

THE NEED OF SUPERVISION AND CONTROL OVER TRANSPORT OF SLAUGHTER ANIMALS AS THE PART OF GROWING AWARENESS OF ANIMAL RIGHTS AND SUSTAINABLE DEVELOPMENT

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Purpose: The article presents issues related to the transport of slaughter animals in terms of sustainable development and during the time of increased interest in animal rights. The aim of the article is to analyze the functioning of transport companies involved in the transport of animals. The first part of the article presents issues related to animal welfare, which is part of the concept of sustainable development. Particular attention was paid to the issue of welfare during the transport of farm animals to the slaughterhouse.

Methodology: The article presents the results of the Supreme Audit Office on the transport of animals, which were carried out in 1998, 2003, 2005 and 2017, and the results of inspections belonging to the tasks of the Veterinary Inspection in the Silesian Voivodeship in 2019 and 2020. Then the author presents her research results. The survey was conducted among the owners of enterprises handling the transport of slaughter animals in the Silesian Voivodeship and among drivers and guards of these enterprises. 94 business owners and 92 drivers transporting animals participated in the study. Chi-square tests were used to show the relationship between the variables

Findings: On the basis of the conducted research, it was found that the control system is conducive to the enforcement of the law in the field of transport of animals for slaughter in enterprises.

Originality/value: In the context of sustainable development, the subject of animal welfare is being increasingly regarded as essential. Ensuring animal welfare is now the key issue for public opinion, livestock farmers, animal rights organizations, entrepreneurs, transport companies and slaughterhouses. The awareness of people related to publicizing animal abuse is increasing, and we as consumers also have a right to know how animals were treated on farms and during transport.

Keywords: sustainability, animal welfare, animal transport, slaughter animals.

Category of the paper: Research paper.

1. Introduction

During the time of globalization of economic activity, there is a need for system solutions in the field of economic processes, providing for environmental needs. To implement management based on sustainable development principles, knowledge and modern technological ideas are essential (Adamik, Sikora-Fernandez, 2021, p. 1572; Stelmaszczyk, Pierścieniak, Krzysztofek, 2021, p. 2367). Since 1990s, sustainability has been a subject of constant interest among academics, managers and businessmen concerned with long pressure, from different profits, prodding organizations to reconsider their business models, including business practices on society and environment (Bottani, Tebaldi, Lazzari, Casella, 2019, pp. 361-366). The concept of sustainable development is a response to the destabilization of socio-economic and natural systems, also in relation to transport processes. Sustainable development strategies, particularly in Europe, centre on transportation, with social, environmental and economic criteria including project evaluation, appraisal and funding (Anastasiadou, 2021, p. 4760). To this purpose, the EU has launched a set of initiatives, both at institutional and at research level to promote sustainable transportation (EC Website, 2016, 2021). It is essential to implement actions to reduce the negative impact of transport on the natural environment and society. Particular attention should be paid to the transport of animals, which are both part of the natural environment and a food source for humans. Their proper treatment during transport enables not only to protect the natural environment, but, most of all, to ensure human health. During transport, animals must be provided with welfare, which is measured by the five freedoms of animals, which include (Five Freedoms...):

- Freedom from hunger, thirst and malnutrition.
- Freedom from emotional trauma and pain.
- Freedom from pain, wounds and disease.
- Freedom to express natural behavior.
- Freedom from fear and stress.

In 2016 the United Nations Committee on World Food Security published its recommendations in Article VIII entitled *Animal health and welfare*. It reads as follows:

Improve animal welfare delivering on the five freedoms and related OIE standards and principles, including through capacity building programs, and supporting voluntary actions in the livestock sector to improve animal welfare (United Nations..., 2016).

This document and this paragraph are significant for at least two reasons. Firstly, animal welfare is located along with domains of sustainability, and secondly it has taken so long to get there (Buller, Blokhuis, Jensen, Keeling, 2018, p. 81).

The animal caretakers involved in processes of transport attempt to minimize discomfort and stress for the animals, but research is needed to concentrate on the gaps in knowledge and to support the implementation of strategies known to reinforce the human-animal interactions

that occur from farm to slaughter (Buller, Blokhuis, Jensen, Keeling, 2018, p. 1). Although, the people involved in the process of transport like feedlot loading crew, truck drivers, animal handlers at the sale barn and slaughter plant try to minimize stress and discomfort for the animals, they still may be exposed to plenty of stressors such as noise, temperature extremes, unfamiliar humans and animals, lack of water/food and new pen conditions (Swanson, Morrow-Tesch, 2001, p. 79; Broom, 2003, pp. 515-518; Ferguson, Warner, 2008, pp. 12-19; Schwartzkopf-Genswein, Faucitano, Dadgar, Shand, González, Crowe, 2012, pp. 227-243; Cockram, 2017, pp. 157-202; Losada-Espinosa, Villarroel, María, Miranda-de la Lama, 2018, pp. 34-48).

Animal welfare still remains one of the main priorities for livestock producers, businesses, and also consumers. The public focus on where their food comes from with a specific attention to animal welfare. Consumer trust and purchasing surveys have provided insight into how consumers are or are not making decisions on meat purchases. This report indicated for example that only 25% respondents in believe that meat is derived from humanely treated animals (The Center for Food Integrity..., 2018; FMI, 2019).

2. Supervision and control of the transport of slaughter animals in Poland

Certainly, the norms and standards imposed by the law on the animal transport are intended to improve animal welfare. Despite this, it is really difficult to state to what extent they are respected by transport organizers and carriers (Smaga, 2017).

Numerous press reports on the violation of animal rights during transport (<https://www.ciwf.pl...>; <http://wyborcza.pl/1...>; <http://wyborcza.pl/7...>) prove that this subject still requires education among the society. According to the latest report by an animal welfare organization – Compassion in World Farming (CINF) – the current EU regulations on the transport of animals are systematically violated. Polish carriers are also involved in this. The investigation, which was conducted in 2014-2016, included three Polish carriers. During the two-year investigation, 10 transports of calves and lambs between European Union countries were inspected (<http://wyborcza.pl/7...>). The report stated, inter alia, that (<http://wyborcza.pl/7...>):

- the vehicles were not equipped with appropriate drinking troughs and feeding facilities for calves and lambs,
- the carriers did not provide right food for young animals,
- the animals did not have a mandatory break after 9 hours of travel, during which they should be fed and watered. Hungry and thirsty animals licked the bars and tried to suck the bellies of other animals,

- animals were transported for up to 36 hours, while the maximum transport time for these animals is 19 hours,
- the calves were transported at the temperature below 0°C,
- the animals were not looked after during transport. There have been cases of wedged limbs in the slits between the floor and the side walls,
- the animals were loaded onto several levels, crowded. Many animals died during the transport,
- cases of beating, pushing and mistreatment have been reported during unloading.

This report is from 2016, and while its results are controversial, they are not occasional cases.

The Supreme Audit Office in Poland has so far conducted four inspections concerning the animal transport: in 1998, in 2003, in 2005 and in the years 2014-2016. During an inspection by the Supreme Audit Office in 1998, it was found that the conditions of the transported animals were disastrous. It was noted, inter alia, that the means of transport were in a very poor technical and sanitary condition, there were: leaky roofs, no roofs, holes in the floors, in which the animals had been breaking their limbs. The loading surfaces were dirty and not sanitized from previous transports. The animals were transported in an excessive crowding, without proper compartments. There have been reports of kicking animals and pulling them onto the ramp by the ears (Information of the Supreme Audit Office, 1998).

In the report of the Supreme Audit Office of 2003, it was noted that the situation of animals in transport had improved. Means of transport carrying animals met the requirements specified in the regulations to a greater extent than previously. The scope and scale of exceeding the loading density standards also decreased. Cases where animals died during transport or were injured have occurred incidentally (Information of the Supreme Audit Office, 2003).

The inspection conducted in 2003-2004 was taken on the initiative of the Supreme Audit Office, by reason of reports in the press on the inhumane treatment of farm animals, as well as a suggestion of the Deputy Speaker of the Parliament and members of the Parliamentary Group of Friends of Animals (<http://www.viva.org.pl...>).

On May 1, 2004, five new laws related to animal welfare entered into force, and law changes on animal protection were also made. However, there was still a lack of sufficiently detailed regulations regarding all aspects of animal welfare inspections, which made it difficult to conduct the inspections precisely and to apply the criminal sanctions provided for by law. The Supreme Audit Office control presented that the supervision over the conditions of purchase, slaughter and transport of animals was insufficient in the period under examination. The reliability and effectiveness of actions taken by the Veterinary Inspection and the Road Transport Inspection were unsatisfactory. The conditions of animal transport have not improved. The control of 36 entities transporting animals revealed irregularities in relation to 19, i.e., 53% of the audited entities. The control of 52 vehicles carrying animals found irregularities in 50% of the audited vehicles. Among other things, the transport of non-recorded

animals, by vehicles in poor technical and sanitary condition, in which it was not possible to properly dispose the animals, by vehicles without a decision to allow the animal transport, driven by people who did not respect the law. There were also irregularities in actions of Veterinary Inspection authorities. Among 9 audited District Veterinary Inspectorates, irregularities regarding the supervision of collection centres, marketplaces or collective bases were found in 4 inspectorates, regarding the supervision of slaughter in 5, and regarding the supervision of transport in 3. According to the Supreme Audit Office, the supervision of the Road Transport Inspection was also unsatisfactory. The inspections of vehicles transporting animals were out of the designated directions of the Inspection activity. Vehicles transporting animals were audited occasionally. In the period from 2003 to the first half of 2004, the Road Transport Inspection conducted 878 inspections of means of transporting animals and 11 inspections of enterprises carrying out the transport of live animals, out of over 2,000 entities with nearly 4 thousand vehicles that operate in the country. In these inspection protocols, there were no sufficient data necessary to assess the conditions of the animal transport. The scope of cooperation of the Veterinary Inspection with the Road Transport Inspection and non-governmental organizations was also insufficient in the controlled period. No improvement was found in comparison to the results of the previous audits conducted by the Supreme Audit Office. Not all the Supreme Audit Office requests were implemented. Disregard of the provisions of law within the scope of this audit by the Supreme Audit Office is not only of ethical and moral significance. The marginal treatment of entities involved in the animal transport by the Road Transport Inspection was incorrect and not only due to animal welfare, but also due to the risk to road safety posed by vehicles in poor technical condition or driven by people who had not respected the permitted working time limits (Information of the Supreme Audit Office, 2005).

The Supreme Audit Office reports that currently the control of vehicles transporting animals is very difficult (<https://www.agropolska.pl...>): *The veterinary inspection cannot stop the vehicle on its own. Police officers are not trained to inspect vehicles carrying animals, so they prefer to avoid it. In turn, the Road Transport Inspection, which conducts such training, does not have the authority to inspect vehicles weighing up to 3.5 tons. While a large part of livestock is transported by them and the greatest irregularities occur right in them. That is the reason for the next, recent audit by the Supreme Audit Office.* It is part of the entire cycle of research on the situation of animals in Poland (<https://www.agropolska.pl...>). During the 2014-2016 audit, the Supreme Audit Office was also supposed to handle the following issues, which were pointed out by representatives of the Road Transport Inspection and pro-animal organizations (<https://www.agropolska.pl...>):

- scale of penalties not adjusted to the reality, both in terms of the fine values and their recipients,
- no procedures for handling an accident involving animals,
- common rules so that the Border Guard, Police and Customs Service join the inspection of animal carriers,
- supervision over animal markets, where the largest number of animal carriers using vehicles up to 3.5 tons is present. According to those who examine the situation, sick animals, unable to get into cars, and sometimes even to stand are traded there. There are acts of violence against animals at the markets: kicking, twisting their tails, tugging their ears, throwing them off tall cars,

In July 2017, the latest report of the Supreme Audit Office was published – Supervision over the transport and slaughter of farm animals (Information of the Supreme Audit Office, 2017). The justification for undertaking the control was the results of implementing the "Zero tolerance" program by the Veterinary Inspection, which presented violations of animal welfare in transport and slaughter. The reason for the control was also information provided by social organizations and the media, pointing to cases of improper treatment of farm animals during transport and slaughter. The control matters included the following (Information of the Supreme Audit Office, 2017):

- controlling the Veterinary Inspection over compliance with the law on the protection of farm animals in transport and slaughter,
- conducting supervision tasks by the Road Transport Inspection over compliance with the regulations on the protection of animals by carriers,
- taking actions by the Veterinary Inspectorate and the Road Transport Inspection in response to signals about irregularities.

The inspections were conducted: in entities handling the animal transport (Veterinary Inspection and Road Transport Inspectorate), on the road, at places of loading animals and at places of destination of the animal transport.

The inspection showed that the district veterinarians inspected over 755 thousand means of transport for animals in the years of 2014-2015. A total of 2,518 irregularities were recorded, which mainly concerned the animal inability to transport, conducted records, practices during transport and the means of transport themselves. A total of 95 penalties were imposed, and other steps were taken in 901 cases.

In the period between 2014 and the first half of 2016, the Road Transport Inspectorate carried out 6.7 thousand animal transport inspections. Inspectors recorded 59 cases of violations of the rules on animal transport.

The Supreme Audit Office determined in the inspection assessment that the Transport Inspection carried out inspections only at designated points on public roads, on weekdays, during the day. Nonetheless, no tipped inspections were carried out, i.e., those with prior determination of the course of a given transport, hence many carriers could easily slip by the Road Transport inspections. "Farm" transport was completely out of control of the inspectors. The scope of the police supervision over compliance with the law on the protection of animals in the farm animal transport remains unknown - both regarding the possible effects of the inspection and the applied legal actions.

The inspection assessment also stated that the cooperation of the relevant services in order to jointly act for the protection of animal rights during slaughter and transport was insufficient. The Road Transport Inspection occasionally organized inspections together with the Veterinary Inspection. It cooperated with social organizations only in the field of protecting the welfare and humane treatment of horses. Moreover, provincial and district veterinarians did not cooperate with the veterinary government or social organizations.

As a result of the audit by the Supreme Audit Office, conclusions were formulated for the Chief Road Transport Inspector, in which it is recommended to standardize the scope of inspections of entrepreneurs involved in the animal transport in order to obligatorily control matters related to compliance with the regulations on the protection of animals in transport. It is also suggested to collaborate with pro-animal organizations in order to enforce the rules on the protection of animals in transport more effectively. The last recommendation of the Supreme Audit Office for the Chief Road Transport Inspector is an application to the Veterinary Inspection to provide access to the TRACES system, which is used to plan animal transport inspections (Information of the Supreme Audit Office, 2017). In its 2017 report, the Supreme Audit Office also included a diagram regarding the division of animal transport in Poland according to permits, duration of transport and authorities entitled to inspect means of transport (Fig. 1).

For short farm transports (up to 50 km) and for the transport of animals to pastures, no permits for carriers issued by the Veterinary Inspection are required. However, in the case of long transport of animals and in the case of animal transport up to 8 hours with vehicles over 3.5 tons, permits issued by the Veterinary Inspection are required. Vehicles weighing more than 3.5 tons in long transports and up to 8 hours are subject to control by the Road Transport Inspection, Veterinary Inspection and Police. Farm transport and transport to pasture by vehicles weighing less than 3.5 tons is subject to control by the Veterinary Inspection and the Police.

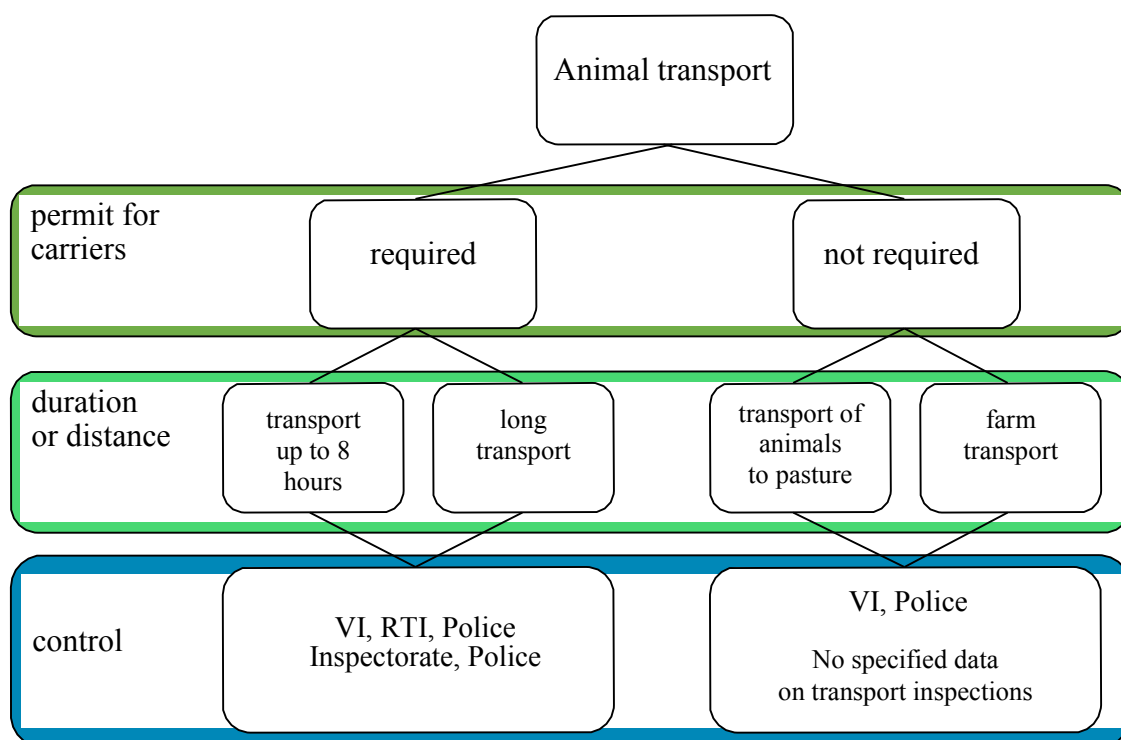


Figure 1. Animal transport in Poland. Source: Information of the Supreme Audit Office, Supervision over the transport and slaughter of farm animals (Information of the Supreme Audit Office, 2017).

Regarding animal welfare, the Provincial Veterinary Inspectorate of the Silesian Voivodeship annually publishes a report on the implementation of the tasks of the Veterinary Inspection in the Silesian Voivodeship. In the report, we can read, *inter alia*, that the Veterinary Inspection, in the field of supervision over compliance with the regulations on the protection of animals in transport, keeps records of carriers and means of transport approved for long transport. The Veterinary Inspection also conducts inspections on the loading and unloading of animals: during road transport, at destinations, collection points, purchase points, transshipment points and control points. These inspections cover a right number of animals transported each year (Information of the Supreme Audit Office, 2017).

The website of the Voivodeship Veterinary Inspectorate in Katowice contains information on the report on the implementation of the tasks of the Veterinary Inspection in the Silesian Voivodeship in 2019 and 2020 (<https://katowice.wiw.gov.pl...>). The number of inspections to ensure the welfare of animals during transport is presented in Table 1.

4,416 planned inspections in the area of animal transport and 4,324 temporary inspections of animal transport were conducted in 2019, in the Silesian Voivodeship, which gives a total of 8,740 inspections. In 2020, the number of planned inspections was 7,153, of which 7,060 were completed. There were 2,001 temporary inspections and 9,061 in all. Table 2 presents the number of detected illegal animal transport activities

Table 1.*Inspections conducted in the Silesian Voivodeship in 2019 and 2020*

| Year | Inspection area | Number of scheduled inspections | Number of planned inspections conducted | % plan implementation | Number of temporary inspections conducted | Total number of conducted inspections |
|------|---------------------|---------------------------------|---|-----------------------|---|---------------------------------------|
| 2019 | Transport - welfare | 4.416 | 4.416 | 100% | 4.323 | 8.740 |
| 2020 | Transport - welfare | 7.153 | 7.060 | 98.7 | 2.001 | 9.061 |

Source: Report on the implementation of the tasks of the Veterinary Inspection in the Silesian Voivodeship in 2019, Katowice 2020; Inspections conducted in the Silesian Voivodeship in 2019, Report on the implementation of the tasks of the Veterinary Inspection in the Silesian Voivodeship in 2020, Katowice 2021; Inspections conducted in the Silesian Voivodeship in 2020 (Report on the implementation..., 2019, 2020).

Table 2.*Illegal activities detected in the Silesian Voivodeship in 2019*

| Year | The activity area of the Veterinary Inspectorate | Number of illegal activities detected | Number of illegal activities eliminated |
|------|--|---------------------------------------|---|
| 2019 | Animal transport | 1 | 1 |
| 2020 | Animal transport | 0 | 0 |

Source: Report on the implementation of the tasks of the Veterinary Inspection in the Silesian Voivodeship, Katowice 2020; Illegal activities detected in the Silesian Voivodeship in 2019; Report on the implementation of the tasks of the Veterinary Inspection in the Silesian Voivodeship, Katowice 2021; Illegal activities detected in the Silesian Voivodeship in 2020 Report on the implementation..., 2019, 2020).

During the inspections regarding animal transport in the Silesian Voivodeship in 2019, one irregularity was detected. However, the Veterinary Inspectorate did not notice any irregularities in the animal transport in 2020.

By analysing and comparing the results of the discussed reports of animal welfare organizations, the results of the audit by the Supreme Audit Office on the transport of animals conducted in 1998, 2003, 2005 and 2017 and the inspections belonging to the tasks of the Veterinary Inspection in the Silesian Voivodeship in 2019 and 2020, it should be stated that due to the large discrepancies between them, it is impossible to assess explicitly the actual condition of the slaughter animal transport. The last audit of the Supreme Audit Office regarding animal transport conducted in 2014-2016 revealed irregularities in every hundredth vehicle transporting animals, and the provisions on the protection of animal rights were not always respected (Information of the Supreme Audit Office, 2017). The 2016 inspection conducted by the Veterinary Inspection in the Silesian Voivodeship did not reveal any major irregularities. Perhaps this is due to the fact that the current rules make it difficult to inspect vehicles transporting animals, and therefore they may be conducted selectively and too superficially. Nevertheless, reports of pro-animal organizations on the conditions of animal transport in Poland and the European Union are highly disturbing. Undeniably, further inspections and supervision over the animal transport are crucial in the process of improving the conditions for the transport of slaughter animals and monitoring their welfare.

3. Methodology

The hypothesis of the article is that the control system does not conduce to the enforcement of the law regarding slaughter animal transport in enterprises.

The research task was performed using primary data sources. A survey was carried out among the owners of enterprises handling the transport of slaughter animals in the Silesian Voivodeship and among drivers and guards of these enterprises. The database of companies with a permit for the animal transport was created based on the information contained on the website of the Chief Veterinary Inspectorate. This database was dated September 2017. 360 entities holding a permit for the transport of animals were registered in the Silesian Voivodeship in this database. After eliminating enterprises handling the transport of animals beyond the scope of this dissertation (such as: animal shelters, veterinary clinics, transport of domestic animals, transport of pigeons, transport of fish or transport of wild and exotic animals), 120 companies were selected for further analysis. 94 questionnaires completed by business owners and 92 questionnaires completed by drivers transporting animals were received

4. Research results

The conducted study also enabled to check to what extent the regulations on the animal transport are a barrier to business activity. The collected data is presented in Table 3.

Table 3.

Are the regulations on the animal transport a barrier to business activity?

| To what extent are the regulations on the animal transport a barrier to business activity | Number of enterprises | Proportion of enterprises |
|---|-----------------------|---------------------------|
| They are definitely a large limitation | 0 | 0 |
| They are rather a big limitation | 7 | 7.4% |
| It is hard to say | 24 | 25.5% |
| They are rather irrelevant | 37 | 39.4% |
| They are definitely not a limitation | 26 | 27.7% |
| Total | 94 | 100% |

Source: Own elaboration based on the results of the surveys.

Table 3 shows that the respondents do not see the regulations on the animal transport as a significant limitation in performing transport activities. The regulations are rather a limitation for only 7 surveyed entities, they do not have any impact on conducting business activity for 37 surveyed entities, and they are definitely not a limitation for 26 surveyed entities. 24 business owners replied that it is difficult to say whether the regulations on the animal transport are a barrier for business activity. Most of the responses, which indicate that the regulations on the animal transport are not a limitation or do not affect business activity, may indicate that they

are not fully aware of the applicable law regulating the animal transport, which is frequently changed. It may be also related to the delegation of tasks and obligations related to the law in the field of transport management to other employees.

The survey enabled to obtain information on ensuring animal welfare in the surveyed enterprises. In this case, more than one answer could be marked. The results are presented in Table 4.

Table 4.

What is animal welfare in the surveyed enterprises according to the owners?

| Ensuring animal welfare in your enterprise consists | Number of ticks | Proportion of ticks |
|--|------------------------|----------------------------|
| Mainly in providing emotional needs | 29 | 30.9% |
| Mainly in providing biological needs | 50 | 53.2% |
| Mainly in providing natural breeding conditions | 25 | 26.6% |
| It is hard to say | 5 | 5.3% |
| Answers in total | 109 | 100% |

Source: Own elaboration based on the results of the surveys.

According to 53.2% of business owners transporting animals, animal welfare is mainly about providing them with biological needs, 30.9% of them believe that ensuring animal welfare also means ensuring emotional needs, 26.6% believe that animal welfare is about providing natural breeding conditions for animals. Only 5.3% of owners indicated the answer that it is difficult to say what it means to ensure welfare.

The questionnaire for the business owners transporting slaughter animals and drivers of these enterprises enabled to assess the condition of the means of transport for animals in their enterprises. The results of the survey are presented in Figure 2.

Only 4.3% of surveyed owners and 3.3% of surveyed drivers assess the condition of the fleet in their own enterprise as mediocre. In turn, 46.8% of owners and 50% of drivers assess their means of transport rather positively, and 48.9% of owners and 46.7% of drivers assess them as definitely positive. This means that both employees and owners of animal transport enterprises are satisfied with the fleet they have, which they believe is at a high level.

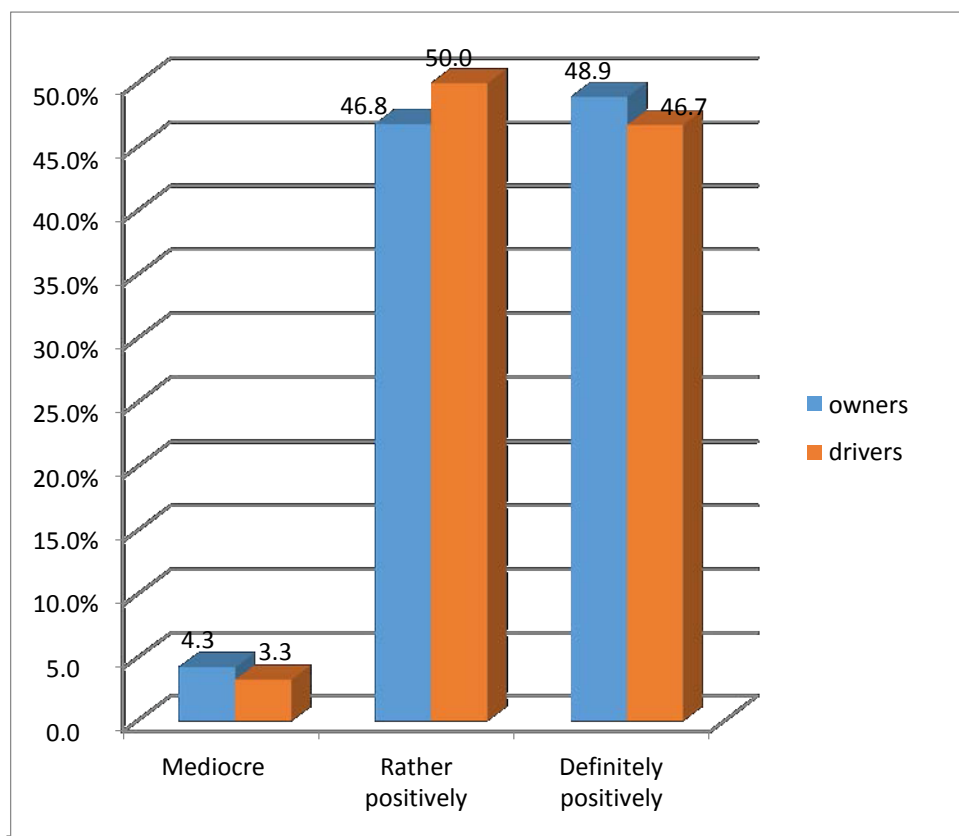


Figure 2. Assessment of the condition of means of transport for animals in the examined enterprises. Source: Own elaboration based on the results of the surveys.

The survey also held a question about the frequency of conducted inspections regarding maintaining animal welfare in transport. Table 5 presents data on the frequency of inspections during the animal transport by the Road Transport Inspectorate assisted by a veterinarian.

Table 5.

The frequency of inspections during the animal transport by the Road Transport Inspectorate officials assisted by a veterinarian

| How often are you inspected during the transport of animals by officers of the Road Transport Inspection assisted by a veterinarian? | Number of drivers | Proportion of drivers |
|--|-------------------|-----------------------|
| Once a month | 21 | 22.8% |
| Every 3 months | 18 | 19.6% |
| Once during each half year | 4 | 4.3% |
| Once a year | 5 | 5.4% |
| I was not inspected by the RTI | 44 | 47.8% |
| Total | 92 | 100% |

Source: Own elaboration based on the results of the surveys.

Based on the results of the survey, it can be concluded that almost half of the surveyed drivers have never been inspected by the Road Transport Inspectorate. 22.8% of drivers are inspected once a month, 19.6% are inspected once every three months, 4.3% are inspected once during each half year, and 5.4% once a year. The media inform more and more about the cases of inhumane transport of slaughter animals. It seems that there are more and more such cases, and they are not minor. Therefore, it can be concluded that the frequency of performed inspections is insufficient.

The questionnaire also enabled to assess the quality of the Road Transport Inspectorate inspection among the surveyed drivers. The results are presented in Table 6.

Table 6.

The method of conducting an inspection by the Road Transport Inspectorate

| How do you assess the RTI inspections | Number of drivers | Proportion of drivers |
|--|-------------------|-----------------------|
| The inspections were rather superficial and inaccurate | 0 | 0% |
| The inspections were conducted very accurately | 46 | 95.8% |
| The inspections were conducted sufficiently | 1 | 2.1% |
| I have no opinion | 1 | 2.1% |
| Total | 48 | 100% |

Source: Own elaboration based on the results of the surveys.

The vast majority of the surveyed drivers who were inspected say that the inspections of the Road Transport Inspectorate were conducted very accurately, 2.1% believe that the inspections were conducted sufficiently, 2.1% do not have an opinion in this matter.

The survey also collected information on the assessment of the impact of actions taken by competing enterprises on the welfare of transported animals. Data regarding this matter are presented in Figure 3.

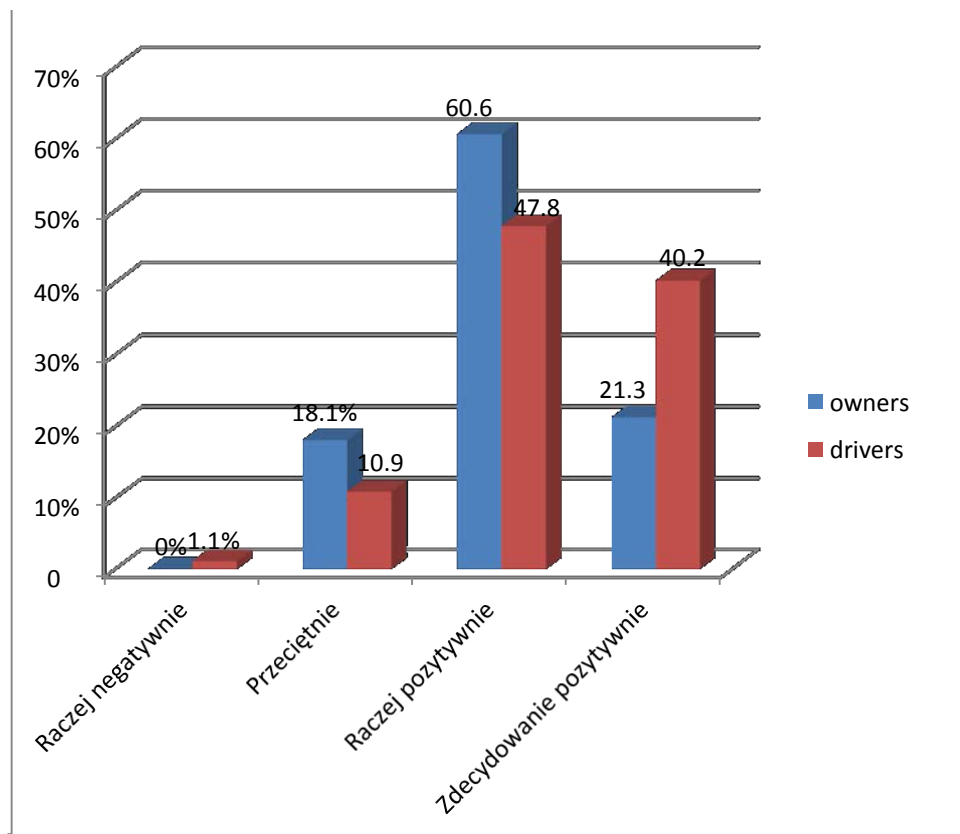


Figure 3. Assessment of the impact of actions taken by competitive enterprises on animal welfare. Source: Own elaboration based on the results of the surveys.

Figure 3 shows that none of the surveyed owners assessed the impact of actions taken by competitive companies rather negatively. However, 1.1% of the surveyed drivers responded in this way. Although, 18.1% of business owners and 10.9% of drivers rated the impact of the

competition actions for the welfare of transported animals as mediocre. This impact was positively assessed by 60.6% of owners and 47.8% of drivers. 21.3% of owners and 40.2% of drivers positively assessed the impact of actions taken by competitive enterprises on the welfare of transported animals. This shows that both the owners and drivers of enterprises assess animal welfare more positively in their enterprises than in competing enterprises.

The questionnaire for the business owners transporting slaughter animals and drivers of these enterprises enabled to assess the condition of the means of transport for animals in their enterprises. The results of the survey are presented in Figure 4.

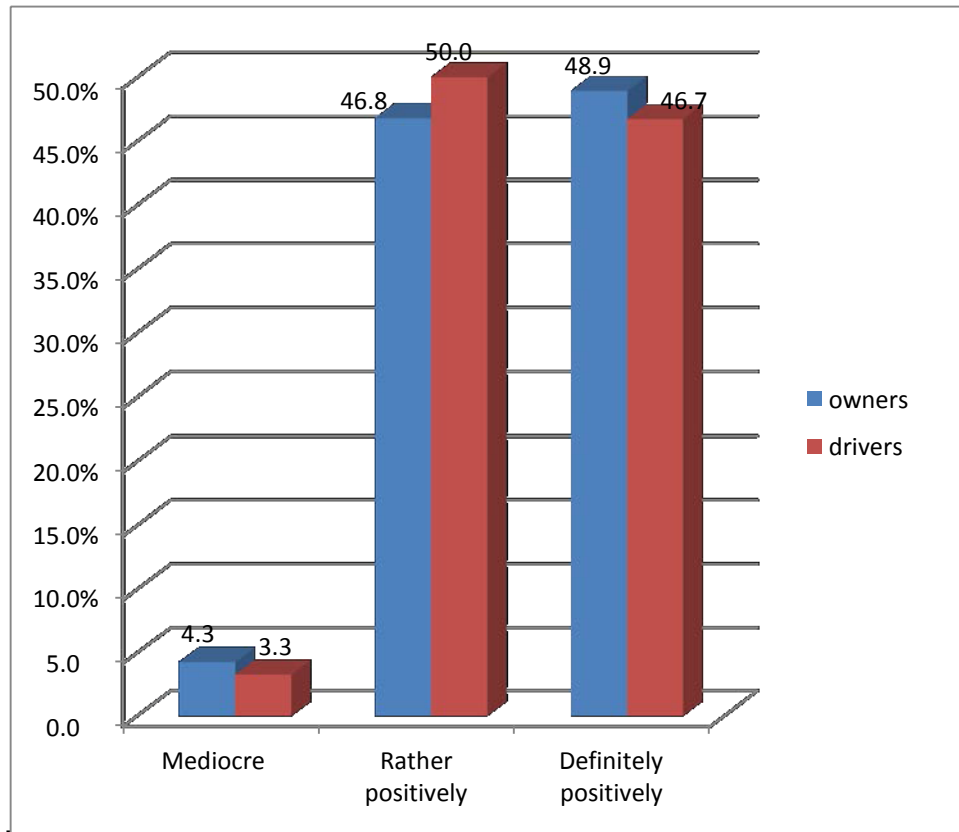


Figure 4. Assessment of the condition of means of transport for animals in the examined enterprises. Source: Own elaboration based on the results of the surveys.

Only 4.3% of surveyed owners and 3.3% of surveyed drivers assess the condition of the fleet in their own enterprise as mediocre. In turn, 46.8% of owners and 50% of drivers assess their means of transport rather positively, and 48.9% of owners and 46.7% of drivers assess them as definitely positive. This means that both employees and owners of animal transport enterprises are satisfied with the fleet they have, which they believe is at a high level.

The survey also enabled to determine whether there is a need to improve the conditions of animal transport in the surveyed enterprises, as presented in Table 7.

Table 7.*Need to improve animal transport conditions in enterprises*

| Do you see the need to improve the conditions of animal transport in your enterprise? | Number of enterprises | Proportion of enterprises |
|--|------------------------------|----------------------------------|
| Definitely not | 25 | 26.6% |
| Rather not | 31 | 33% |
| I have no opinion | 21 | 22.3% |
| Rather yes | 16 | 17% |
| Definitely yes | 1 | 1.1% |
| Total | 94 | 100% |

Source: Own elaboration based on the results of the surveys.

The data presented in Table 7 shows that 33% of the surveyed entities do not see the need to improve the conditions of animal transport in their enterprise, 26.6% definitely do not see such a need, 22.3% have no opinion in this matter. In turn, 17% of the surveyed entities see the need to improve the conditions of animal transport, and 1.1% definitely see such a need. It can therefore be concluded that no need to improve the conditions of animal transport and the lack of opinion in this matter, which account for 81.9% of all responses, may indicate a lack of direct contact between the owners and management of enterprises with transport and animals, and lack of knowledge in this field. In order to verify the hypothesis that: "The control system does not conduce to the enforcement of the law on transport of slaughter animals in enterprises", the relationships between variables were examined:

1. The perception of legal provisions as a barrier for business activity and the welfare of the animals transported in the enterprise.
2. The perception of legal provisions as a barrier for business activity and the condition of means of transport for animals.
3. The level of provided welfare and the frequency of inspections performed by the Road Transport Inspectorate.
4. The level of provided welfare and the assessment of the inspections of the Road Transport Inspectorate.
5. The actions of other drivers or employees of enterprises that affect the deterioration of animal welfare and the frequency of inspections performed by the Road Transport Inspectorate.
6. The actions of other drivers or employees of enterprises that affect the deterioration of animal welfare and the assessment of the inspection of the Road Transport Inspectorate.
7. The assessment of the condition of means of transport for animals and the frequency of inspections performed by the Road Transport Inspectorate.
8. The assessment of the condition of the means of transport for animals and the assessment of the inspection of the Road Transport Inspectorate.
9. The need to improve the conditions of animal transport and the frequency of inspections by the Road Transport Inspectorate.
10. The need to improve the conditions of animal transport and the assessment of the inspection of the Road Transport Inspectorate.

The analysis assumes that the current level and frequency of inspections in the transport of slaughter animals, performed by authorized institutions, does not have a significant impact on the compliance with the regulations by enterprises performing this transport. This impact was examined both in relation to the technical condition of the means of transport and the conditions of animal transport, which directly translates to animal welfare.

Table 8.

Chi-square test: viewing legal provisions as a barrier to business activity and the welfare of transported animals

| Relationships between variables | Value of chi-square test | Number of degrees of freedom | p-value |
|---|--------------------------|------------------------------|---------|
| The perception of the legal provisions as a barrier to business activity and the welfare of animals transported in the enterprise | 28.66 | 93 | 1.000 |

Note. $p = 0.05$.

Source: Own elaboration based on the results of the surveys.

The test results presented in Table 8 show that no statistically significant relationships were found between the analysed variables ($p = 1.000$). Therefore, there is no relationship between the perception of legal provisions as a barrier to business activity and the welfare of animals transported in the enterprise.

Table 9.

Chi-square test: The perception of legal provisions as a barrier to business activity and the condition of means of transport for animals

| Relationships between variables | Value of chi-square test | Number of degrees of freedom | p-value |
|--|--------------------------|------------------------------|---------|
| Perception of the legal provisions as a barrier to business activity and the condition of the means of transport for animals | 21.48 | 93 | 1.000 |

Note. $p = 0.05$.

Source: Own elaboration based on the results of the surveys.

The results of the chi-square test presented in Table 9 show that there is no relationship between the variables ($p = 1.000$). This means that the perception of legal provisions as a barrier to business activity does not depend on the assessment of the condition of the means of transport for animals

Table 10.

Chi-square test: The level of provided welfare and the frequency of inspections of the Road Transport Inspectorate

| Relationships between variables | Value of chi-square test | Number of degrees of freedom | p-value |
|---|--------------------------|------------------------------|---------|
| The level of provided welfare and the frequency of inspections of the Road Transport Inspectorate | 326.05 | 91 | 0.000 |

Note. $p = 0.05$.

Source: Own elaboration based on the results of the surveys.

The test results presented in Table 10 show a statistically significant relationship between the variables ($p = 0.000$). This means that the level of welfare provided in enterprises depends on the frequency of driver inspections of the Road Transport Inspectorate.

Table 11.

Chi-square test: The level of provided welfare and the assessment of inspections by the Road Transport Inspectorate

| Relationships between variables | Value of chi-square test | Number of degrees of freedom | p-value |
|--|--------------------------|------------------------------|---------|
| The level of provided welfare and the assessment of inspections of the Road Transport Inspectorate | 137.58 | 4 | 0.000 |

Note. $p = 0.05$.

Source: Own elaboration based on the results of the surveys.

The test results in Table 11 show a statistically significant relationship between the variables. This indicates that the level of welfare provided in the enterprise affects the assessment of inspections of the Road Transport Inspectorate

Table 12.

Chi-square test: The actions of other drivers or employees of enterprises which affect the deterioration of animal welfare and the frequency of inspections of the Road Transport Inspectorate

| Relationships between variables | Value of chi-square test | Number of degrees of freedom | p-value |
|--|--------------------------|------------------------------|---------|
| The actions by other drivers or employees of enterprises, which affect the deterioration of animal welfare and the frequency of inspections of the Road Transport Inspectorate | 11.113 | 91 | 0.074 |

Note. $p = 0.05$.

Source: Own elaboration based on the results of the surveys.

The test results presented in Table 12 show that there was no statistically significant relationship between the variables ($p = 0.074$). This proves that the actions of other drivers or employees, which deteriorate the welfare of transported animals is not related to the frequency of inspections of the Road Transport Inspectorate.

Table 13.

Chi-square test: The actions of other drivers or employees of enterprises, which affect the deterioration of animal welfare and the assessment of inspections of the Road Transport Inspectorate

| Relationships between variables | Value of chi-square test | Number of degrees of freedom | p-value |
|---|--------------------------|------------------------------|---------|
| The actions of other drivers or employees of enterprises, which affect the deterioration of animal welfare and the assessment of inspections of the Road Transport Inspectorate | 1.833 | 47 | 1.000 |

Note. $p = 0.05$.

Source: Own elaboration based on the results of the surveys.

The results of the chi-square test presented in Table 13 do not show statistically significant relationships between the variables ($p = 1.000$). Therefore, it can be concluded that there is no relationship between the actions of other drivers or employees, which affect the deterioration of animal welfare and the assessment of inspections of the Road Transport Inspectorate.

Table 14.

Chi-square test: the assessment of the condition of means of transport for animals in the own enterprise and the frequency of inspections of the Road Transport Inspectorate

| Relationships between variables | Value of chi-square test | Number of degrees of freedom | p-value |
|---|--------------------------|------------------------------|---------|
| The assessment of the condition of means of transport for animals in the own enterprise and the frequency of inspections of the Road Transport Inspectorate | 332.283 | 91 | 0.000 |

Note. $p = 0.05$.

Source: Own elaboration based on the results of the surveys.

The test results presented in Table 14 show a statistically significant relationship between the variables ($p = 0.000$). This means that the assessment of the condition of the means of transport for animals in the own enterprise depends on the frequency of inspections of the Road Transport Inspectorate.

Table 15.

Chi-square test: the assessment of the condition of means of transport for animals in the own enterprise and the frequency of inspections of the Road Transport Inspectorate

| Relationships between variables | Value of chi-square test | Number of degrees of freedom | p-value |
|--|--------------------------|------------------------------|---------|
| The assessment of the condition of means of transport for animals in the own enterprise and the assessment of inspections of the Road Transport Inspectorate | 150.833 | 47 | 0.000 |

Note. $p = 0.05$.

Source: Own elaboration based on the results of the surveys.

The test results presented in Table 15 show that statistically significant relationships between the variables were drawn ($p = 0.000$). This proves that the assessment of the condition of the means of transport for animals in the own enterprise affects the assessment of inspections of the Road Transport Inspectorate.

Table 16.

Chi-square test: the need to improve animal transport conditions in the own enterprise and the frequency of inspections of the Road Transport Inspectorate

| Relationships between variables | Value of chi-square test | Number of degrees of freedom | p-value |
|---|--------------------------|------------------------------|---------|
| The need to improve animal transport conditions in the own enterprise and the frequency of inspections of the Road Transport Inspectorate | 100.833 | 91 | 0.225 |

Note. $p = 0.05$.

Source: Own elaboration based on the results of the surveys.

There were no statistically significant relationships between the variables ($p = 0.225$) presented in Table 16. This means that there is no relationship between the need to improve the conditions of animal transport in the own enterprise and the frequency of inspections of the Road Transport Inspectorate officials.

Table 17.

Chi-square test: the need to improve animal transport conditions and the assessment of inspections of the Road Transport Inspectorate

| Relationships between variables | Value of chi-square test | Number of degrees of freedom | p-value |
|--|--------------------------|------------------------------|---------|
| The need to improve animal transport conditions in the own enterprise and the assessment of inspections of the Road Transport Inspectorate | 1.000 | 47 | 1.000 |

Note. $P = 0.05$.

Source: Own elaboration based on the results of the surveys.

The results of the chi-square test presented in Table 17 show that there are no statistically significant relationships between the variables ($p = 1.000$). Therefore, it can be concluded that the perception of the need to improve the conditions of animal transport in the own enterprise does not depend on the assessment of inspections of the Road Transport Inspectorate.

4.1. Related work

The authors of Animal Welfare in the U.S slaughter industry – a focus on fed cattle (Edwards-Callaway, Calvo-Lorenzo, 2020, p. 15) surveyed attendees at the annual NAMI Animal Care and Handling Conference, which is attended by many stakeholders, educators, packing plant employees, people in corporate roles at food companies, and auditors. The Institutional Review Board at to anonymously indicate what they felt were the top animal welfare issues. Attendees also have experience with other livestock and poultry species. Respondents were asked the following question: “What do you think are the top 3 animal welfare issues in the beef packing industry?” All answers were reviewed and allocated into larger categories for comparison. The number of times a certain category was mentioned was tallied and then divided by the total number of possible answers (three animal welfare issues listed \times total number of respondents) by position within the industry to be expressed as a percentage (role = n, total no. of possible answers: Managers = 22, 66; Auditors = 5, 15; Corporate = 8, 24; Educator = 5, 15). Figure 5 presents the resulting percentages for the top three challenges indicated by respondents’ roles. Training needs and cattle handling with specific mention of downer animals were listed as main priorities in all groups. Stunning was also mentioned across multiple groups.

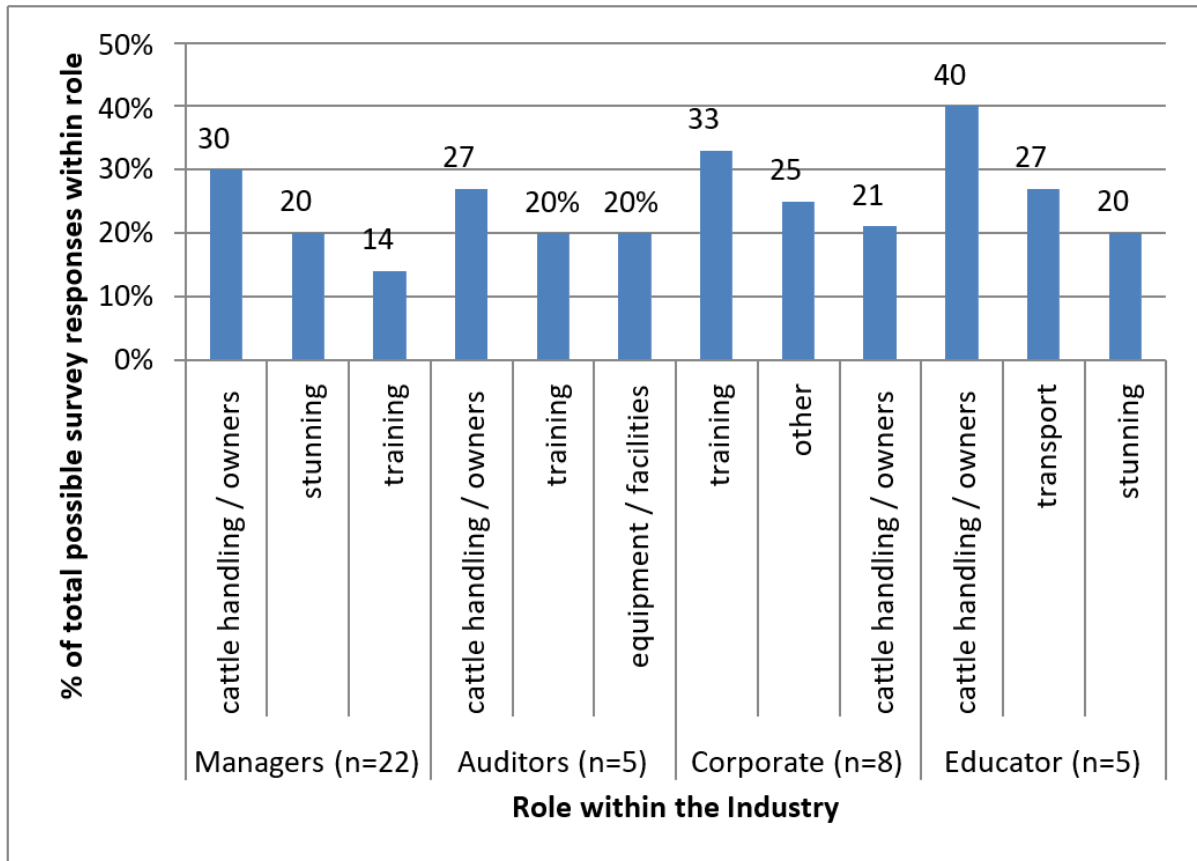


Figure 5. Assessment of the condition of means of transport for animals in the examined enterprises. Source: Edwards-Callaway, L.N., Calvo-Lorenzo, M.S. (2020). Animal Welfare in the U.S slaughter industry – a focus on cattle. *Journal of Animal Science*, Vol. 98, No. 4, p. 15.

Figure 6 shows answers for survey question „What do you think the beef packing industry needs to do to improve animal welfare?” Astonishing was also mentioned across all groups the following answers: training and education, communication, facility maintenance and research. It is interesting that majority of survey responses were based on some aspect of the human-animal interaction. Training and communication were two main factors identified as areas of need.

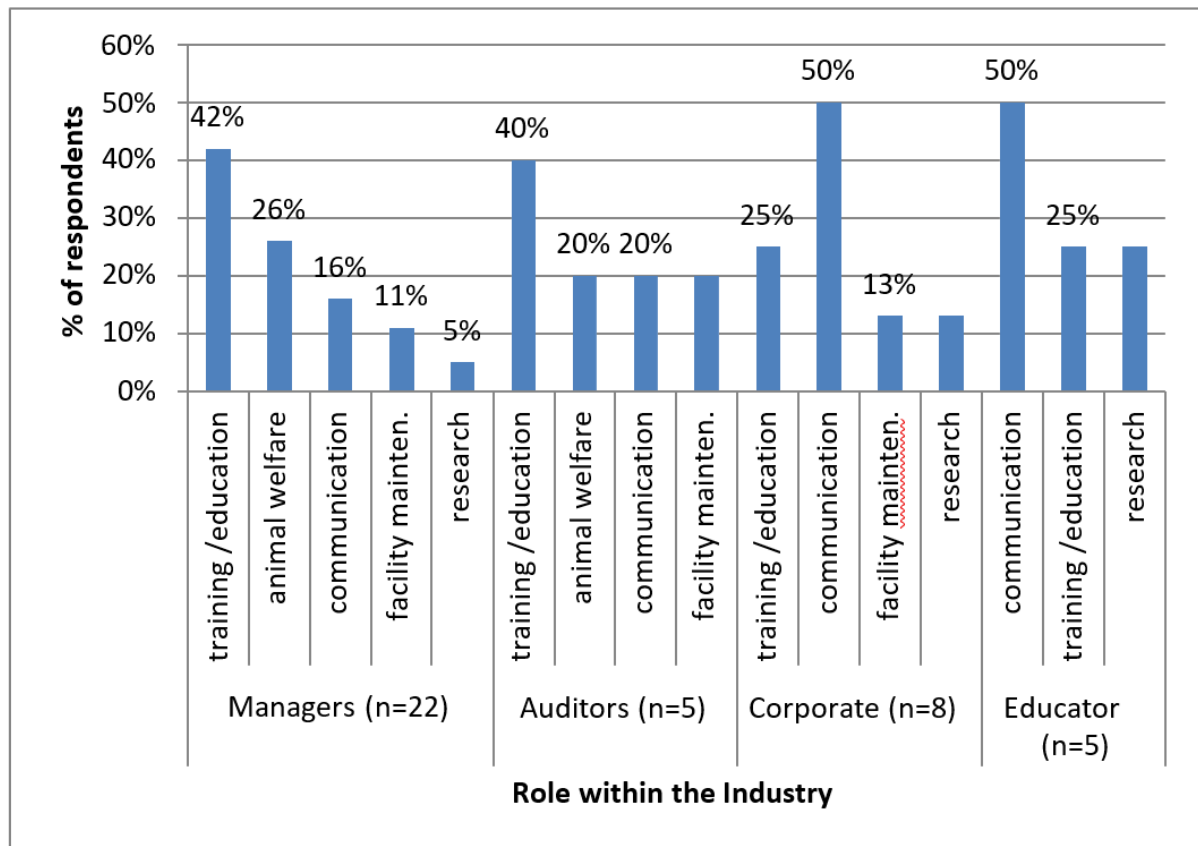


Figure 6. Responses from North American Meat Institute (NAMI) Animal Care and Handling Conference attendees to the question "What do you think the beef packing industry needs to do to improve animal welfare?" Source: Edwards-Callaway, L.N., Calvo-Lorenzo, M.S. (2020). Animal Welfare in the U.S slaughter industry – a focus on cattle. *Journal of Animal Science*, Vol. 98, No. 4, p. 15.

According to the survey, there is an opportunity for more focus on providing appropriate training to plant employees, likely both in quality and quantity. The author's survey showed that animal caretakers and supervisors are asking for more focus on communication and training relative to animal welfare. An emphasis on the areas of training and education and its interconnection with the animal welfare topics is warranted for future research

5. Conclusions

Based on the conducted research, it was found that the main hypothesis that "The control system does not conduce to the enforcement of the law in the transport of slaughter animals in enterprises" has been verified negatively. There were no statistical relationships between:

- The perception of legal provisions as a barrier to business activity and the welfare of animals transported in the enterprise.
- The perception of legal provisions as a barrier to business activity and the condition of the means of transport for animals.

- The actions of other drivers or employees of enterprises, which affect the deterioration of animal welfare and the frequency of inspections performed by the Road Transport Inspectorate.
- The actions of other drivers or employees of enterprises, which affect the deterioration of animal welfare and the assessment of inspections by the Road Transport Inspectorate.
- The need to improve the conditions of animal transport and the frequency of inspections of the Road Transport Inspectorate.
- The need to improve the conditions of animal transport and the assessment of inspections performed by the Road Transport Inspectorate.

Legal provisions have a significant impact on the activities of enterprises regarding organizing and functioning of slaughter animal transport. Law enforcement is favoured by the control system, in particular the frequency and assessment of inspections of authorized institutions. The relationships were shown between:

- The level of provided welfare and the frequency of inspections performed by the Road Transport Inspectorate.
- The level of provided welfare and the assessment of inspections of the Road Transport Inspectorate.
- The assessment of the condition of means of transport for animals and the frequency of inspections performed by the Road Transport Inspectorate.
- The assessment of the condition of means of transport for animals and the assessment of inspections of the Road Transport Inspectorate.

Entrepreneurs are aware of the importance of legal provisions regulating their activities. The result of this awareness is the acceptance of legal provisions that do not constitute a barrier for enterprises in running their business. Regarding technical means of transport and ensuring animal welfare, both the frequency of inspections and the assessment of the Road Transport Inspection are important. Therefore, enterprises perceive the role of inspections in observance of legal regulations. A certain exception may be the lack of influence of the frequency of inspections and their assessment on the need to improve the conditions of animal transport. This involves treating animals as commodities, not as living organisms. Entrepreneurs and drivers are often unaware of the feelings and needs of the transported. However, on the other hand, they are aware that ensuring animal welfare during transport is an important activity in terms of the law and the control system. It is also surprising that there is no relationship between the actions of other drivers or employees of enterprises, which affect the deterioration of animal welfare, and the frequency and assessment of inspections. Although the respondents see the impact of inspections on their actions regarding ensuring animal welfare, they do not see the role of inspections in ensuring animal welfare in competing enterprises.

The respondents fully accept the need for legal regulations and a system for controlling their observance in terms of the transport of slaughter animals, which results in the fact that the law is not perceived as a barrier to running a business in the analysed area. The awareness of people related to publicizing animal abuse is increasing, and we as consumers also have a right to know how animals were treated on farms and during transport. An extremely important role in shaping the awareness of producers, carriers and consumers is played by relevant state authorities, as well as pro-animal and pro-environmental organizations supervising and controlling animal welfare.

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