

The negative impact of extreme temperatures on animal welfare during transport

A dossier by Animals' Angels





Italy, 10.08.2011. National transport. Chickens in heat stress, searching for air.

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Cover picture: Italy, 11.08.2024. National transport. Pig panting with open mouth in front of a ventilator turned on.

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Photos: Animals' Angels e.V.



Italy, 11.08.2024. High temperature and humidity inside the compartment of lambs transported from Hungary.

Extreme temperatures and animal welfare during transport

The welfare of animals during transport is compromised by numerous factors. Among the foremost, extreme temperatures expose animals to discomfort and distress, and can be even life threatening to them, that must be avoided.

Current relevant legislation¹ has stipulated that no one may make animals suffer during transport and more specifically that the weather conditions must be taken into account when organizing transports. Transports must also be as short as possible, there must be no delays, it must be ensured that the animals' needs are met during the journey, the animals are protected from extreme temperatures, have space, water, food and are unloaded as soon as possible at the abattoirs. If the extreme temperature alone is a cause of suffering, when it is combined with other factors, such as the increase in journey time, the overcrowding, thirst and hunger, then the consequences for the animals worsen, even to the point of being fatal. Reality has shown that these risk factors are often ignored during the transport of animals, due to the demands of the food industry to load each truck with as many animals as possible to maximise profit, to transport live animals in all seasons, including when it is too hot or too cold, at the hottest or coldest times of the day, for logistical and production reasons, regardless of how long the route is, as long as it is economically convenient. Equally real and common are delays due to the most disparate reasons, from traffic on the road, to drivers' breaks to comply with social legislation on road transport, to bureaucratic practices or hiccups, to organisational and logistical negligence, to unforeseen events like a flat tire or engine breakdown².

Laws protecting farmed animals were created to minimise the suffering inherent in raising them for food production. At the moment, however, there are still too many situations of extreme suffering happening to animals during transport. Now it is necessary to balance the needs of profit with those of the animals. They will always get the worst of it, anyway.

If we want to talk about protection and sparing the worst and inevitable suffering, **transport of live animals during extreme temperatures must not take place** because the risk to compromise their welfare is too high. The law must introduce precise and clear limits that do not give rise to grey areas but set crystal-clear requirements that, if violated, are punished with well-defined and dissuasive sanctions.

¹ Council Regulation EC No. 1/2005 on the protection of animals during transport, articles 3, 5 and 6 in connection with Annex I, Chapter VI, point 3 but also Council Regulation EC No. 1099/2009 on the protection of animals at the time of killing, articles 3, 6 and 15 in connection with Annex III, point 1.2.

² "Delays in live animal transport – a mismatch between theory and practice A documentation by Animals' Angels with observations from 2019 until mid-2023", <https://www.animals-angels.de/en/publications/documentations.html>

The latest position of science on extreme temperatures

The European Food Safety Authority (EFSA) is an independent agency that provides scientific advice to the European Union on food safety, including animal welfare and health. In 2020, EFSA received mandate, from the EU Commission, to carry out studies which are up to date on the position of scientific research on animal welfare during transport. These documents are meant to be the scientific basis for the proposal to amend Council Regulation EC No. 1/2005 on the protection of animals during transport, while the latter is still based on data and opinions from 2002.

In 2022, EFSA produced five scientific opinions on the welfare of cattle, pigs, equidae, small ruminants, birds and rabbits during transport.

These opinions investigated, among others, the aspect of temperature during transport, considering it as one of the hazards that most compromises animal welfare.

1. EFSA's opinion on welfare of cattle during transport, 2022³

This report concluded that, in order to reduce the negative consequences on cattle welfare during transport, the temperature inside the vehicles "should not exceed the upper critical temperature estimated to be 25°C".

EFSA compiled a number of recommendations that should be put into practice to avoid heat stress for transported cattle:

- avoid loading cattle during the hottest hours of the day. Only transport the cattle in colder part of day (night if necessary).
- Avoid delays in high temperatures and humidity.
- Avoid stopping transport vehicles (unless air-conditioned), because the internal temperature increases in a stationary vehicle, if not ventilated.
- Ensure appropriate ventilation inside the vehicle, to reduce the risk of high effective temperatures.
- When animals show signs of heat stress, and available ventilation is not sufficient to mitigate the heat stress, they should be unloaded immediately, moved to a place with shade and ventilation and provided with water.
- Use clinical respiratory signs (cough, nasal discharge, eye discharge, ear drooping or elevated rectal temperature) to assess heat stress, which are widely used at farm level. Consider the combined effects of temperature and humidity to evaluate animal welfare during transport.

EFSA described the following Animal Based Measures (ABMs) indicating heat stress in cattle during transport:

- Respiration rate
- Panting
- Sweating
- Rectal temperature

But also, the following ABMs indicating respiratory disorders should be taken into account⁴:

- Nasal discharge
- Ocular discharge
- Respiratory rate
- Ear position

³ <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2022.7442>

⁴ They can be caused by heat stress.

EFSA did not refer to any precise minimum temperature and humidity to limit cold stress for cattle in transport. It just stated that in cold conditions, cattle require sufficient space during transport to be able to move away from cold areas, such as air movement at ventilation inlets. Otherwise, they may experience cold stress.

2. EFSA's opinion on welfare of small ruminants during transport, 2022⁵

According to this report, "sheep should be transported in their thermal comfort zone, the upper threshold of which is estimated to be 25°C. The risk of heat stress, and the severity of heat stress, is likely very high when the thermal conditions reach the upper critical temperature estimated to be 28°C for fleeced sheep, and 32°C for shorn sheep". There are no information concerning lambs, who are more vulnerable to experience heat stress.

EFSA compiled a number of recommendations to reduce heat stress for transported sheep:

- loading times should be short and carried out in the early morning. Shading should be provided.
- The journey should be well planned in advance to avoid delays in loading and unloading operations.
- Avoid transporting the sheep during the hottest period of the day. Only transport the sheep during the cool part of the day (night if necessary).
- Avoid stopping transport vehicle (unless air-conditioned).
- Appropriate ventilation should be ensured. Provide convective air cooling with mechanical fans and increase ventilation by increasing number and surface area of side shutters.
- Decrease stocking density.
- When signs of heat stress are identified, complete the journey as soon as possible.
- In case of emergencies, sheep can be wetted with a hose.
- Water spillage should be avoided on the floor, from drinkers, to limit the humidity inside the truck.
- Upon arrival at the destination, sheep should be unloaded into a shaded pen with drinking water, plenty of space and several hours of rest time.

EFSA described the following ABMs indicating heat stress in small ruminants during transport:

- Rectal temperature
- Panting
- Respiratory rate
- Salivation
- Sweating

EFSA did not refer to any precise minimum temperature and humidity to limit cold stress for small ruminants in transport.

⁵ <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2022.7404>

3. EFSA's opinion on welfare of equidae during transport, 2022⁶

This report concluded that the temperature inside vehicles transporting horses should not exceed the upper critical dry temperature of 25°C.

EFSA compiled a number of recommendations to reduce heat stress for equidae in transport:

- loading and unloading should take place when it is not too hot, and the vehicle should be parked in the shade.
- The journey should be well planned to avoid any delays after animals are loaded.
- Avoid parking the vehicle under direct sun and open the ventilation slats to a maximum during stationary periods. Keep the vehicle engine running, to allow forced ventilation or air conditioning to operate.
- Any horse showing signs of heat stress should be unloaded, placed in the shade, given a cold shower, water to drink and a veterinarian should check the health status of the animal.
- Consider the combined effects of temperature and humidity to evaluate animal welfare during transport of horses.

EFSA described the following ABMs indicating heat stress in horses during transport:

- Sweating
- Rectal temperature
- Heart rate
- Respiratory rate

EFSA did not supply any minimum temperature limit for cold stress for equidae. It just stated that in cold conditions, horses during transport require sufficient space to be able to move away from cold areas, such as air movement at ventilation inlets. Otherwise, they may experience the cold stress, involving discomfort and potentially distress.

4. EFSA's opinion on welfare of pigs during transport, 2022⁷

The report concluded that "the upper threshold of the Thermal Comfort Zone (TCZ) and the upper critical temperature of sows during transport are 20°C and 22°C dry temperature, for pigs destined to slaughter 22°C and 25°C, for weaners of ca. 30 kg are 25°C and 30°C. In pig transports the temperature should not exceed the upper critical temperature".

EFSA compiled a number of recommendations to reduce heat stress for pigs in transport:

- avoid loading and unloading pigs during the hottest hours of the day to avoid extreme temperatures, especially when vehicles are not equipped with mechanical ventilation.
- When possible, the vehicle should be parked in an area that provides shade and allows for a breeze to pass through the sides, and the loading ramp should be opened.
- Avoid transporting animals during the hottest hours of the day if outside temperatures are higher than the TCZ.
- Ensure appropriate ventilation inside the vehicle to reduce the risk of high effective temperatures.
- Reduce stocking density. Insufficient space for all pigs to lay down in lateral recumbency will impede thermoregulation, worsening heat stress and thirst.
- When animals show signs of heat stress, they should be unloaded immediately, moved to a place with shade and ventilation and watered. Animals can be cooled down using water sprinklers, showers or equivalent, if the ventilation permits exchange of humidity.

⁶ <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2022.7444>

⁷ <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2022.7445>

- Consider the combined effects of temperature and humidity to evaluate animal welfare.

EFSA described the following ABMs for heat stress in pigs during transport:

- Respiratory rate
- Rectal temperature
- Panting
- Skin discoloration

EFSA did not refer to any precise minimum temperature and humidity to limit cold stress for pigs in transport. EFSA just stated that during cold conditions, pigs require sufficient space to be able to move away from cold areas, such as air movement at ventilation inlets. Otherwise, they can experience cold stress and even frostbite.

5. EFSA's opinion on welfare of birds and rabbits transported in containers, 2022⁸

EFSA recalls for a table with the Thermal Comfort Zones for transported broilers defined by Apparent Equivalent Temperature (AET). AET⁹ system can also be applied to other birds, considering their differences of weight, metabolic capacity, physiological age conditions and insulation. Temperature for end-of-lay hens should be maintained above 18°C. Temperature inside all transport containers with domestic birds should not be below 10°C.

For what concerns rabbits, "to prevent heat stress, rabbits should travel in their safe zone, so they require no or minimal thermoregulatory efforts during the journey. If Temperature-Humidity Index (THI) remains below 27.8, rabbits will not experience heat stress during transport (safe zone). 2) Rabbits should never travel in the danger zone (THI is above 28.9) in order to avoid heat stress". Temperature inside all transport containers should not be below 10°C during transport.

EFSA compiled a number of recommendations to reduce heat and cold stress for birds and rabbits in transport:

- avoid the hottest hours of the day when planning transportation in vehicles with passive ventilation¹⁰. Journeys should be undertaken during the night or coolest hours of the day, if the weather forecast predicts hot, sunny and/or humid conditions during other parts of the day.
- Transport animals in vehicles using effective mechanical ventilation or air conditioning.
- Reduce the number of birds and rabbits per crate or drawer.
- At arrival, animals should be unloaded immediately from the vehicle. Containers should be spaced out and fans directed at the animals if panting is observed.
- If there are delays upon arrival at a slaughterhouse, in warm or hot weather, naturally ventilated vehicles should keep moving, out on the road again, until animals can be unloaded.
- Monitor and record temperature and relative humidity inside the transport containers.
- Leave empty individual containers or entire modules in the locations within the load known to be most at risk for heat stress.
- Increase size or number of perforations of the containers to increase efficacy of passive ventilation regimes.
- All slaughterhouses should be equipped with portable fans to ventilate the stationary vehicle, with roofs and wall structures to provide shade.
- Vehicles and/or modules should have curtains to prevent cold stress or even solid sides.
- Avoid loading modules and crates with birds or rabbits near the air inlet to prevent cold stress.

⁸ <https://www.efsa.europa.eu/en/efsajournal/pub/7441>

⁹ Index based on dry-bulb temperature and relative humidity.

¹⁰ "The modular and container structure of vehicles for broiler transport and for other categories of poultry makes it difficult to achieve good ventilation of all birds in the bio-load using only passive ventilation systems."

- Avoid the coldest hours of the day to prevent cold stress.
- Avoid any wetting of birds and rabbits or crates and drawers if ambient temperatures suggest a risk of cold stress.

EFSA described the following ABMs indicating heat or cold stress in birds and rabbits during transport:

- Panting for heat stress in birds.
- Huddling, fluffing up of feathers, shivering, cloacal temperature for cold stress in birds.
- Panting, position and colour of the ears, salivation, for heat stress in rabbits.
- Piloerection, huddling, core body temperature, dropping of the ears and shivering for cold stress in rabbits.

Transports during extreme temperatures observed by Animals´ Angels

Problems observed during extreme temperatures

Animals´ Angels has observed more cases of European transports during high temperatures than during very low temperatures. This is because the majority of investigations took place in southern Europe, which is characterised more by scorching summers than by freezing winters.

The teams recorded the outside temperature taken by the car´s thermometer or by a manual thermometer-hygrometer. Sometimes the teams could measure the temperature inside the animal compartments, using a thermometer-hygrometer with a probe placed into the environment around the animals, not in contact with their body or the vehicle structures.

According to the observations of Animals´ Angels during the years, pigs demonstrate heat stress breathing with open mouth, with laboured breath, with increased respiration rates, slobbering and with foamy mouths. Chickens show heat stress breathing rapidly with their beak open and seeking for air outside the crates. Sheep show heat stress by breathing fast, also with open mouth, extending their neck or protruding their tongue when heat stress is severe. Cattle slobber and present foamy mouths, they may also have ocular or nasal discharge. They show increased respiration rates, they pant and stretch their neck and protrude their tongue when heat stress is severe. The teams of Animals´ Angels took photos or recorded videos of the visible signs of heat stress of the animals or of the measured temperature, when possible. The teams also counted the number of breaths, by observing the movement of the flanks for 10 seconds, in order to be able to establish the respiratory rates.

The result of all the observations is that the existing EU rules on the protection of animals from extreme temperatures in transport are flouted because provisions are insufficient, unclear and contradictive. Recommendations of EFSA, circulars, good practices and guidelines are usually disregarded, likely because they are not legally binding.

Animals´ Angels has been finding animal transports during the day, with temperatures of over 30°C and even 35°C and animals on board showing obvious signs of heat stress.

Despite high temperatures, the number of animals loaded in the vehicles tends to remain the same throughout the year or varies by a few individuals, instead of being properly reduced in summer, to avoid heat stress by body contact and crowding.

The vast majority of vehicles transporting animals by road, over long distances, are equipped with fans, not with air condition. Ventilators provide some relief by moving the air for the animals standing directly in front of them, but not for every animal on board. Fans only serve for air circulation but do not lower the temperature.

Drivers stop for compulsory breaks¹¹ in the sun, without turning on either fans or drinkers for the animals. On short journeys, vehicles are not even equipped with such devices. Often it is difficult to find shaded places. Some drivers even stop for dinner or lunch before arriving to destination, leaving the animals in the sun without any ventilation nor water systems.

Water, if left on, tends to finish and drivers keep telling Animals´ Angels teams that they prefer not to turn the water on because pigs play with it, wasting it on the floor, increasing humidity and ammonia fumes.

Animals continue to be transported in high summer, getting stuck in daytime traffic jams even when they are predictable (e.g. during vacation periods) or getting stuck at borders where delays are well-known to be common (e.g. Bulgarian-Turkish border).

Slaughterhouses receive animal transports during daytime even in hot periods of summer, in broad daylight, when the sun is at its zenith and the weather forecast has given the alarm for sultriness and excessive heat. Not only, but animals also remain on board the stationary trucks in the yards¹². In the best case beside fans that are more scenic than effective or under small tents that do not cover entirely the vehicle and not all vehicles. To an Animals´ Angels´ complaint, the owner of a slaughter plant, where all this happened, replied that the logistics of meat production cannot be stopped or adapted to the weather. The competent veterinary office replied that even the trucks for short distances are required to be equipped with drinkers and fans in summer, to repair the complicated logistic of slaughterhouses, that can never be stopped, even on days of excessive heat alert.

In the experience of Animals´ Angels, no authority has measured and ascertained the temperature on the spot, because of the uncertainty of how to measure it. Yet, in order to measure it, the transport needs to be stopped, which would be unreasonable and regrettable during very hot temperature. The animals would suffer even more to the point of death, due to interrupting the ventilation from the vehicle movement.

Live transports, that should never take place in extreme temperatures, take place. They have become uncontrollable because the provisions on temperatures and on heat or cold suffering are indefinite and vague in the Regulation. Recommendations, that sought to bring clarity to the vague provisions of the Regulation, have no legal and coercive value. In some cases, it is difficult or unrealistic to put them into practice. Sometimes they are unprofitable or simply an extra effort that negligent operators do not put into practice. And so, recommendations are routinely disregarded, so negligible is the risk of being checked and sanctioned. And the suffering of the animals, in the heat and in the cold, is perpetuated and is not prevented nor sanctioned.

Please, find on the following pages some practical examples of the above mentioned problems that Animals´ Angels has been observing over the years as well as recently.

¹¹ E.g. Drivers rests provided by Council Regulation EC No. 561/2006 on the harmonisation of certain social legislation relating to road transport or watering interval provided by Regulation EC No. 1/2005, article 6 in connection with Annex I, Chapter V, point 1.4.

¹² "When trucks are stationary, e.g. for loading and unloading, the risk for heat stress increases", Efsa opinion on animal welfare during transport of small ruminants, 2022

Empirical examples

a) National transport of chickens in Italy, August 2024 with 30°C to 38.9°C



Dead chicken (left), unloading of cages in the sun (right)



External temperature of 38.9°C and humidity of 44.1% during the unloading of the cages

Vehicle and license plates: truck and trailer with Italian license plates, [REDACTED]
Place, date, time of observation and outside temperature recorded: Ferrara, Italy, 09.08.2024, 30°C and 70% humidity outside at 10:28; subsequently, 31°C at 10:40, 32°C at 11:05, 33°C at 11:15, 34°C at 11:41.

Place and time of arrival and outside temperature: Martini Alimentare Srl slaughterhouse in Gatteo (FC), Italy, 12:27, 34°C, 45% humidity. The thermometer in the sun indicated nearly 39°C.

Time of unloading: between 12:50 and 13:00

Heat stress signs observed: some chickens breathed with their beaks open.

Additional animal welfare concerns:

- High temperatures and mugginess, heat alert.
- The transport was bottled up and stopped in several traffic jams between Bologna and Forli, due to the predictable high traffic of holidaymakers.
- The truck waited half an hour in the sun, in the inner yard of the slaughterhouse, and was only partially under a green shade cloth during unloading. While a forklift unloaded the cages with chickens, another forklift loaded empty cages into a vehicle parked next to it, instead of speeding up the unloading of the cages with chickens in the heat.
- A second vehicle loaded with chickens arrived at 12:52 p.m., which had to wait in full sunlight.

b) National transport of chickens in Italy, August 2024, with 32°C



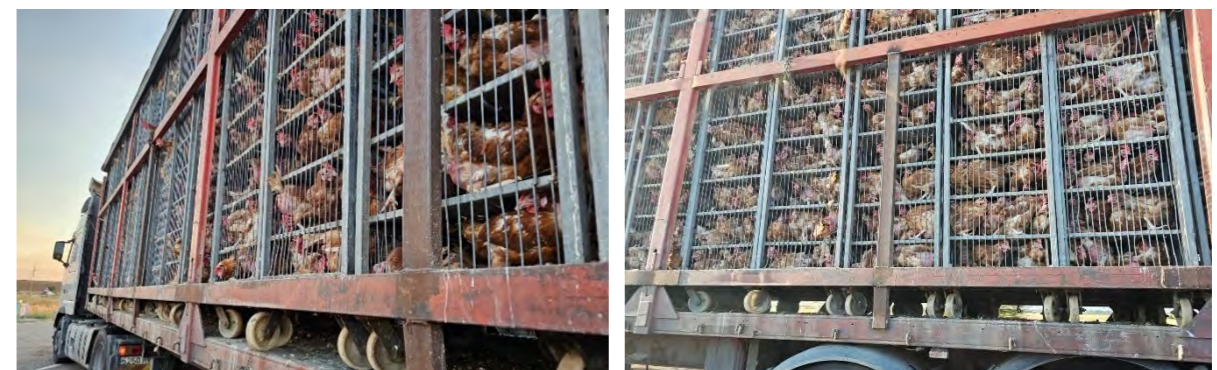
Metal flaps limiting ventilation

Vehicle and license plates: truck and trailer with Italian license plates, [REDACTED]
Place, date, time of observation and outside temperature recorded: Ferrara, Italy, 13.08.2024 at 10:10 with 32°C outside.

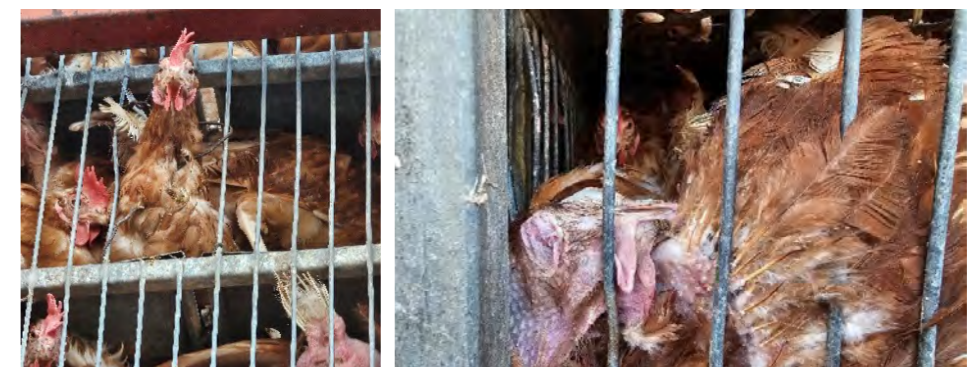
Animal welfare concerns:

- high temperature and mugginess,
- Heat alert.
- The metal flaps that covered all the cages, together with the rear solid door of the lorry, prevented ventilation.

c) National transport of spent hens for slaughter in Spain, August 2024, with 30°C–31°C



Overcrowded, restless spent hens, some dead



Chicken seeking for air (left) and apparently exhausted with eyes closed (right)

Vehicle and license plates: semitrailer truck with Spanish license plates [REDACTED]

Place, date, time of observation and outside temperature recorded: highway 231, km 126 direction León, Spain, 19.08.2024, 19:20, 30°C-31°C.

Animal welfare concerns:

- high temperature and mugginess.
- Heat alert.
- At least two dead hens.
- Hens were seeking for hair, pressing against the grids of the crates.
- Apparent overcrowding.
- Broken cages not escape proof, risk for road traffic, two hens lose under the cages and left there during the journey.

d) National transport of pigs for slaughter in Italy, August 2024, with 33°C–36°C



Pigs showed mouth open and laboured breathing



Pigs with foam at mouth (left) and panting (right)



Temperature inside the compartment: 34.6°C with 41% humidity. And panting with open mouth

Vehicle and license plates: semitrailer truck with Italian license plates [REDACTED]

Place, date, time of observation and outside temperature: Ferrara, Italy. 11.08.2024, 35°C at 13:20, and 36°C at 13:43.

Place and time of arrival and outside temperature recorded: Sorrentino slaughterhouse in Mozzagrogna (CH), Italy, 17:53, 34°C.

Time of unloading and outside temperature: 18:48, 33°C.

Heat stress signs observed: drooling at the mouth, fast breathing with the mouth open (ca. 120 to 180 bpm¹³ and even 200 bpm)

Additional animal welfare concerns:

- High temperature and mugginess.
- The transport stopped in a car park, on the A14 motorway, for the mandatory driver's break of 45 minutes, under the sun, with 34.6°C and 41% humidity inside the animal compartments.
- The animals appeared overcrowded as they were lying on top of each other.
- The fans only worked on the first floor.
- The drinkers, installed on one side only, provided a weak trickle of water. The drinkers on the third floor were not accessible because of metal bars preventing it.

e) National transport of cattle for slaughter in Italy, August 2024, with 36°C–38°C



Bulls with intense salivation/slobbering

Vehicle and license plates: semitrailer truck with Italian license plates [REDACTED]

Place, date, time of observation and outside temperature recorded: Ferrara, 12.08.2024, 36°C-38°C.

Place and time of arrival and outside temperature: entered the slaughterhouse Inalca in Castelvetro di Modena (MO), Italy, 12.08.2024, between 13:35 and 14:11, 37°C outside.

Time of unloading and temperature: at 14:33 the lorry had not yet unloaded the animals, with an external temperature of 37°C.

Heat stress signs observed: bulls of an estimated 700/800 kg showed intense salivation and had transparent to white nasal discharge.

Additional animal welfare concerns:

- High temperature and mugginess.
- The bulls were dirty and the floor was covered with sewage that the lorry was leaking from the tailgate, spreading it on the road and on the yard where it was parked at the gas station.
- The floor was very slippery.
- The driver made a stop at a service station for about 20 minutes, with 37°C outside, parked in full sunlight.

¹³ Breaths per minute.

f) National transport of pigs in Italy, August 2024, with 34–39°C



Pig panting on the left side (all were breathing fast) and foam at mouth to the right

Vehicle registration plates: truck and trailer with Italian license plates [REDACTED]
Place, date, time of observation and outside temperature recorded: Ferrara, Italy, 12.08.2024, 17:00, 37°C; subsequently 39°C at 17:30 and 34°C at 18:26.
Place, time of arrival and outside temperature: Martini Spa slaughterhouse in Castiglione di Ravenna (RA), Italy, 19:55, 35°C.
Heat stress signs observed: drooling at the mouth, fast breathing with the mouth open.
Additional animal welfare concerns:

- High temperature and mugginess.
- Heat alert.
- The lorry stopped at a petrol station 10 minutes from its destination because it had arrived too early, at 18:26, and had to wait until 20:00 to enter the slaughterhouse.
- Waiting, without any ventilation from the motion of the vehicle, worsened the animals' signs of stress along with the forced body contact.
- Furthermore, during this unnecessary waiting time, the fans and drinking troughs were turned off.

g) National transport of pigs in Italy, August 2024, with 31°C

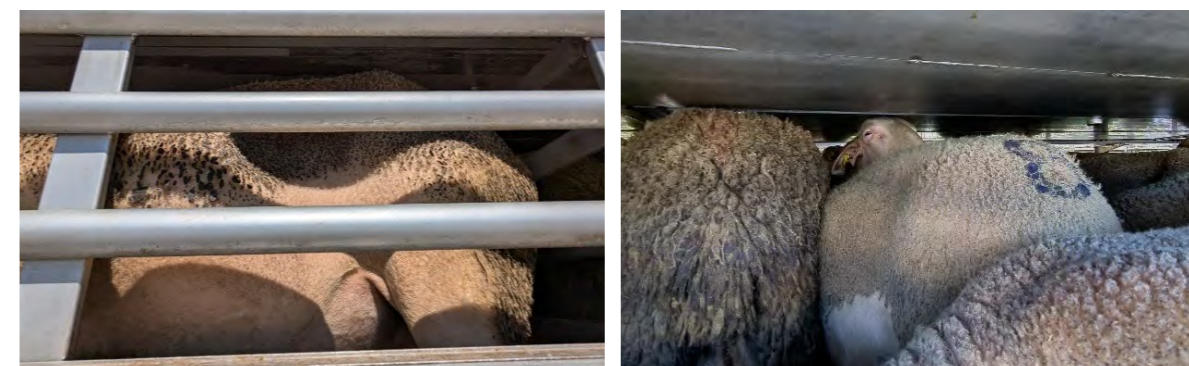


Pigs panting with 31°C outside

Vehicle and license plates: truck and trailer with Italian license plates [REDACTED]
Place, date, time of observation and outside temperature: in San Zaccaria (RA), Italy, 12.08.2024, 19:30, 31°C.
Place, time of arrival and outside temperature recorded: Martini Spa slaughterhouse in Castiglione di Ravenna (RA), Italy 21:40, 31°C.
Heat stress signs observed: drooling at the mouth, fast breathing with open mouth (e.g. 160 and 220 bpm), vocalisations.
Additional animal welfare concerns:

- high temperature and mugginess.
- Heat alert.
- The vehicle, loaded with animals, was already parked on a traffic island in front of a food shop.
- Fans and drinkers were turned off.
- The driver ate and drank alcohol for at least 2 hours before taking the truck back and driving the pigs to the slaughterhouse 2.5 km away.

h) Transport of sheep from France to Italy, August 2024, with 33°C to 38°C



Example of sunken flank

Insufficient space above the sheep for ventilation



High temperature inside the sheep compartment; 38.8°C and 37.2% of humidity

Vehicle and license plates: semi-trailer truck with Spanish license plates [REDACTED]
Place, date, time of observation and outside temperature: A14, near Cesena, Italy, 09.08.2024 at 13:35, 33°C.
Place, time of arrival and outside temperature recorded: L'Angolana Carni slaughterhouse in Collecervino (PE), Italy. 17:40, 34°C.
Time of unloading: 17:45.
Heat stress signs observed: fast breathing, nasal discharge in some sheep.

Additional animal welfare concerns:

- high temperature and mugginess.
- Heat alert.
- Sunken flanks.
- Inside the animal compartments the team measured 37°C and 38°C at 15:16.
- Sawdust bedding was insufficient and damp.
- The partitions had dangerous gaps between them and the ceiling
- The animals touched the ceiling on all decks.

i) Transport of lambs from Hungary to Italy, August 2024, with 31°C to 39°C



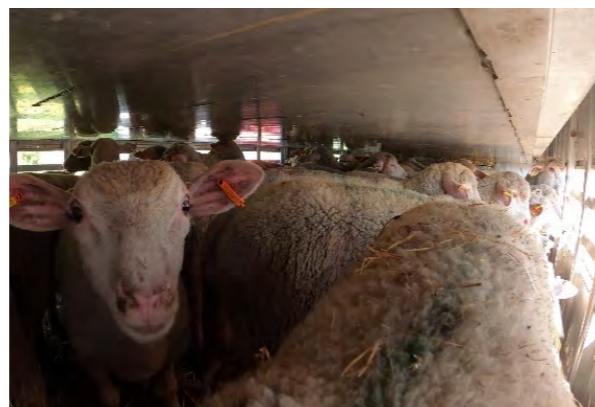
Insufficient space for all to lie down together



Lambs desperate for water, trying to use the drinkers



Outside temperature of 35.8°C with 31% humidity



Insufficient space above for ventilation



Examples of temperature and humidity inside the lambs compartments: 33.5°C with 66.5% humidity (left) and 33.3°C with 64.2% humidity (right), in the front compartment of the main body, first deck



Vehicle and license plates: semi-trailer truck with Hungarian license plates [REDACTED]

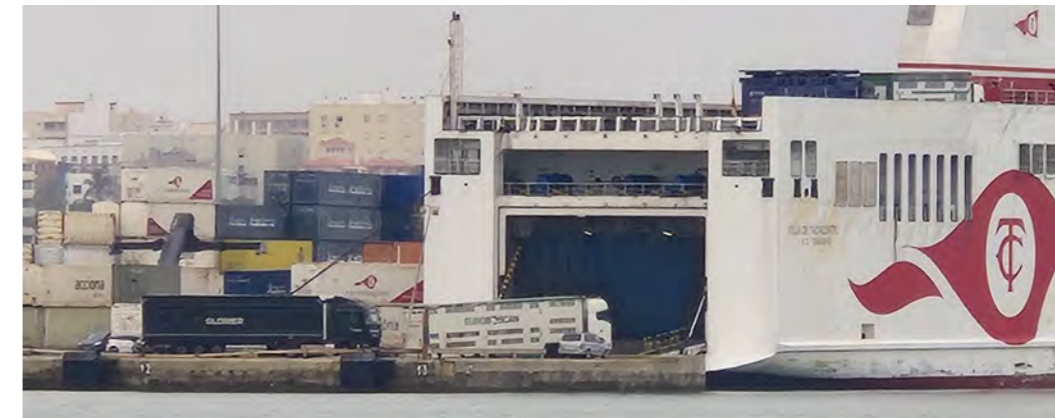
Place, date, time of observation and outside temperature recorded: Ferrara, Italy, 11.08.2024, 09:30, 31°C; subsequently, 35°C at 10:37, 34°C at 11:15, 37°C at 12:02, 39°C at 12:36.

Heat stress signs observed: nasal discharge, fast breathing with 31°C outside.

Additional concerns:

- high temperatures and mugginess
- Heat alert.
- Space above the animals loaded on 4 decks was insufficient for ventilation.
- There was ammonia smell in the compartments.
- The lambs did not know how to use the metal nipples for drinking, some learned after teaching them how to do it but only those in front of the drinkers managed to drink something. Most of the water fell on the ground and the strong pressure frightened most of them, so they were not suitable drinkers for sheep, but above all they did not know them.
- One lamb was stuck with its head between a partition and the wall of the truck, we alerted the drivers and freeing it was not easy.
- Some of the fans were not working and inside the vehicle, on the first floor we measured 32.2, 33.3°C and 33.9°C with about 60% humidity, in the compartments.
- The transport was stuck and bottled up in several traffic jams between Bologna and Rimini, on A14.

j) Transport of heifers from Germany to the Spanish island of Tenerife ,July 2024, with 33.5°C–35.5°C



The transport taking the ferryboat

Vehicle and license plates: semitrailer truck, with Spanish license plates [REDACTED]

Place, date, time of observation and outside temperature recorded: Magaz de Pisuerga – Santa Cruz de Tenerife, Spain, respectively on 26. and on 29.07.2024. Outside temperatures were 33.5-35.5°C during loading operations at the control post in Magaz de Pisuerga.

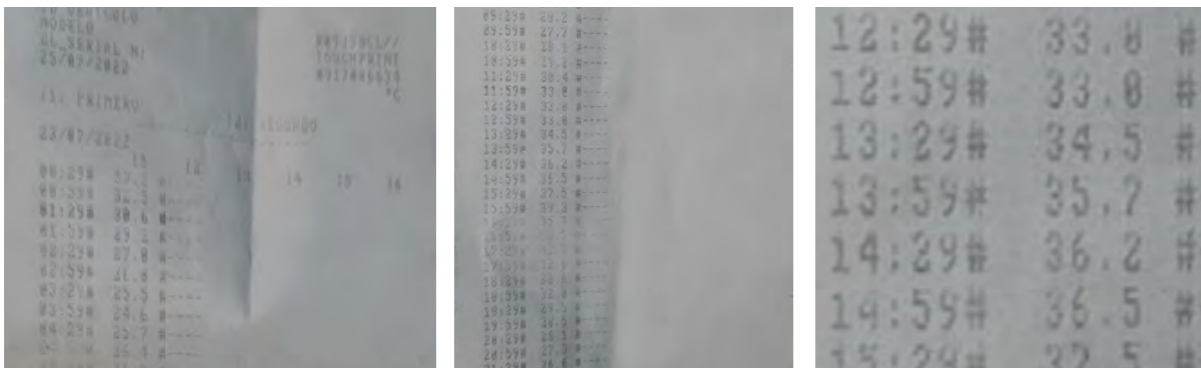
Animal welfare concerns:

- at least 1 hour loading operations in the heat at Pisuerga.
- High temperature during loading operations and very likely inside the truck.
- After embarkation, long waiting time of the truck on board the ferry at outside temperature of 28°C.
- Extremely long transport time via road and sea.

k) Transport of calves from Spanish mainland to the Spanish island of Tenerife, July 2022, with 31°C–33°C



To the left: calf Isabelle dead. To the right: bedding soaked with urine and excrements



Printing of temperatures during transport (to the left and central picture) and an enlarged detail (to the right)

Vehicle and license plates: semitrailer truck with Spanish license plates [REDACTED]

Place, date, time of observation and outside temperature recorded: Cadiz, Spain, 23.07.2022 at 15:37 with 33°C, Santa Cruz de Tenerife, Spain, 25.07.2022, 12:49 with 31°C.

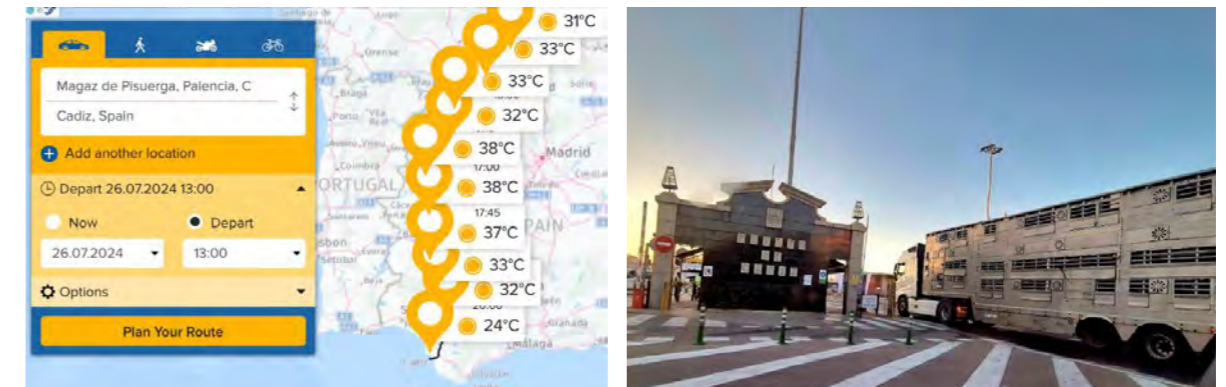
Heat stress signs: laboured breathing, nasal discharge.

Additional animal welfare concerns:

- one calf (Isabelle) died during the sea crossing.
- Some animals appeared thirsty searching for water continuously and licking the metal bars of the vehicle
- Animals were dirty at their legs, bellies and tails, when observed in Cadiz. Two days later, in Tenerife, they appeared exhausted and were completely dirty, covered with urine and excrements.
- To reach the port of Cadiz, from Almedellas, Lleida, the lorry had to pass via Madrid, Cordoba and Seville or via Madrid, Merida, Seville. In both cases, temperatures were well above 30°C, reaching 38°C in Madrid, 39.6°C in Cordoba, 40°C in Merida and 40.7°C in Seville on 22 July.
- In the port of Cadiz, a couple of hours before the start of the ferry's sea crossing, the temperatures exceeded 33°C. Moreover, according to the driver, the temperature records of the lorry, on 23 July, temperatures reached 39.2°C at 15:59 hours.
- The driver of the vehicle in question stated that it was also hot on board the ferry "Villa de Tazacorte" on 23 July 2022 before the start of the sea crossing to Santa Cruz de Tenerife.
- Overcrowding despite the heat.
- Long waiting time at the port of Cadiz, for the ferry.

- Long waiting time at the port of Santa Cruz de Tenerife, to transfer the animals to a smaller vehicle.
- Exceeded transport time.
- Dirty bedding.
- Lack of water.
- Repeat offender (transport company).

l) Transport of Belgian calves from Spanish mainland to the Spanish Island of Tenerife, July 2024, with 34°C-36°C



Weather forecast from Magaz de Pisuerga to Cadiz port (left) and transport entering Cadiz port (right)

Vehicle and license plates: semitrailer truck with Spanish license plates [REDACTED]

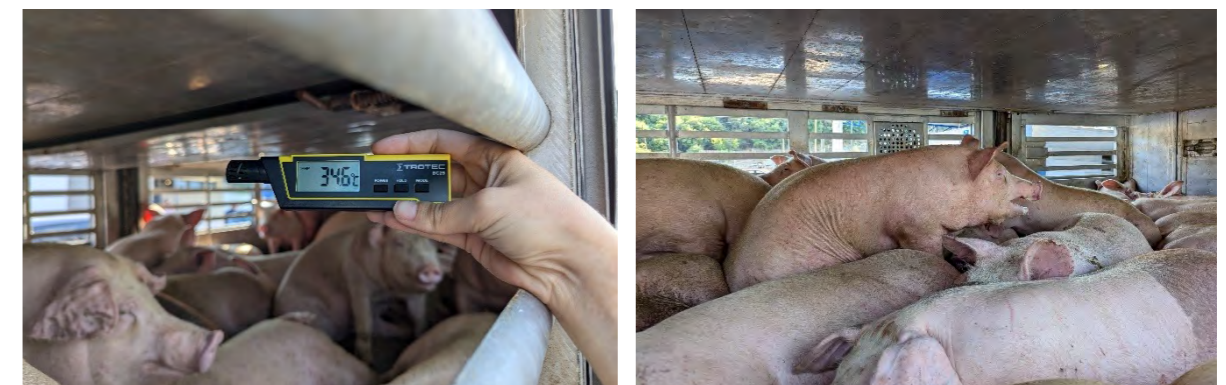
at Magaz de Pisuerga and later, after changing the tractor in Caceres, [REDACTED] and later, after transferring the animals on a new truck in Sevilla, [REDACTED]

Place, date, time of observation and outside temperature recorded: Caceres, 26.07.2024, 36°C at 13:52 and 15:29; Sevilla, 34°C at 18:52.

Animal welfare concerns:

- high temperatures
- Waiting in full sun with 34°C while the driver goes to the restaurant, without turning ventilation on.

m) Transport of pigs from Greece to Albania, July 2024, with 34°C-35.7°C



Temperature recorded inside the truck: 34.6°C

Overcrowding and panting with foam at mouth

Vehicle and license plates: semitrailer truck with Albanian license plate [REDACTED]

Place, date, time of observation and outside temperature recorded: Kakavia, Greece, 31.07.2024, 18:09, 35.7°C in the sun and 34°C in the shade.

Heat stress signs: panting, foamy mouths, breathing fast (190-200 bpm).

Additional animal welfare concerns:

- high temperatures and mugginess.
- 34.6°C inside an animal compartment.
- Water and ventilation turned off in the sun.
- Overcrowding, overlapping.
- Animals vocalized loudly.

n) Transport of heifers from Greece to Albania, July 2024, with 34°C–40.3°C



Truck approaching the GR-AL border



Cows touching the ceiling on the 2nd deck



Outside temperature at the GR-AL border

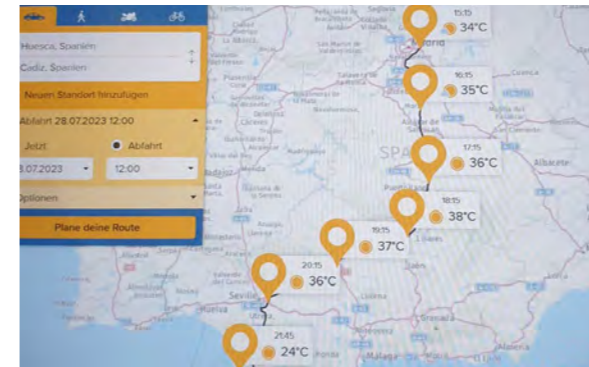
Vehicle and license plates: truck with Greek license plate [REDACTED]

Place, date, time of observation and outside temperature recorded: Kakavia, Greece, 34°C at 13:14, 35.8°C at 13:50; Albanian border, 40.3°C at 14:53, 37°C at 15:40.

Animal welfare concerns:

- Overcrowding.
- Insufficient space above the heifers on the 2nd deck.

o) Transport of calves from mainland Spain to Gran Canaria Island, July 2023, with 32.5°C–34°C



High temperature forecasted in Spain



Transfer to one of the smaller trucks



Small truck with part of the calves onboard

Vehicle and license plates: cabin and semitrailer with Spanish license plates [REDACTED]

Place, date, time of observation and outside temperature recorded: Las Palmas, 31.07.2023, 32.5°C at 12:20 and 34°C at 13:33.

Animal welfare concerns:

- high temperature. Weather forecast reported outside temperatures reaching 38°C on parts of the route between Madrid and Sevilla on 28.07.2023 .
- Exceeded transport time.
- Transfer in small trucks in the sun and heat, without roof.
- Dirty bedding.

p) Transport of sheep from the Netherlands to Bulgaria, June 2021, with 34°C-36°C



Stuck in traffic jam on A30 near Bad Oeynhausen



Sheep with nasal discharge, overcrowding with >35°C



Sheep seeking fresh air, with nasal discharge, during traffic jam on A30 and with 36°C and 42% humidity outside



Outside temperature during traffic jam



Sheep exhausted with closed eyes

17/06/2021	5:18:34 PM	33,44	33,81	33	33,25	33,12
17/06/2021	5:23:36 PM	33,44	33	33,06	33,38	33,22
17/06/2021	5:28:37 PM	33,19	33,62	33,69	33,94	33,86
17/06/2021	5:33:39 PM	33,94	33,38	33,31	33,62	33,56
17/06/2021	5:38:41 PM	33,19	33,5	33,69	33,94	33,83
17/06/2021	5:43:43 PM	33,75	33,25	33,31	33,75	33,52
17/06/2021	5:48:45 PM	33,31	33,94	33,94	33,12	33,08
17/06/2021	5:53:47 PM	33,12	33,56	33,69	33,81	33,8
17/06/2021	5:58:48 PM	33,5	33	33,12	33,38	33,25
17/06/2021	6:03:50 PM	33,38	33,88	33,94	33,25	33,11
17/06/2021	6:08:52 PM	33,44	33,81	33,88	33,19	33,08

Extract from temperature records

Vehicle and license plates: semitrailer truck with Romanian license plates

Place, date, time of observation and outside temperature recorded: on A30, in direction Bad Oeynhausen/Hannover and on A2 in Germany, 17.06.2021, 34°C – 36°C between 17:20 and 18:51.

Heat stress signs: panting, fast breathing (e.g. 200 bpm), nasal discharge, seeking for fresh air from the openings.

Additional animal welfare concerns:

- high temperature and humidity.
- According to the temperature records of the truck, inside the animal compartments there were >30°C for more than 9 hours on 17.06.2021, peaking 33.84°C, between 12:30 (loading) and 21:40; >30°C for more than 5.5 hours on 18.06.2021 between 11:35 and 17:00 (unloading at control post in Romania); >30°C for more than 2.5 hours on 19.06.2021, between 17:00 (re-loading at Romanian control post) and 19:49 pm.
- Signs of exhaustion: standing with eyes closed, leaning the chin on truck structures.
- Sheep coughing and with nasal discharge.
- The truck remained bottle in the traffic jam in the heat.
- Water and ventilation systems were turned off.
- Unshorn animals with long fleece (mixed with shorn sheep).
- Animals' Angels alerted the road police to assist the truck out of the traffic jam but police was busy and did not help.

q) Transports of piglets from Denmark to Romania, August 2020, with 32.5°C



Searching for water, in vain



Overcrowding

18/06/2020	12:40	27.1	26.8	26.5	26.7	Standing	Gj Sandvej 5, 7451 Bredbo, Denmark	20 17:10	33.3	33.0	32.2
18/06/2020	17:45	27.1	26.9	26.9	26.7	Standing	Gj Sandvej 5, 7451 Bredbo, Denmark				
18/06/2020	13:30	28.9	28.8	22.1	26.8	Moving	16, 7450 Høring, Denmark	20 17:11	33.3	33.0	32.2
18/06/2020	14:00	30.6	30.5	29.9	29.6	Moving	Sønderlyngvej 116C Vejle, Denmark				
18/06/2020	14:40	31.7	31.5	30.4	30.5	Moving	Sønderlyngvej 116C Vejle, Denmark				
18/06/2020	15:28	32.4	32.2	31.1	30.7	Moving	A7, 24865 Osnabrück, Germany	20 17:20	34.7	34.4	33.7
18/06/2020	16:00	32.8	32.4	31.1	30.9	Moving	A7, 24865 Osnabrück, Germany				
18/06/2020	16:40	32.3	32.0	32.2	31.7	Moving	Vorstelner 74 25479 Eberau, Germany				
18/06/2020	16:47	32.3	32.0	32.2	31.7	Moving	Hakenmoorweg 80 25481 Guckboom, Germany	20 17:21	34.7	34.4	33.7
18/06/2020	16:49	32.3	32.0	32.2	31.7	Moving	Hakenmoorweg 80 25481 Guckboom, Germany				
18/06/2020	17:28	32.3	32.0	32.2	31.7	Moving	A7, Hamburg, Germany	20 17:24	34.7	34.4	33.7
18/06/2020	17:58	32.3	32.0	32.2	31.7	Moving	A7, 22027 Hamburg, Germany				
18/06/2020	17:58	32.3	32.0	32.2	31.7	Moving	Schlesienberg 142, 22022 Hamburg, Germany				
18/06/2020	17:50	32.3	32.0	32.2	31.7	Moving	A7, 22625 Hamburg, Germany	20 17:42	34.7	34.4	33.7
18/06/2020	17:11	32.3	32.0	32.2	31.7	Moving	A7, 22625 Hamburg, Germany				
18/06/2020	17:20	34.7	34.4	33.7	33.3	Moving	A7, 22625 Hamburg, Germany	20 17:42	34.7	34.4	33.7
18/06/2020	17:21	34.7	34.4	33.7	33.3	Moving	A7, 22625 Hamburg, Germany				
18/06/2020	17:24	34.7	34.4	33.7	33.3	Moving	A7, 22625 Hamburg, Germany	20 17:45	34.7	34.4	33.7
18/06/2020	17:42	34.7	34.4	33.7	33.3	Moving	Agathe-Lasch-Weg 2, 22025 Hamburg, Germany				
18/06/2020	17:45	34.7	34.4	33.7	33.3	Moving	A7, 21128 Hamburg, Germany	20 18:00	35.6	35.3	34.2
18/06/2020	18:00	35.6	35.3	34.2	34.1	Moving	Brenker Fld 30 2 210 Sevelau, Germany				
18/06/2020	18:40	34.3	33.9	32.9	32.5	Moving	A7, 20914 Bollau, Germany	20 18:40	34.3	33.9	32.9
18/06/2020	19:30	32.8	32.5	32.8	31.9	Moving	A7, 20920 Wilsenau, Germany				
18/06/2020	20:00	32.2	32.0	31.4	32.7	Moving	E30, 38179 Birkelager, Germany				
18/06/2020	20:40	31.7	31.7	29.3	28.5	Moving	E30, 35943 Enkelten, Germany	20 19:20	33.8	33.5	32.6
18/06/2020	20:40	31.7	31.7	29.3	28.5	Moving	E48, 38171 Süsel, Germany				

Left: extract of temperature records. Right: enlargement of a detail of temperature records

Vehicle and license plates: semitrailer truck with Romanian license plates [redacted] and Cabin and semitrailer with Romanian license plates [redacted]

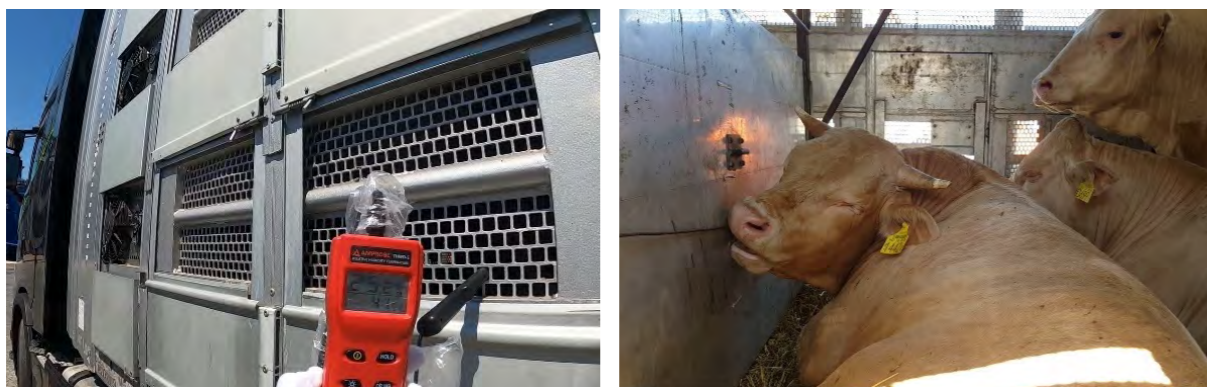
Place, date, time of observation and outside temperature recorded: highway A7, Lüneburger Heide West, Germany, 06.08.2020, at 18:33 with 32.5°C.

Heat stress signs: breathing fast (e.g. 120 bpm).

Additional animal welfare concerns:

- high temperature: more than 30°C inside the compartments for 7 hours on 06.08.2020 peaking 35.6°C and for more than 9 hours on 08.08.2020 peaking 34.2°C, according to the temperature recordings of the truck of transport 1. More than 30°C also in truck of transport 2, for more than 8 hours on 06.08.2020, peaking 35°C and for more than 9 hours on 08.08.2020, peaking 34.1°C.
- Water system turned off.
- Overcrowding.

r) Transport of bulls from Hungary to the Greek island Kos, August 2020, with 32°C-49°C



Left: temperature inside animal compartments 40.9°C and 25% humidity. Right: exhausted bull, panting



Left: outside temperature 45.7°C and 15% humidity, waiting to embark. Right: the truck with live animals parked next to dangerous gas tanks

Vehicle and license plates: semitrailer truck with Hungarian license plates [redacted]

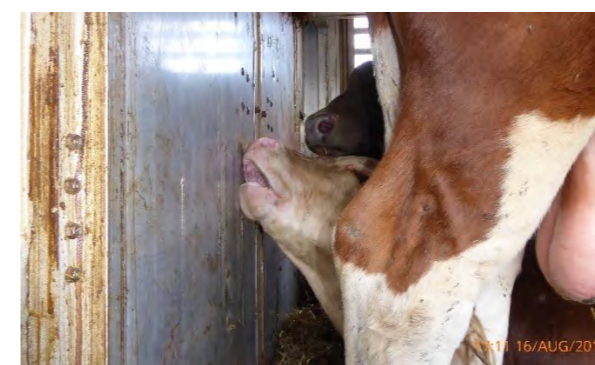
Place, date, time of observation and outside temperature recorded: highway E75 in Greece on 29.08.2020 with 32-33.5°C and port of Athens on 31.08.2020 with 35°C-40°C in shade and 41°C-49°C in the sun between 12:49 and 15:48.

Heat stress signs: breathing fast (e.g. 200 bpm), panting, foaming at mouth, drooling, sweating.

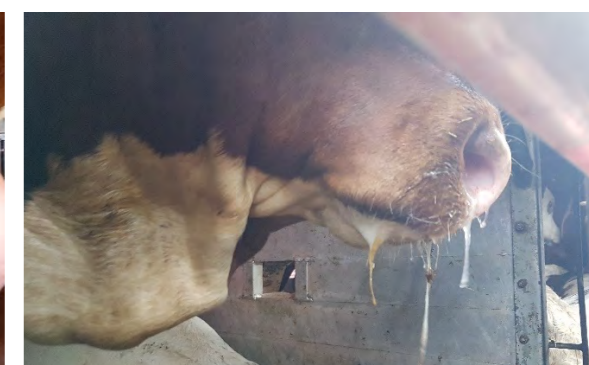
Additional animal welfare concerns:

- high temperature, hottest hours of the day.
- Signs of exhaustion: eyes closed, resting chin or head on truck structures or other animals.
- Nasal and eye discharge, vacuum ruminating, licking conspecifics.
- Overcrowding.
- The truck waited at the port in Athens in full sun with up to 49°C outside.
- Metal grids on the openings limited ventilation.
- Fans were on but the temperature inside the animal compartments was high.
- Exceeded journey time.
- The truck was left waiting in full sun at the port and on board the ferry, next to two dangerous gas tanks limiting ventilation.

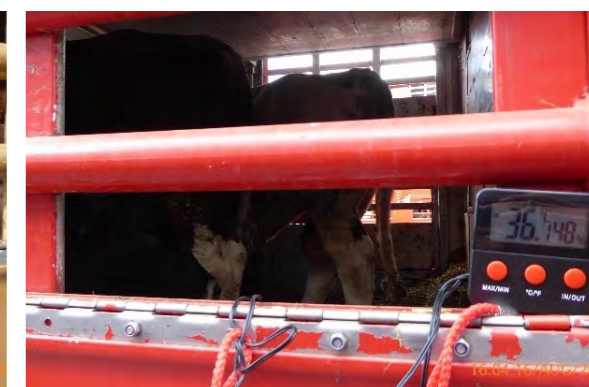
s) Transport of heavy bulls from Romania to Turkey, August 2018, with 35°C-39.9°C¹⁴



Stretching neck and panting



Foam at mouth, drooling, nasal discharge

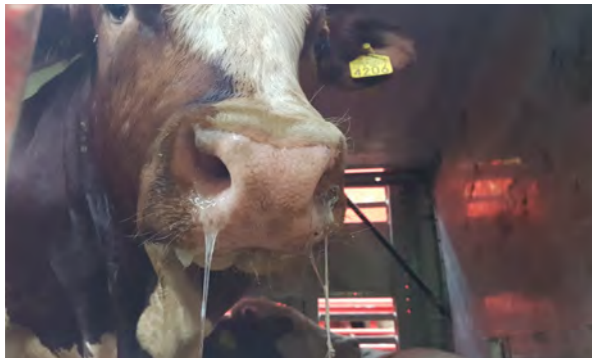


Measuring the temperature and humidity inside the animal compartments

17:00	34.0	34.5	33.9	33.0
17:15	34.2	34.6	34.1	33.1
17:30	34.5	34.9	34.3	33.3
17:45	34.8	35.2	34.7	33.5
18:00	35.5	36.1	35.8	34.6
18:15	36.1	37.0	37.1	35.9
18:30	35.7	36.5	37.5	36.4
18:45	34.4	35.1	36.1	35.4
19:00	33.7	34.6	35.2	35.1

Extract of the temperature printouts and enlargement of a detail

¹⁴ More similar cases in the report of Animals' Angels "Monitoring live transports at the Bulgarian-Turkish border, 11-18.08.2018. An investigation of Animals' Angels".



Nasal discharge



Exhausted, with eyes closed

Vehicle and license plates: semitrailer truck with Latvian license plates [REDACTED]
Place, date, time of observation: Kapikule, Turkey, 16.08.2018 at 15:25 until 8:00 on 17.08.2018.
Heat stress signs: breathing fast, panting, foam at mouth and drooling, stretching neck to breath, sweating.
Additional animal welfare concerns:

- high temperature and humidity, hottest hours of the day.
- Signs of exhaustion: eyes closed, leaning chin on truck structures.
- Nasal discharge, vacuum ruminating, teeth grinding, wheezing breath.
- Long delays at the Turkish border and truck parked in full sun.
- Temperature printout: 39.9°C at 11:30 on the 15.08.2018 and 35.5°C inside one compartment at 15:30 on the 16.08.2018.
- Temperatures measured by Animals' Angels inside the rear compartment in 1st deck: 36,6°C with 52% humidity, despite the fans were turned on.
- High temperature inside the compartments confirmed by the printouts of the truck.
- Insufficient space above the animals.
- Overcrowding.

t) Transport of Romanian heavy bulls to Turkey, August 2018, with 30°C–42.9°C



Left: heat stress with 34.6°C inside the compartment and nasal discharge. Right: intense salivation



Left: exhausted bull and internal high temperature and humidity. Right: external high temperature



Vehicle and license plates: semitrailer truck with Bulgarian license plates [REDACTED]

Place, date, time of observation and outside temperature recorded: Kapikule, Turkey 15.08.2018 at 16:29 with 32°C and 29% humidity to 20:00 with 30°C.

Heat stress signs: breathing fast (e.g. 114 bpm), neck and head stretched forward to breath, foam at mouth

Additional animal welfare concerns:

- high temperature and hottest hours of the day.
- Animals lying in curled up position, with nasal and eye discharge, teeth grinding
- Signs of exhaustion: lying with eyes closed.
- Temperature measured several times during the day inside animal compartments between 33.4°C with 65% humidity peaking 42.9°C with 65% humidity.
- Overcrowded.
- Space above the animals insufficient.
- Water system turned off.
- Long delay at the Turkish border and truck parked in full sun.
- Ammonia smell.

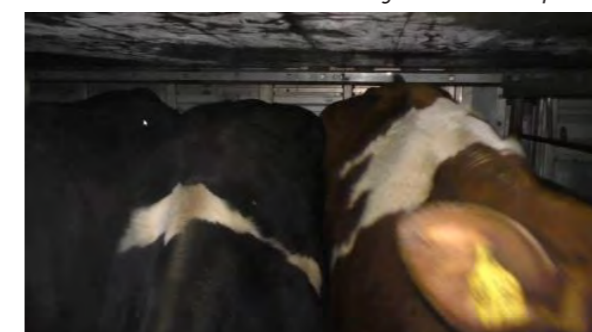
u) Transports of pregnant heifers from Germany to Uzbekistan, February 2019, with -8°C to -13°C



Several heifers (transport 2) with wet coats and covered by snow, insufficient ceiling height, temperature -7.2°C and snowstorm, observed on 19.02.2019 at 05:20 am (UTC+4)



Left: thermometer indicating the outside temperature. Right: thermometer indicating the inside temperature



Frost formed on the ceiling; thin heifers in transport 1



Snowstorm in Russia and a truck flipped over

Vehicles and license plates: semitrailer truck with Belorussian license plates [redacted] (transport 1) and semitrailer truck with Belorussian license plates [redacted] (transport 2)

Place, date and time of observation and outside temperature recorded: observed from Poland to Uzbekistan, from 15.02.2019 to 22.02.2019 with -8.5°C, snow storm, icy wind (19.02.2019, 09:51 UTC+4, Kafe Stoyanka Kruglosutochno, Orenburg region (RU)), -10,5°C, snow storm (19.02.2019, 21:12 UTC+5, border RU-KZ, Yaysan), -10°C, (20.02.2019, 08:29 UTC+5, Khromtau, Aktobe region (KZ)), -9°C, (21.02.2019, 08:00 UTC+5, Chagan, Kyzylorda region (KZ)), -13°C (22.02.2019, between Nurabad and Pungon, UZ).

Animal welfare concerns:

- extremely low temperatures, snowstorm and icy wind.
- Snow and wind entering the vehicle and frosting and wetting the animals.
- Water and feed breaks violated.
- Many long delays due to poor coordination and organisation of the transport.
- In the last compartment of the first deck (transport 2), temperatures of minus 6.9 °C with 86% humidity were measured.
- Frost formed on the ceilings of the vehicles.
- Severely exceeded transport times and violated mandatory resting periods.
- Insufficient bedding.

v) Transport of lambs from Romania to Greece, December 2017, with -1°C to 0°C



Insufficient space above the animals for ventilation



Snowing during the transport



Fleece wet with the snow entering the truck



Muddy bedding with excrements

Vehicle and license plates: semitrailer truck with Greek license plate [redacted]
Place, date, time of observation and outside temperature recorded: Macin, Romania, 17.12.2024 at 18:15, -1°C and 0°C until midnight time.

Animal welfare concerns:

- low temperature and cold; raining and snowing.
- Overcrowding and lack of space to rest or move away from air inlets.
- The truck was American style and the openings on the side walls and also on the rear flap could not be closed to avoid rain and snow entering the animal compartments. Several lambs had their fleece wet with rain and snow at a cold temperature.
- Insufficient sawdust bedding, leaving most of the metal floor visible; the layer of sawdust was thin and turned into muddy accumulations and wet sashes. The animals were forced to stand or lie on a cold and wet metal floor for more than 20 hours.
- Slippery floor.
- Insufficient space above the animals.
- Animals' Angels alerted the police in Bulgaria that checked some documents and allowed the transport to proceed, after stating that there were not any irregularities.

w) Transport of lambs from Romania to Greece in December 2017, with -3°C



Example of nasal discharge



Overcrowding and insufficient space above the animals

Vehicle and license plates: semitrailer truck with Greek license plates [redacted]
Place, date, time of observation and outside temperature recorded: Bulgarian-Greek border in Kulata, 20.12.2017, -3°C at 05:25 and -1°C at 07:05.

Animal welfare concerns:

- low temperature and cold.
- One dead lamb in 1st deck, rear compartment, near tail gate.
- Lambs with nasal discharge, some with skin disease.
- Overcrowding and no space for all to lie down to rest.
- The truck was American style and the openings on the side walls could not be closed to protect the animals from inclement weather.
- Straw bedding was dirty with excrements and wet.
- Lambs lying down were shivering.
- Animals' Angels alerted the Greek police. Further, the veterinary authorities ordered the truck to continue to destination without any corrective measure.

Council Regulation EC No. 1/2005 and the proposal for its amendment

In the EU, animals are commonly transported despite extreme temperatures and evident suffering. This means that the current laws do not protect animals sufficiently and at a level they are intended to, therefore they must be improved.

The system of transport controls¹⁵ is complicated and insufficient to ensure that the protection regulations are respected. The lack of human resources among the competent authorities is a chronic problem¹⁶; there is a lack of specialised professionals with the right know-how¹⁷, a lack of suitable tools and infrastructure, and a lack of methodology¹⁸. The number of transports that are physically checked is small compared to the number of transports that take place¹⁹. Most checks are documentary and the reality depicted in documents can easily be misleading and far removed from reality, due to mistakes and lack of information²⁰. Many violations are not detected from the papers or are not recognized and even when they are, they are not followed-up and even less they are sanctioned in a dissuasive way²¹.

Temperatures are rising steadily in Europe, the number of weather warnings for heatwaves is increasing and becoming less and less of an exception, happening also in countries where this was not the case before. As a result, the risk of making transported animals suffering from the heat is increasing.

Regulation EC No. 1/2005 does not rule the aspect of extreme temperatures in a precise and rational manner. On the one hand it stipulates that transported animals must not be subjected to unnecessary suffering²² and must be protected from inclement weather and extreme temperature²³. But then it defines a maximum and minimum temperature limit only for long distance transports²⁴, leaving uncertainty and vagueness with regard to short transports²⁵. This is a contradiction; moreover, short journeys last up to 8 and even 12 hours²⁶, so they are not so short and extreme temperatures have time to exert their deleterious effects on the animals. For long journeys, the Regulation leaves a tolerance of + and - 5°C, rendering the set limits of 5°C and 30°C null and void. It has always been unclear what this tolerance is and when it works. And so, the real limits have become 0°C and 35°C, which are too often ignored anyway, for the needs of the industry.

It is unclear how temperature is to be measured during official controls. According to our observations, inspectors on the spot don't verify it, relying only on the temperatures measuring systems installed in the trucks, which may be poorly calibrated or not working.

¹⁵ Council Regulation EU No. 2017/625 on official controls.

¹⁶ *Animal welfare in the EU: closing the gap between ambitious goals and practical implementation*, Court of Auditors, 2018, point 51, page 33.

¹⁷ *Despite many resources have been spent by the EU Commission funding training courses (e.g. Better Training for Safer Food)*.

¹⁸ *Animal welfare in the EU: closing the gap between ambitious goals and practical implementation*, Court of Auditors, 2018, point 100, page 48.

See also *Transport of live animals in the EU: challenges and opportunities*, European Court of Auditors, 2023, point 63, page 34. See also *European Parliament Recommendation to the Council and Commission of 09.12.2021*, paragraph on "Controls and data collection and exchange" at page 11.

¹⁹ E.g. controls on 5% of animal transports are planned in Greece (but not respected, see the audit report of the EU Commission DG(SANTE) 2023-7787, page 5). Italy required to control at least 10% of long transports and 2% of short transports at the arrival at the abattoir and 5% of long transports at the arrival at control posts (see the Multiannual National Control Plan 2020-2022).

²⁰ *Transport certifications of cattle moved from France to Southern Italy and Greece: do they comply with Reg. EC 1/2005?*, Barbara Padalino, Laura Menchetti, Valentina Mininni, Daniele Tullio & Leonardo Costa, 2021. <https://doi.org/10.1080/1828051X.2021.1971573>

²¹ *Violation of Council Regulation (EC) No 1/2005 on the Protection of Animals During Transport: the Current Sanctioning Systems in the EU Member States and how to Harmonize them. A study by Animals' Angels*, 2022. <https://www.animals-angels.de/en/publications/documentations.html>

²² Article 3.

²³ Article 6 in connection with Annex I, Chapter II, point 1.1, letter b).

²⁴ Article 6 in connection with Annex I, Chapter VI, point 3.1.

²⁵ Article 5, point 3, letter a).

²⁶ E.g. National transports in Italy.

Temperature limits, which are already uncertain, do not take into account the humidity factor, which is inextricably linked to temperature, influencing its effects on perception and discomfort, but above all influencing thermoregulation and physical health.

Last but not least, the temperature limits for long journeys do not even take into account the differences in heat tolerance and suffering from heat or cold of the individual animal species involved in the transport.

All these shortcomings make the current provisions of Council Regulation EU No. 2017/625 and Council Regulation EC No. 1/2005 insufficient and inadequate to even minimally protect the animals during transport from extreme temperatures.

The proposal of the new regulation²⁷ recognises that extreme temperatures have a heavy impact on the welfare of transported animals and, in order to protect them, it is proposed to reduce the exposure with shorter transport times and to increase the space. Equipping all vehicles with air conditioning is too expensive. The proposal also intends having the animals transported at night in the most extreme cases.²⁸

The intentions are good but lose strength with some specific articles on temperature. The proposal maintains the rules according to which no one may cause unnecessary suffering to transported animals, weather must be taken into account when planning a transport and animals must be protected from extreme temperatures. Delving into the details of the regulatory provisions, they improve some previously unclear aspects but still leave dangerous loopholes which would nullify the efforts made.

Article 31 of the proposal regulates temperature limits for the transport of cattle, sheep, pigs and horses. Point 2.3 of Chapter V of Annex I regulates temperature limits for the transport of chickens and rabbits.

Article 31 states that temperature limits apply only at the place of departure and arrival, implying they can be exceeded along the entire transport route, in between departure and arrival. It does not matter if the animals are transported for 7 hours in a short transport or for 19 hours in a long transport, at stressful temperatures. It does not matter if the transport has to stop along the itinerary in the scorching heat or freezing cold, e.g. because of a technical malfunction, breakdown or for a traffic jam or because the driver has to take a mandatory break. Applying temperature limits only when animals are loaded and unloaded does not make sense and is in defiance of EFSA's statement that animals suffer from extreme temperatures even during transit. Therefore, the proposal must be modified and must provide that temperature limits apply to the entire route of the journey.

The proposal states that below 0°C, transports must be covered and air circulation in compartments must be controlled to protect animals. It is not clear how they must be covered. With curtains or must the lorry be closed? How must the air be controlled, by air conditioning? This must be clarified.

Below 5°C, vehicles must be equipped with tents and only short journeys of up to 9 hours are permitted. This provision, combined with the previous one, imply that animals can be transported on short distance at any temperature under 0°C, with no limit, as long as the vehicle has curtains and it is not clear at which further conditions when it drops below 0°C. To really protect animals from cold stress, it is necessary, to forbid even short transports under 0°C.

Between 25°C and 30°C, only short transports between 10 a.m. and 9 p.m. are permitted during the daytime. This is an improvement, compared to Regulation EC No. 1/2005, even if the species-specific temperature limits of the EFSA opinions were not considered.

Above 30°C, animal transports are permitted between 9 p.m. and 10 a.m., i.e. only by night. If temperature rises above 30°C even at night, then animal transports are permitted if the

²⁷ *Proposal for a Regulation of the European Parliament and of the Council on the protection of animals during transport and related operations, amending Council Regulation EC No 1255/97 and repealing Council Regulation EC No 1/2005, dated 07.12.2023.*

²⁸ See *whereas 42*

transported animals have 20% more space. These provisions improve transport conditions in hot weather in Europe, where temperatures seldomly exceed 30°C at night. However, they mean that European animals can be exported outside the EU at night with 20% more space, at any temperature warmer than 30°C. But extra space cannot justify transporting animals in torrid temperatures. Transports above 30°C, even at night and with any additional space, must not be allowed and this must be clearly set by an explicit rule.

It is also important to include humidity limits in relation to temperature limits.

A species-specific upper and lower temperature and humidity limit, valid for short and long transports, in daytime and nighttime, would avoid any loophole concerning temperature during transport.

Point 2.3 of Chapter V of Annex I of the proposal stipulates that when temperature is expected to be less than 10°C at the place of departure or arrival, birds and rabbits can be transported only if the vehicles are equipped with protection against windchill. Laying hens, instead, cannot be transported if the temperature inside the vehicles cannot be kept at minimum 15°C. In other words, chickens and rabbits can be transported at any temperature in the cold, without limit, in trucks with curtains, and in the heat, without curtains. In this case, the proposal has made a deterioration compared to the current Regulation and did not take the opinion of EFSA into consideration. It is necessary to modify the proposal and to set limits limit to avoid transporting birds and rabbits in torrid heat and in freezing temperatures. Any temperature limit must refer to the entire transport route and not only to departure and arrival, leaving the animals to endure any extreme weather conditions in transit.

Conclusions

For the reasons described above, it is time to do something concrete and effective to protect the transported animals from extreme temperatures. It is of paramount importance that the regulations for the protection of animals during transport improve, becoming more precise and more rational on this issue, drawing on the countless recommendations and guidelines and the opinions expressed by scientists and experts in the field.

Animals' Angels asks all decision makers that the proposal to amend Council Regulation EC No. 1/2005 provides:

- temperature limits apply to the whole itinerary of the transport²⁹, for all transported animals;
- absolute minimum³⁰ and maximum temperature limits³¹, either for short or long animal transports, in daytime and at nighttime, for all transported animals;
- humidity limits³² related to temperature limits (so called "heat index");
- species-specific temperature limits;
- transport in extreme temperatures must be included among the serious violations;
- a monetary sanction for violating temperature limits, defining a minimum and a maximum amount, suiting all the EU Member States, and that is dissuasive;
- Animal Based Measures to assess heat and cold suffering of the animals;
- method for authorities to measure temperature and humidity, specifying the tools and where to take the measure;
- clarify how transports must be covered during cold temperatures, how air circulation in compartments must be controlled and what kind of protection against windchill should be used in trucks³³.

²⁹ European Parliament Recommendation to the Council and Commission of 09.12.2021, No. 97.

Efsa's opinion on "Welfare of cattle during transport", 2022, page 17., Efsa's opinion on "Welfare of small ruminants during transport", 2022, page 17., Efsa's opinion on "Welfare of pigs during transport", 2022, page 17., Efsa's opinion on "Welfare of equidae during transport", 2022, page 17., Efsa's opinion on "Welfare of domestic birds and rabbits transported in containers", 2022, pages 64 and 73.

³⁰ Research is needed to inquire on species specific temperature and humidity limits to avoid cold stress to transported animals.

³¹ European Parliament Recommendation to the Council and Commission of 09.12.2021, No.100.

³² "...at least the combined effects of temperature and humidity should be taken into account when animal welfare during transport is evaluated", Efsa's opinion on "Welfare of small ruminants during transport", 2022.

See also European Parliament Recommendation to the Council and Commission of 09.12.2021, No. 100.

³³ See Proposal for a Regulation of the European Parliament and of the Council on the protection of animals during transport and related operations, amending Council Regulation EC No 1255/97 and repealing Council Regulation EC No 1/2005, dated 07.12.2023, article 31 and Annex I, Chapter V, point 2.3.



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