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Review paper

Does Serbia need mobile slaughterhouses?

Milan Z. Baltić[1], Marija Starčević[2], Ivana Branković Lazić[3], Milica Laudanović[1], Nataša Glamočlija[1], Boris Mrdović[3] and Vesna Đorđević[3]*

[1] *University of Belgrade, Faculty of Veterinary Medicine, Bulevar Oslobođenja 18, 11000 Belgrade, Serbia*
[2] *Veterinary Service Centre, Military Health Department of Republic of Serbia, Crnotravska 17, 11000 Belgrade, Serbia*
[3] *Institute of Meat Hygiene and Technology, Kaćanskog 13, 11000 Belgrade, Serbia*

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ABSTRACT

Mobile slaughterhouses were first mentioned in 1960 and were used to process the carcasses of hunted deer. Today, the use of these facilities for slaughtering animals, processing carcasses and cooling meat is primarily for the slaughter of farm animals (dairy cows) that have difficulty moving and cannot tolerate long transport durations. These mobile units are also used nowadays for the slaughter of lambs (prior to weaning) that are not used to drinking water, and when the transport is longer than 10 hours. Most often, the use of mobile slaughterhouses is related to the well-being of animals, i.e., to mitigating the numerous stressful situations that animals go through from their place of residence to the stunning box. However, meat quality is also a factor in the use of these slaughterhouses. Consumers who are particularly interested in animal welfare are ready to pay a higher price for meat obtained from animals that are exposed to less stress (which typically arises from long transport, lack of food and water, overcrowded vehicles or weather conditions). The other main advantage of mobile slaughterhouses is, in addition to reducing the length of transport, the forging of direct connections between breeders and slaughterhouses (no intermediaries, buyers). This is of particular importance for the mountainous areas of Serbia, where small ruminants are mostly raised in peasant households with a small number of animals. The use of mobile slaughterhouses would reduce the number of animals slaughtered by households (small ruminants, piglets) outside veterinary supervision. For the application of mobile slaughterhouses, a good knowledge of the raw material base (species and number of animals, volume of animal feed production), demographic data, roads, energy, water resources, etc., is necessary. Mobile slaughterhouses must meet all the operating conditions that apply to stationary slaughterhouses.

1. Introduction

Agriculture and food production have always been of particular importance to Serbia, not only for the food security of its own population, but also for the export of surplus food. Soil and climatic conditions provide Serbia with good opportunities for the production of foods of plant and animal origin. The main foods of animal origin in Serbia were pig meat for many years, then beef, and from about fifty years ago, poultry meat. Today, poultry meat accounts for 40% of total meat production worldwide. Although the percentage of small ruminant meat production among the total meat production in Serbia is small, it is not insignificant. It is particularly important for the hilly and mountainous regions of Serbia, rich in grassy areas that are best utilised by sheep and goats. Given the breed composition (and different strains of the breeds), sheep are typically raised in hilly and mountainous areas for meat, milk and wool. To increase the volume of small ruminant breeding in Serbia, and thus increase food (meat, milk) production, it is necessary to analyse the raw material base (production

***Corresponding author:** Milan Ž. Baltić, *milanbaltic@gmail.com*

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of animal feed, demographic data, number of sheep and goats). In addition, to obtain meat, especially in the case of increased animal breeding, it is necessary to build specialised slaughterhouses, which could be standard or mobile, and which would be close to the raw material base. These facilities and the production of meat in them would be under constant veterinary control, which would ensure the safety of meat and reduce the occurrence of uncontrolled slaughter of animals and meat thereof entering the meat trade.

2. Historical overview of animal slaughter

Until about 13,000 years ago, Homo sapiens was a hunter (and fisher) and gatherer. Domestication of animals and cultivation of the land has been applied gradually and non-uniformly in all parts of the world since that time. Even today, about 60 tribes continue to live in the same way they lived in the Neolithic. The transition from the hunter/gatherer way of life to settled agriculture was, therefore, slow and long-lasting. In fact, agricultural production became the basic occupation of man and became widespread a mere 7,000 years ago. That is a much shorter time than the time for which man was a hunter/gatherer (~200,000 years) and when people lived without being tied to one place, but moved and settled where food sources were richer. The first civilisations (organised states) arose in the area of Mesopotamia, between two rivers, the Euphrates and the Tigris, in the area of today's Iraq, Kuwait, Turkey and Syria. Ancient civilisations include Egyptian, Greek, Roman, Mayan, and the Indus Valley (Baltić et al. 2010). All contained settlements and cities with a large number of inhabitants. Thus, Uruk (Sumer, later Babylon) between 4,000 and 3,000 BCE had 80,000 inhabitants. It spread over an area of six square kilometres and was surrounded by a wall. Those first civilisations were states that had regulations (e.g., Hammurabi's laws), and part of those regulations related to the slaughter of animals (Baltić and Marković, 2017). For later Christian civilisations, those regulations were contained in the Holy Scriptures of the Old and New Testaments. In the third book of Moses (Chapter 22) it is written, "let him offer a willing male of cattle, or of a sheep, or of a goat", "do not offer anything on which there would be manna, because it would not be acceptable to you". Further in the book, more detail is presented about faults, about the prohibition of castration, about the time that a lamb and calf should spend with the mother, about the prohibition of slaughtering cows, sheep and goats on the same day as their calves, lambs and kids, and that the meat should be eaten on the same day and not left for tomorrow (Daničić and Karadžić- Stefanović, 1973.) Other holy books (Koran, Talmud) also talk about slaughtering cattle. In Ancient Greece and the Roman Empire, animals were slaughtered in designated places, usually under the control of a priest. In Rome at the end of the 4th century, state officials controlled livestock markets, slaughterhouses and the meat trade. In the Middle Ages, there were regulations on animal slaughter and slaughterhouses. In 1321, in Kotor (today's Montenegro), a regulation was passed according to which animals had to be slaughtered in slaughterhouses. Even in the Serbia of the Middle Ages, there were regulations on animal husbandry and the meat trade (Dušan's Code, Law on Mines; Vuković, 1992; Baltić and Đorđević, 2019).

3. The road to modern slaughterhouses

At the end of the 18th and especially in the 19th century, regulations were passed on animal slaughter and slaughterhouses in France and Germany. Thus, it was stipulated that every town in France must have a communal slaughterhouse. The need for the construction of slaughterhouses arose from the fact that by 1804, the world had a billion inhabitants and that increasing numbers of people lived and worked in cities, i.e., industrial centres that needed to be supplied with food, including meat. The meat and meat products supplied had to be safe for human consumption and in sufficient quantity. Without large-capacity slaughterhouses, it was impossible to supply large cities with meat. However, the refrigeration systems were insufficient to store the meat. In practice, the meat had to be circulated to consumers within 12 to 24 hours, especially in the warmer season (*Vuković*, 1992; *Baltić et al*. 2010).

At the beginning of the 19th century, among the ten largest cities in the world, three were in Europe (London, 900,000 inhabitants; Paris, 547,000; Naples, 430,000) and the other seven were in Asia (from Osaka, 300,000, to Beijing, 1,100,000). Moscow had 238,000 inhabitants, Vienna 231,000 and Berlin 172,000. In Western Europe, from 1820 to 1825, 12% of the population lived in cities with more than 10,000 inhabitants, and in 1890, that percentage had risen to 31% (*Osterhamel*, 2022). Belgrade had about 30,000 inhabitants in 1777, but ~4,000 in 1834, which was a consequence of wars with the Ottoman Empire; ten years later, 10,000

Serbs, 5,000 Turks, 1,383 Jews and 900 foreigners (mostly Germans) lived there. In Serbia at that time, in addition to Belgrade, the largest cities were Požarevac (3,733 inhabitants), Jagodina (3,166), Šabac (2,936) and Kragujevac (2,316) (*Gavrilović*, 1846). In 1739, there were 30 slaughterhouses in Belgrade, individually owned by Serbs, Germans, Jews, Turks and Armenians. At that time, meat products produced by German-owned slaughterhouses appeared on the market. There is no information on regulations related to animal slaughter, slaughterhouses or the meat trade. Regulations on animal slaughter, slaughterhouses and the meat trade appeared during the time of Karađorđe (1804–1813), and especially during the two reigns of Prince Miloš Obrenović (until 1860). A new, modern slaughterhouse was built in Belgrade in 1855, and new rules on cattle slaughter were adopted in 1888. The Serbian Joint Stock Company for Cattle Slaughter was founded in 1897, became an exporter of meat from Serbia, and thus, 1,800 tons of meat products (ham, bacon) were exported to Great Britain, France, Switzerland, Italy, Algeria and, until the Customs War, to Austria-Hungary (*Labudović et al.,* 1979). In 1914 Serbia exported 9,076 tons of meat products, and right before the beginning of World War I, thanks to the help of Mihajlo Pupin, it exported 5,000 tons of pork fat to the United States. Between the two world wars, the Kingdom of Serbs, Croats and Slovenes did not have enough slaughterhouse capacity to export large quantities of meat. The Kingdom of Serbs, Croats and Slovenes was unevenly developed at this time, as evidenced by the fact that before World War II, the largest number of slaughterhouses was in Slovenia (306), with the other entities having smaller numbers: Croatia (147), Serbia proper (70), Vojvodina (73), Bosnia and Herzegovina (76), Kosovo and Metohija (10), Macedonia (27) and only a few in Montenegro. Of the slaughterhouses in Serbia, 10 were export slaughterhouses. In Serbia, slaughterhouses were built in the late 19th and early 20th centuries in Jagodina, Velika Plana, Mladenovac, Belgrade, and after World War I in Šid, Banatski Karlovac, Čoka, Novi Sad, Subotica, Kraljevo and Kruševac. In 1948, there were 153 slaughterhouses in Serbia, and in the late 1980s, there were about 550, of which 21 were export slaughterhouses. After World War II, more modern slaughterhouses were built in Yugoslavia, and in Serbia alone there were 20 industrial facilities for slaughtering cattle and processing meat registered for export (*Baltić and Đorđević*, 2019).

4. Serbia today — animal slaughter

From 1990 and in the following 35 years, most of the export slaughterhouse facilities in Serbia stopped working. Today, Serbia is an importer of meat for processing and an importer of live animals. There are many reasons for this state of affairs (the disintegration of Yugoslavia, wars, sanctions, reductions in the numbers of farmed animals, especially pigs and cattle, aging of village populations). In Serbia today, there are about 300 registered slaughterhouses with different scopes of production for animal slaughter and meat processing, so they are accordingly divided into craft and industrial establishments.

The numbers of livestock species in Serbia have been in constant decline since 1990. In 2021–2023, cattle average annual numbered 795,000, pigs 2,559,000, sheep 1,771,000, goats 178,000 and poultry 14,814,000. These numbers are each far smaller number than in the previous 50 years. In that period (from 2021 to 2023), the annual average number of cattle slaughtered in all categories was 316,000, pigs 5,202,000, sheep 1,855,000 and poultry 66,422,000. An annual average of 168,000 cattle, 1,190,000 pigs, 217,000 sheep and 64,120,000 poultry were slaughtered in slaughterhouses. From the above data, it can be seen that 53% of cattle, 23% of pigs, 12% of sheep and 96% of poultry were slaughtered in slaughterhouses. Although the slaughter of cattle outside slaughterhouses is prohibited, almost half the cattle in the country are not slaughtered in slaughterhouses, which can be explained by the fact that the vast majority of calves, especially those of dairy cattle, are slaughtered by households or unregistered slaughterhouses. The high percentage of pigs slaughtered outside slaughterhouses is due to the slaughter of pigs by households for their own needs, especially in the colder season, as well as the slaughter of piglets. Of the total number of slaughtered pigs, 30% are piglets slaughtered during religious and national holidays, for celebrations, or for the needs of bakeries and restaurants. Most of the sheep (88%) are slaughtered by households for their own needs. In the case of sheep, 2/3 of lambs are slaughtered for the same reasons as piglets (holidays, celebrations and the hospitality trade). According to official data, practically all poultry is slaughtered in slaughterhouses, but this does not correspond to the actual situation, because the number of poultry (broilers) raised in households remains unknown.

The decrease in the rural population and its age structure has contributed to the decreased livestock numbers in Serbia. According to the 2022 census, Serbia had around six million resident inhabitants. The population decrease for 2011 was −37,337 from the previous census, and for 2021, was −74,442 inhabitants. The average age of residents in Serbia in 2011 and 2021 was 40.2 and 43.5 years, respectively.

5. Slaughterhouse arrangement

Slaughterhouses and the meat industry are among the oldest and most complex systems in the modern food industry, given the fact that they produce a nutritionally valuable food for human consumption, and that the food must be safe for consumption and must not negatively affect the health of consumers. The meat industry is engaged in slaughtering animals, processing meat into various products, disposing of by-products (e.g., skins), purifying waste water and taking care of environmental protection. Slaughterhouses are one of the links in food (meat) production that are vertically connected in a food chain for which the phrase "from field to table" is used. Often in the world, including in Serbia, this chain is owned by one company.

Guidelines on the organisation of slaughterhouses were provided by the Codex Alimentarius Commission in the document, Fundamental Principles of Food Hygiene. These principles have been accepted in over 189 countries worldwide that are members of this body. Among them is the former Yugoslavia, which in 1989 adopted the *Regulation on the conditions that must be met by facilities for slaughtering animals, processing, treatment and storage of products of animal origin* (*Anon*, 2010). At that time, it was one of the best regulations in Europe regulating this area. With amendments from 2008 and 2010, it is still applied in Serbia today. This Regulation refers to the conditions in terms of construction, technical organisation, equipment, working methods, professional staff and hygiene that must be met by slaughterhouses, cold stores and facilities for processing, treatment and storage of products of animal origin intended for public consumption or for export. According to the volume of production, they are divided into industrial, artisanal and household facilities (only honey, milk and eggs). The Regulation defines general and special conditions for the construction and arrangement of the facility. The general conditions relate to the location, circuit, roads and layout of buildings, as well as to water supply (including water supply sources, with hot water at 83°C), wastewater drainage, materials for the construction of premises, equipment, a dedicated room for washing equipment, veterinary inspection, the needs of workers and maintaining the hygiene of the employed staff. Formal facilities for slaughtering animals (slaughterhouses) can be industrial or artisanal. They are divided into these two groups based on the layout and equipment in the facility. The equipment conditions are defined more closely for each room, whereby the technological connection, number and size of rooms and the equipment they contain must correspond to the type and volume of production. After veterinary inspection, carcasses and edible organs of slaughtered animals are transported to a meat cooling room. The size of the room, or rather its cooling capacity, determines the slaughter capacity (volume) expressed in the number of animals per hour or per day (Anon 2010).

Work in a slaughterhouse not only requires skill and strength, but is also made difficult by working conditions (humid air, slippery floors and stands, noise, repetition of the same action, injuries from hand tools, etc.). In a slaughterhouse, the work and procedures of a veterinary inspector (official control) are defined by regulations (*Anon*, 2010.).

6. Mobile slaughterhouses

The first mobile slaughterhouses were used in Great Britain (in the 1960s) for carcass processing (skinning, evisceration, dismemberment) of hunted deer. Thirty years later, mobile slaughterhouses for pigs, ostriches and poultry appeared (*Romero*, 2021; *SANMO*, 1998). Most often, mobile slaughterhouses are used for on-farm slaughter of those dairy cows that have been taken out of production, which are difficult to move, are unstable on their feet, and for which any effort to move poses a risk of falling, bone fractures, and the inability to get up again without human help. Therefore, lorry transport of these animals affects their welfare and exposes them to stress, which consequently, affects the quality of their meat.

In fact, from their place of residence to the stun box, animals destined for slaughter are constantly exposed to stress because they are in environments and situations they have not been in before (loading ramp, means of transport, transport, unloading, stay in the lairage, corridor to the stun box, the stun box itself, stunning). Any separation from a known environment or from a known group is stressful for the animal. Unsuitable loading ramps, i.e., steeply sloped and and without cross bars or slippery, can create stress in the animals and also the risk of injury (joint

dislocations, limb and rib fractures). This especially applies to dairy cows that were previously housed constantly in a confined space with limited movement possibilities, and are unaccustomed to stress; sometimes these animals are in poor condition (*Eriksen et al*., 2013; *Astruc and Terlouw*, 2023). The conditions under which transport takes place are defined by European Directive 2005/1/EC (*EC*, 2005). The aforementioned directive states "no animals shall be transported unless it is fit for the intended journey, and shall be transported in conditions guaranteed not to cause them injury or unnecessary suffering". The animals must not be transported if "they are unable to move independently without pain". If the animal cannot be transported due to the above reasons, it must be treated or euthanised. The competent veterinary inspector assesses the animal's ability to be transported, while the veterinary decision on transport also partly depends on how long the transport takes. When slaughtering in mobile slaughterhouses, there are much fewer, indeed minimal, stressful factors (*Carlsoon et al*., 2004; *Ursinus et al*. 2023).

In several countries (developed, developing and underdeveloped), mobile slaughterhouses are moved (transported by lorries) from one place to another as needed. These are most often two modified shipping containers that are placed in appropriate locations so they can be connected by their shorter sides, thus forming a single unit. In the first half of the first container, the animals are slaughtered, the lower parts of the legs, horns and skin are cut off (the unclean parts), while in the second half, the carcass is eviscerated, and the organs and carcass are inspected. The openings on the sides of the container are used to eject inedible parts into suitable receptacles. The first two-thirds of the second container is the refrigerated cooling area, while the last third is used to prepare the unloading of cooled carcasses and their loading into a refrigerated transport in which the cooled carcasses are shipped to wholesale or retail centres (*Ljungberg et al*., 2007). Mobile slaughterhouses usually have a capacity of 40 to 60 lambs (sheep) per day. These slaughterhouses can ensure good hygienic conditions for slaughtering and processing carcasses, cooling carcasses, waste disposal and sorting of risk material (for sheep older than one year, brain, spinal cord, eyes, etc.) as provided for by the regulations for the protection against transmissible spongiform encephalopathies. In the United Kingdom, mobile slaughterhouses meet the conditions regulated by Regulation EC/2004, they are licensed, and information about them can be found on the Food Standards Agency website. Other countries in which mobile slaughterhouses are used have similar regulations. Before setting up a mobile slaughterhouse at the desired location, it is necessary to provide a room (depot) for lairaging animals before slaughter, a corridor and a ramp connecting the depot and the slaughter area in the container, electricity connections (the largest consumption level is from the refrigerated cooling system), sufficient water (100 litres per sheep), waste water disposal and treatment, disposal of inedible parts and confiscated items, and especially, handling of hazardous materials. The International Patent Commission registered a patent in 2015 for amobile slaughterhouse for slaughtering sheep and goats. The patent is registered with the World Intellectual Property Organization, which consists of more than 130 countries around the world. Today, a large number of companies worldwide are engaged in the production of mobile slaughterhouses, and information about them and their products can be found on the Internet (*Hoeksma et al.*, 2017).

7. Advantages of mobile slaughterhouses

The justifications for building small, mobile slaughterhouses are most often related to satisfying animal welfare and meat quality requirements, reducing dependence on food imports, strengthening local communities and supplying them with quality and safe food, increasing the profits of small producers, ensuring local producers become a more vital part of the food economy, establishing direct links between consumers and farmers, and encouraging organic production (*Ljungberg*, 2007; *Njisane and Muchenje*, 2013; *Hoeksma et al.*, 2017).

Today, mobile slaughterhouses are used for slaughtering ruminants (cattle, sheep, goats), pigs and poultry. Animal slaughter capacities in mobile slaughterhouses are usually 10 to 15 cattle per day, 15 to 20 pigs, or 10 to 50 small ruminants (*Anon*, 2015).

The maximum duration of transport generally can be up to 8 hours, but the actual transport duration depends on the type of animal, age, climatic conditions, density of animals in the vehicle, supply of water and food, condition of the roads, training of the driver and the procedure of the workers. Horses and pigs can withstand the longest transport (up to 24 hours). The transport of cattle and sheep should not last longer than 14 hours continuously. Exceptions are suckling lambs, which meet their water needs by sucking and have not been taught to drink water. Therefore, their transport must not last longer than 10 hours (*Carlsson et al*., 2004).

Animal welfare can be impaired by lack of food and water, lack of suitable flooring, overnight confinement, mixing of groups, separation from the group, insufficient ventilation, shearing of sheep before slaughter, illegal handling (e.g., pulling by the wool for movement, hitting animals) and improper stunning or bleeding. Proper transport and handling of animals before slaughter and slaughter, including in mobile slaughterhouses, are generally important factors for animal welfare that can affect production results and consumer preferences when choosing meat. According to previous surveys, consumers who appreciate animal welfare are ready to pay a higher price for meat from animals slaughtered in mobile slaughterhouses. However, in addition to welfare, long animal transport can negatively affect meat quality parameters (pH, colour, texture, sensory properties, ability to bind water, the presence of bruising) (*Astruc and Terlouw*, 2023; *Ursinus et al.,* 2023). Naturally, mobile slaughterhouses can have an advantage with regard to these aspects over traditional, stationary slaughterhouses.

One of the parameters of the application of mobile slaughterhouses is the cost of carcass processing, about which there are few data. The costs of broiler slaughter and carcass processing in mobile slaughterhouses and small communal slaughterhouses on poultry farms are identical, but are also higher than when broilers are slaughtered in large slaughterhouses. Naturally, the profit generated by mobile slaughter depends on numerous factors (price of mobile slaughterhouses, number of slaughtered animals per time period, price of the finished product, energy costs, water consumption) (*Angioloni et al.*, 2015).

Mobile slaughterhouses in Serbia would certainly contribute to reducing the number of animals slaughtered in households and unregistered facilities. This especially applies to lambs and piglets, which are usually slaughtered without veterinary supervision. The number of poultry slaughtered outside slaughterhouses is a complete unknown, but certainly is significantly higher than is shown in the statistical data. Lambs slaughtered in registered facilities are usually intended for export, as this requires assurance that the lambs come from a registered facility. The use of mobile slaughterhouses, in addition to reducing the number of animals slaughtered without veterinary supervision, would probably result in increased numbers of sheep raised in the hilly and mountainous areas of Eastern and Western Serbia. Producers (herders) would have direct contact with the mobile slaughterhouse and there would be no intermediaries (buyers) between these two parties. Consequently, the producers would have higher profits, and the butchers would be able to place better quality meat on the market. Indeed, the idea of building a stationary small ruminant slaughterhouse in central Serbia is less desirable, even though animals from all over the country, primarily lambs, would be slaughtered. This would necessitate the need for organised purchase, collection of animals in specified places, mixing of animals of different origins, and transport to the slaughterhouse. This would certainly affect animal welfare more negatively, due to the extended time from purchase to slaughter, than if mobile slaughterhouses are used (*Alvseike et al.,* 2019; *Križman and Dobeic*, 2023).

8. Slaughter of animals for military purposes

Mobile slaughterhouses used by the military are portable and equipped to work in emergency conditions. The Serbian Army has, in wartime, during manoeuvres and for army training in field conditions, the ability to slaughter animals, process carcasses, cool meat, and transport it to the army kitchen for meal preparation. In an 8-hour period, one military mobile slaughterhouse (run by a specialised butchery platoon) can produce two tons of meat, depending on species and size of animals. The equipment necessary for animal slaughter and carcass processing is described in the army quartermaster's manual of material resources. The basic part of the butchery platoon's set is a tent with two departments: (i) animal slaughter, carcass evisceration and processing and (ii) carcass cutting. The set includes the means and equipment for receiving and lairaging animals, slaughtering the stock, and cooling and distributing meat, and the equipment and means for maintaining hygiene. The tools and accessories belonging to the butchery platoon are specifically determined and kept separate from other platoons' equipment. The butchery platoon also has dedicated transport vehicles (refrigerator, water tank, trailers) and a prescribed method to pack the equipment. A butchery platoon consists of a group of soldiers and officers in which there are two butchery departments, drivers, procurers, a veterinary technician and a platoon commander (most often a veterinarian). The duties and manner of work are prescribed for each member of the platoon. The details specified for animal slaughter in field conditions relate to knowing the species and age category of the animals, their transport and reception; veterinary inspection and animal holding facilities before slaughter

are described in particular. The processes of animal slaughter and carcass processing (skinning and evisceration), carcass cutting and meat processing are also all described. Veterinary examination of the organs and carcasses of slaughtered animals, including trichinoscopy in the case of pigs and ungulates, is mandatory. The prescribed meat marking method differentiates the meat into the categories of fit for human consumption, conditionally fit and unfit for human consumption. The organisation of animal slaughter animals under field conditions and during war is also briefly described (*Janošević et al.*, 2017).

9. Conclusion

Mobile slaughterhouses must meet the specific and general conditions for animal slaughterhouses, which are already prescribed by regulation in Serbia. In order to obtain safe meat, it is necessary to respect modern principles of meat production, which include the application of good manufacturing practices, good hygiene practices, standard operating procedures and the HACCP system. Animal slaughter and carcass processing, i.e., the entire production process, must be under the constant supervision of veterinary inspection.

Mobile slaughterhouses, especially in the hilly and mountainous parts of Serbia, would contribute to the improvement of livestock production, especially for the sheep sector. The use of these slaughterhouses in the food production chain would contribute to better and stronger connection of all chain participants. The location and number of mobile slaughterhouses needs to be based on appropriate knowledge and consideration of the raw material inputs, the state of livestock production and human resources in districts, and even of municipalities or groups of nearby municipalities in areas within Serbia.

Da li su Srbiji potrebne mobilne klanice?

Milan Z. Baltić, Marija Starčević, Ivana Branković Lazić, Milica Laudanović, Nataša Glamočlija, Boris Mrdović i Vesna Đorđević

INFORMACIJE O RADU

Ključne reči:
Klanje životinja
Transport
Dobrobit
Mali preživari
Potrošači

APSTRAKT

Mobile klanice prvi put se pominju 1960. godine a koristile su se za obradu trupova odstreljene jelensake divljači. Danas se njihova upotreba za klanje životinja, obradu trupa i hlađenje mesa odnosi, pre svega, za klanje farmskih životinja (izlučenih muznih krava) koje se otežano kreću i teško podnose duži transport kao i za klanje jagnjadi sisančadi, koja nisu načena da piju vodu a transport je duži od 10 sati. Najčešće se upotreba mobilnih klanica vezuje za dobrobit životinja, odnosno brojne stresne situacije kroz koje prolaze životinje od mesta gajenja do boksa za omamljivanja, a zatim iza kvalitet mesa. Za dobrobit životinja naročito su zainteresovani potrošači koji su spremni da plate veću cenu mesa dobijenog od životinja koje su bile izložene manjem stresu (dug transport, nedostatak hrane i vode, prenatrpanost vozila, vremenski uslovi). Prednosti mobilnih klanica je pored smanjnja dužine transporta i direktna veza između odgajivača i klaničara (nema posrednika, otkupljivača). Ovo je od posebnog značaja za brdsko-planinska područja Srbije u kojima se gaje mali preživari, uglavnom u seljačkim domaćinstvima, sa mnjim brojem životinja. Upotreba mobilnih klanica uticala bi i na smanjenje broja životinja zaklanih u domaćinstvima (mali preživari, prasad) i van veterinarskog nadzora. Za primenu mobilnih klanica neophodno je dobro poznavanje sirovinske baze (vrsta i broj životinja, obim proizvodnje hrane za životinje) demografski podaci, saobraćajnice, energija, vodni resursi itd. Mobilne klanice moraju da ispunjavaju sve uslove za rad koji se odnose na stacionarne klanice.

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Authors info

Milan Z. Baltić, https://orcid.org/0000-0003-4469-3411

Marija Starčević, https://orcid.org/0000-0002-0857-5218

Ivana Branković Lazić, https://orcid.org/0009-0005-5844-9278

Milica Laudanović, https://orcid.org/0009-0008-6381-2803

Nataša Glamočlija, https://orcid.org/0000-0003-4799-9416

Boris Mrdović, https://orcid.org/0009-0006-9964-4317

Vesna Đorđević, https://orcid.org/0009-0008-5187-4089