. This institution must also verify and certify compliance with Islamic law of premises, equipment, and machinery.

The slaughter team should be composed of Muslim men (or Christians and Jews, who follow the same Old Testament text) trained to slaughter animals and who are able to implement the rules on hygiene and animal welfare according to guidelines of the religious authority. In particular, the slaughterer (the one who will carry out the jugulation according to the rite) should be a pious, mature, “sane” Muslim who fully understands the fundamentals and conditions for *halal* slaughter, moreover this person must also be trained and approved by the religious authorities and by the veterinary service that carries out checks in slaughterhouses. Beyond the specifications regarding the figure of the slaughterer and the slaughterhouse, the religious authorities consider also various aspects related to the protection of animals. According to their directives, in fact, animals should have a rest period before slaughter, be well fed and well cared for at the time of slaughter. This partly clashes with the need to have the intestines as empty as possible at the time of slaughter, in order to avoid contamination in case they are accidentally broken during slaughter, but from this point of view, the religious authorities do not foresee important negativity in the event that this precept is only partially respected with good animal management (Miele et al., 2020). Furthermore, animals that are slaughtered should be safely contained at the time of jugulation, especially the head and neck: this point is particularly important for the proper management of the animals and the care with which they must be kept. The health status of the animals is also very important: animals should be allowed to feed according to their natural diet and at the time of slaughter, they must be alive, healthy, without any disease or injury and all certified and controlled by a veterinarian. Simply put, the same religious authority recognizes to the Official Veterinarian (OV) the role of guarantor of the health status of the animals during the ante-mortem visit. Indirectly, it puts forward also other important implications on animal welfare retrospectively, before transport and slaughter. According to the interpretation of Islamic law, any kind of stress or discomfort to the animals should be avoided, they must be handled gently with care. Despite these guidelines for animal care, stunning before slaughter is usually prohibited (Ab Talib, 2017). This is because stunning methods risk killing animals prematurely, or making them no longer intact as in the case of the captive bolt that does not allow the animals to remain whole without prior injuries as prescribed.

Particular attention is paid to the procedures prior to slaughter, as the animals must not see the knife, other animals being slaughtered and the blood. The lifting of animal off ground is required to be performed only once they have passed out after jugulation and after having waited a certain period of time to ensure the end of the movements that may spoil the meat of the animal and be a risk for the slaughterers present. Before slaughter, the animals must also not be dirty and other substances must be not present that could make haram meat. The equipment that is used for restraining animals must be

comfortable, so as to avoid unnecessary stress before slaughter (Al-Teinaz et al., 2020). The butchering knife must be very sharp and clean, it should have no points and it would be desirable for the blade to have a homogeneous shape. The size should be at least three times the size of the neck of the animals to be jugulated, in order to guarantee the severing of all the structures of the neck with a single movement, always to minimize the stress of the animals and reduce the suffering that could be caused by a dull knife or an unexperienced operator. The Muslim or book slaughterer (Christians and Jews), recognized and trained by the religious authority, should stand behind the animal (so as not to frighten it and reduce its stress) and must cut its neck so that the wound is addressed towards Mecca (Velarde et al., 2014). Just before starting to cut the neck of the animal, the slaughterer must recite: “In the name of Allah, Allah is the greatest (*Bismillah, Allah Akbar*)”. Only by doing this does the animal turn out to be slaughtered in the name of Allah. The cut must be performed in the correct anatomical location, cutting the two carotids, the two jugular ones, the trachea, and the esophagus with a single continuous movement, but avoiding cutting the spinal cord. The height of the cut can be more or less marked, classically it is carried out between C2 and C4, but it has been shown that a higher cut (therefore in correspondence with C1, Al-Teinaz et al., 2020) results in a faster loss of consciousness and a better and complete bleeding (Velarde and Dalmau, 2018).

Since blood is considered haram by Muslims, it cannot be consumed and must be allowed to come out completely from the carcass. Only once the animal has lost consciousness it can be lifted, but it cannot be skinned and eviscerated until death occurs (EFSA AHAW Panel (EFSA Panel on Animal Health and Welfare) et al., 2020). In addition, the head of an animal must not be removed during slaughter. Finally, any illegal and haram meat, such as pork and others, should never contaminate the *halal* meat, and utensils used for these meats should be unique and not used for other purposes.

According to the law and according to the interpretation of various Islamic groups, stunning is absolutely forbidden during *halal* slaughter. However, this practice is starting to be more and more common in some states, such as Malaysia, Indonesia, Egypt, Saudi Arabia, the United Arab Emirates, Yemen, Tanzania, and others. This practice has managed to enter normality as religious authorities have realized how the practice of stunning can be reversible and does not result in death before slaughter (Fuseini et al., 2016). So as long as the stunning method guarantees the possibility of returning to normal to the animal, it is allowed by various religious authorities around the world. Examples of reversible stunning methods such as electronarcosis on the head and the use of mixtures of gases are studied (Velarde and Dalmau, 2018), and species-specific methods should be implemented. *Eid al Adha* (Feast of the Sacrifice) is the most important Islamic holiday, it is celebrated on the tenth day of the twelfth month (Dhu al-Hijjah) of the Islamic calendar (about seventy days after the end of Ramadan) and held for four days (Satt, 2017). The celebration commemorates the memory of the prophet Abraham,

on the occasion when he tried to sacrifice his son as proof of fidelity to Allah. In that episode the divinity stops the hand of the Prophet before he commits the act and orders him to sacrifice a ram close. Similarly, Muslims around the world during this occasion slaughter an animal (usually a sheep or a cow, in some cases even a camel) and divided into three equal parts the meat obtained. Of these, a part will be consumed in the family, a part is kept for relatives and a part is distributed to the indigent regardless of religion and nationality. Throughout the Islamic world during this period there is a huge turnover linked to the slaughter ritual (Satt, 2017) but there seems being also a significant increase of foodborne disease in the population, because of the slaughter insecurely carried and the large amount of slaughtered animals that cannot be controlled as easily as they normally do (Schwab and Armah, 2019). The logistics of meat distribution must be done in an adequate way to guarantee everyone access to their slaughtered garment and guaranteeing its hygiene and quality (Hidayat and Munshi, 2019). Effective and safe distribution is essential in this context to reduce diseases that originate from poor slaughter hygiene, noncompliance with the cold chain and cross-contamination (Noviyanti, 2017). In this context of frenzy and gathering of people, different authors have questioned the role of this party in the spread of zoonoses, especially in those poorest countries in which there are no suitable facilities to ensure proper food hygiene (Leylabadlo *et al.*, 2017). These highlighted how the main critical points are the concentration of people from the countryside in the cities to bring the items to be sold before slaughter and the role of abusive or poorly controlled

slaughterhouses that are developing these days to meet the large demand for slaughtering.

The Case Study

From 2018 to today, in the territory of the AULSS 5 Polesana, the Feast of the Sacrifice has evolved from being almost totally illegal to a legalized procedure and placed under the control of the Veterinary Service. In 2020, the Feast of the Sacrifice took place from 31 July to 4 August. In the days preceding the Feast, families choose the sheep to sacrifice from a flock owned by the same holder of the slaughter site. From the point of view of the animal health documentation, the flock is registered with Forms 4 (declaration of origin and destination of the animals for the whole duration of the ritual slaughter, with the identification of the slaughterhouse and of the owner/keeper of the animals. Slaughtered items are sold to the participants to the ritual. On the day set for the holiday, a public space nearby the slaughtering site is set up for the religious function, as shown in Figure 1. At the end of the function, the ritual slaughter begins: a team of properly formed Muslim slaughterers gathers the animals in a pen where a Veterinary Officer visits them ante-mortem. Each animal is then caught and sent to the containment cage where an operator officially authorized and recognized by the Imam or the Islamic Council, subjects the sheep to the ritual jugulation. This operation consists in a clean and deep cut of the great blood vessels of the neck, trachea, esophagus, and surrounding muscles (up to the cervical vertebrae) done with a sharp not pointed blade and



Figure 1. Faithful gathered for the religious ceremony before the slaughter of the Feast of the Sacrifice.

performed in compliance with precise rules of a religious matrix accompanied by acts (blessings, invocation of the name of God, etc.) that manifest its sacred character and ritual significance. As shown in Figure 2, the reaction of the sheep to the introduction into the cage have raised concerns about how stressful this mechanical containment technique can be for the animals. Such concerns have risen from the experience of the Official Veterinarians during nonritual slaughtering of Islamic origin which they normally attend during their routine activities, where the animals are manually contained by an operator. Animals subject to mechanical containment showed indeed great agitation, with frantic movements and vocalizations that are not noticed when sheep are held manually. In this case, sheep do not vocalize and are very calm and easily contained, as shown in Figure 3. This is in line with observations by Aghwan

et al., (2016) who report problems associated with restraint due to equipment design and poor management supervision of both abattoir facilities and the employees. After jugulation, the animal is completely bled, suspended from the ground, and processed by the operators who make the corresponding carcass and viscera available for veterinarians' postmortem inspection. For traceability purposes, the head is removed last and delivered to future buyers only if the animal is under 12 months of age. After favorable outcome of the postmortem inspection, carcasses and offal are stamped and delivered by the owner of the slaughterhouse to the final purchasers for consumption. After slaughter carcasses enter a refrigeration tunnel or directly into a temperature-controlled truck (Figure 4). From 2018 to 2020, no anatomopathological signs referable to zoonoses were found, nor lesions that compromised the free meat consumption. Occasional parasitic pathways were found in the liver (presumably roundworms) and rare hydatid cysts were found in the omentum. Only chronic inflammatory lesions affecting the apical lobes of the lungs were reported without involvement of pleura, cardias, or systemic sheets.

Rather than being a purely veterinary problem, the most critical point faced by the OV is of public order nature due to the enormous quantity of individuals who actively participate in the Feast of the Sacrifice, limiting indirectly inspection activities. It has been estimated that the liturgy is usually attended by more than 600 people, about 900 animals are subjected to ritual slaughter and at least four people want to attend the ritual of each animal according to traditions, customs, and practices.



Figure 2. Cage for the mechanical containment of sheep.



Figure 3. Manual containment of a sheep before jugulation.



Figure 4. Carcasses loaded on a temperature controlled truck.

The large number of individuals, of all genders and ages, different ethnicities and nationalities, has led to serious security problems, which have inevitably become a matter for law enforcement: (i) gatherings without any rules around the structure of the slaughterhouse, (ii) the irregular presence of strangers inside the slaughterhouse itself, (iii) disorders and principles of brawl for the grabbing of precedence in the slaughter order. In the first experience of slaughter the OV's responsible for sanitary inspection of animals and meat, faced this emergency situation by trying to contain it as much as possible prohibiting access to the slaughter site. Absence of physical barriers and inability to communicate effectively have made these attempts little effective putting the OV's in the condition of having to go to the local Police (see [Figures 5 and 6](#)).

This extreme choice, recorded by official reports of public order complaints, was dictated not only by the defense of personal safety, but also by the objective inability to carry out their duties regularly to guarantee slaughter hygiene. Following this experience, the Veterinary Service wanted to establish a system of identification of the animals, both numerical and colorimetric ([Figure 7](#)) that can track the animals as they were chosen by the families before the feast day. The progressive number determines the order of slaughter whereas the colorimetric scale assigns each animal to a specific pen where they are housed in limited numbers until the moment of slaughter. This strategy, allowed to reduce the frenetic confusion that was created in the search for animals within the entire flock and speed up the procedure for capturing the animals to be sacrificed. Furthermore, in 2020, agreements were

made with the Prefect to guarantee public order at the time of the ritual on future holidays.

The will to contextualize the ritual slaughter of the Feast of Sacrifice in a legal framework and its implementation has allowed Italian authorities to bring it to light and to make it acceptable, meeting religious requirements and food safety. This objective was followed by the OV's starting from the bases, also becoming an active part in designing the structures made available for the ritual slaughter. The primary purpose is to operate the time of slaughter in accordance with the food hygiene European regulations but respecting the religious ritual as much as possible. This effort involved not only taking care of the hygienic-sanitary instruction of the personnel assigned to operational manual skills, but also respecting the times and schedules of the rituals and seeking a technician qualified by the Imam in charge of the sacred gesture of jugulation.

What we Learned From this Case Study

This case study highlighted the key role the veterinary service: educating the correct sanitation practices without necessarily repressing sacred customs and practices, in view of collaboration and to the comparison constant aim to ensure the Public health.

Freedom of religion is an inalienable human right and is guaranteed and protected by the legislation of the European Union and by the Italian constitution. In this context, it is essential that all practitioners of different religious beliefs are given the opportunity to express their faith to the fullest extent



Figure 5. People waiting for their turn.



Figure 6. People who witness the slaughter of their sheep.



Figure 7. Animals in the pre-slaughter stall, identified with the color code.

possible, within the law limits. The integration of foreign populations within the social construct is necessary for maintaining collective peace and stability within the various states. It is in this context that the work done by the veterinary service described in this case study becomes essential: to help those who wish to carry out the procedures related to the Feast of Sacrifice in the correct way, preparing those who are not aware of it for the critical issues that they risk encountering in planning and executing these procedures. The main purpose of the control of this liturgy by the national veterinary service is to remove it from illegality where absence of any kind of health control posed also human health at risk.

Increased knowledge of the subject and a greater sensitivity to the needs of believers will be addressed by the younger generation who wish to continue to follow the dictates of their religion. This type of work and approach must take into account the exceptionality that the Feast of the Sacrifice represents in the panorama of Islamic festivals: the high number of animals slaughtered in four days, and the equally considerable flow of people who follows. For this reason, the watchword for an official control that wants to carry out its work correctly is flexibility: flexibility in the management of the attribution of inspection judgments within the limits of the law, but also mental flexibility for the management of many people and of the possible danger to public order. What often escapes those who approach a different religious world is that these people are individuals who have marked individualities and specific requests, and are not just a homogeneous wall of anonymous people. For this reason, it is very important to try to keep the environment calm by respecting all individualities, even those who might try to override others to speed up their waiting. Of course, there are many points for improvement, but there are some things that should be clarified and highlighted. Ensuring the welfare of the animals is essential during killing, so limiting the number of people who wish to see the slaughter is very important to reduce the animal's stress. Being able to maintain an adequate speed of the slaughter chain is also important to keep people calm while they wait. Furthermore, it would be desirable to be able to create a dialogue with the local religious authority to bring the requirements for religious killing closer to those of European legislation relating to animal welfare, in particular as regards the stunning phase of animals. This was not done in the present study and should be investigated in further studies. Indeed, the level of acute animal pain provoked by the procedure of jugulation without prior stunning should not be neglected (Johnson *et al.*, 2015). As a future step, it would be important, to start a dialog with religious authorities to allow stunning after the jugular cut. It might be interesting to bring to these authorities the example of the different Islamic states in which reversible pre-slaughter stunning is accepted, in order to be able to further protect the animals during killing. The use of manual skills performed by operators on animals seems to help animals a lot to calm down before jugulation and this aspect is certainly to be considered and preferred over the exclusive use of mechanical tools for containment. This small measure may be able to significantly reduce the stress of the animals during

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slaughter procedures. From a sanitary point of view, the main criticality is represented by the high number of animals that are slaughtered in a few days, which lead to a biological risk associated with the lack of fast and effective refrigeration of the carcasses. This can happen due to lack of adequate space in which to cool the carcasses, but it could be addressed by enhancing slaughterhouse design. On the other hand, compared to poorer countries, it is likely that in Italy people cook sheep meat at high temperatures (>100°) prior to its consumption limiting the risk of diseases. Finally, it is essential to consider that this

holiday poses an important risk to public order, which the health authorities must be able to cope with by coordinating with the police. To ensure this, it is important to be able to keep those present calm. Therefore, it is especially beneficial to set large areas that may accommodate all present people, being able to quickly identify and unambiguously the various leaders belonging to different families and allow them to follow and to attend the slaughter procedures involving their animal in accordance with regulations and slaughter hygiene.

Conclusions

This case study attempts at broadening the discussion on the practice of religious slaughter during the Islamic *Eid al-Adha* festival with different strength and weak points. Experience and the building of a temporary slaughter, the conjunction of religious authorities, local authorities, and veterinary services are a major driver towards the integration of the Islamic community and their festival along with being a virtuous example of food safety fulfillment. This type of direct contact with different realities is very important to start a real path of integration of these people in the legal tracks of the society showing openness and interest regarding these issues. As previously done by [Grandin \(1991\)](#), who studied the Talmud and achieved the endorsement of her recommendations in the *Kashrut* magazine ([Benson and Rollin, 2004](#)), in the future, there is the hope to have less chaotic slaughtering, with a greater respect for animal welfare guidelines dictated by the European Union.

Conflict of interest statement. The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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