

# EUROGROUP FOR ANIMALS



## LIVE ANIMAL TRANSPORT: TIME TO CHANGE THE RULES

*White Paper on the revision  
of Council Regulation (EC) 1/2005*

# Table of contents

<b>Executive Summary</b>	<b>4</b>
<b>I. Live animal transport: regulatory framework and trade statistics</b>	<b>7</b>
I.1 Terrestrial farmed animals	8
I.2 Fish and aquatic invertebrates	10
I.3 Equines	11
I.4 Companion animals	12
I.5 Laboratory animals	13
<b>II. Eurogroup for Animals proposal</b>	<b>14</b>
II.1 Terrestrial farmed animals	16
II.1.1 Current problems:	16
II.1.2 Solutions	18
II.2 Fish and aquatic invertebrates	27
II.2.1 Current problems	27
II.2.2 Solutions	28
II.3 Equines	34
II.3.1 Current problems	34
II.3.2 Solutions	36
II.4 Companion animals	40
II.4.1 Current problems	40
II.4.2 Solutions	41
II.5 Laboratory animals	46
II.5.1 Current problems	46
II.5.2 Solutions	48
<b>III. Advantages of our proposal</b>	<b>56</b>
<b>Key points</b>	<b>58</b>
<b>Bibliography</b>	<b>64</b>
<b>Annex I</b>	<b>69</b>
<b>Appendix A</b>	<b>74</b>
Methodology for the data extraction presented in Section I.1	74
Methodology for the data extraction presented in Section I.2	77
Methodology for the data extraction presented in Section I.3	80
Methodology for the data extraction presented in Section I.5	85

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## Executive Summary

*In the European Union (EU), Council Regulation (EC) No 1/2005 (Transport Regulation) applies to the transport of animals that takes place within and from the EU in connection with an economic activity. The Regulation entered into force in 2007 and in May 2020 the European Commission announced its imminent revision in the framework of the EU Farm to Fork Strategy (EC, 2020a).*

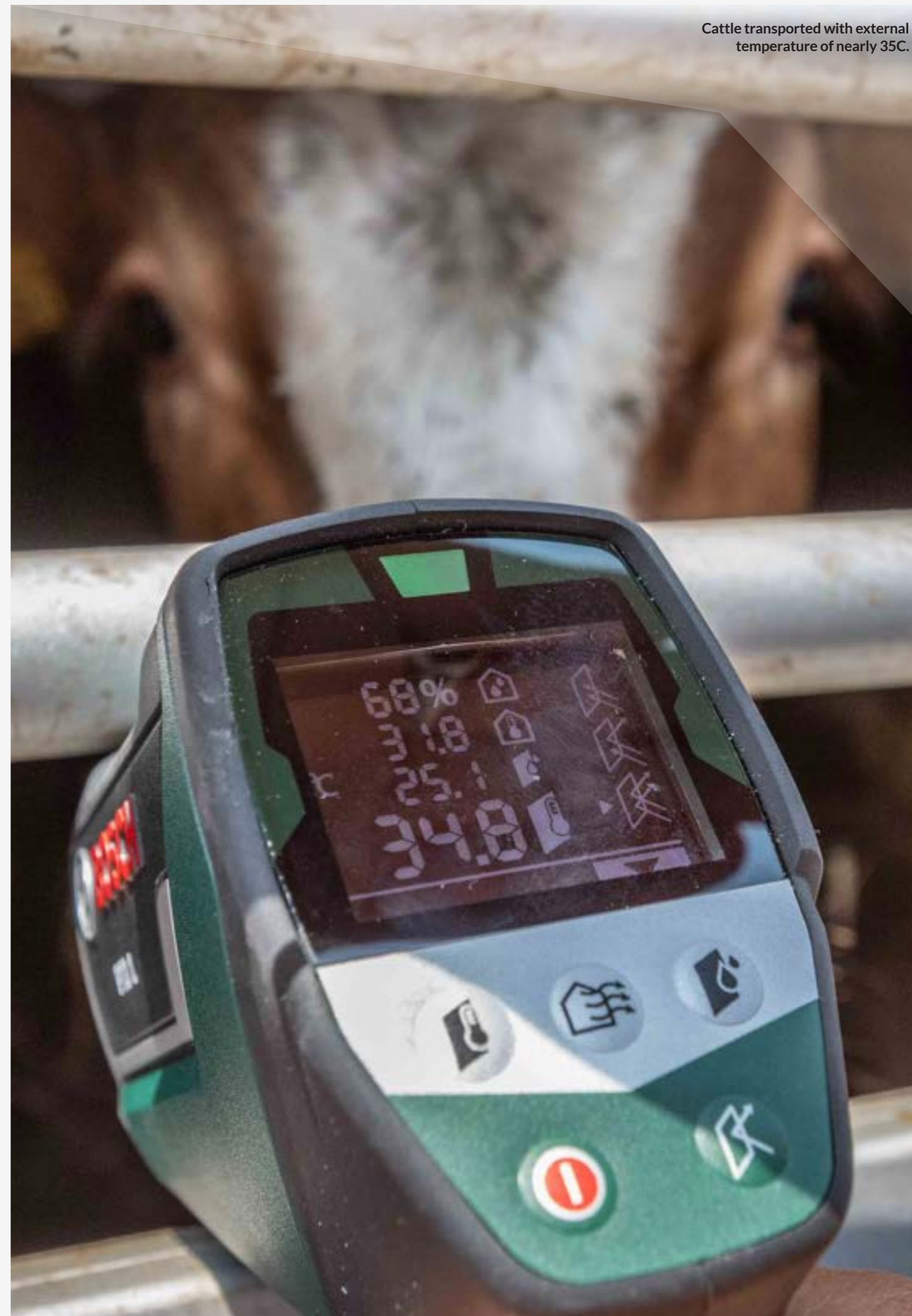
This White Paper is Eurogroup for Animals' response to the European Commission's stated aims in revising the Transport Regulation: "to align it with the latest scientific evidence, broaden its scope, make it easier to enforce and ultimately ensure a higher level of animal welfare" (*Ibid.*).

A vast range of animal species are transported within the EU and beyond for commercial activities, but the Transport Regulation does not guarantee effective protection to all of them. In principle, such Regulation should apply to the commercial transport of live vertebrate animals (Reg. 1/2005, Art. 1), but the majority of its provisions refer only to the welfare of certain terrestrial farmed animal species: the requirements for the transport of fish, companion animals and equines are less developed; and measures to ensure the welfare of a large group of species transported for scientific purposes are completely absent. Additionally, by definition, invertebrates transported for food production remain out of the scope of the Regulation.

A vast body of evidence has demonstrated that existing gaps and challenges of the current legislative framework have a significant negative impact on animals; this needs to be addressed by establishing comprehensive species- and category-specific requirements as well as a more efficient enforcement system. To this end, this Paper provides the European Commission and EU co-legislators with key provisions to be included in the revised legislative text to substantially improve the welfare of terrestrial farmed animals, fish and aquatic invertebrates, equines, companion animals, and laboratory animals during transport.

Furthermore, to facilitate compliance and systematic data collection, a reporting system based on transparent communication about the animals being transported (species and numbers, animal welfare status, journey route) and any transport-related problems, is put forward. Such a system would increase Member States' accountability and fully exploit the enforcement power of the European Commission.

As a general principle, the revised Transport Regulation should adhere to the basic principles of reducing, refining and replacing live transport, whenever applicable.







Cows getting off a truck.

## I. Live animal transport: regulatory framework and trade statistics

*The Protocol on protection and welfare of animals annexed to the Treaty requires that in formulating and implementing agriculture and transport policies, the Community and the Member States are to pay full regard to the welfare requirements of animals. (Reg. 1/2005, Recital 1).*

In 2020, the European Commission published the EU Farm to Fork Strategy (EC, 2020a), announcing the imminent revision of the Transport Regulation with the aim, though not exclusively, of broadening its scope. Indeed, in addition to terrestrial farmed animals, fish and invertebrates, companion animals, and laboratory animals are currently also transported across the EU and beyond in connection with economic activities. Data on the transport of all these species are not always available as the Transport Regulation does not require Member States to collect and report them in a harmonised way. Therefore, it is likely that the number of animals currently transported is higher than what reported in the sections here below<sup>1</sup>.

From a regulatory point of view, to protect the welfare of animals during transport, the EU adopted Council Regulation (EC) 1/2005 (Transport Regulation), which entered into force on 1st January 2007. As specified by Article 1.5, the Regulation does not apply to (i) the transport of animals which does not take place in connection with an economic activity and (ii) the transport of animals directly to or from veterinary practice or clinics, under the advice of a veterinarian. Additionally, Recital 21 provides derogations from certain provisions for the transport of registered equines<sup>2</sup>, and their transport for non-commercial purposes (i.e. competition, races, cultural events or breeding).

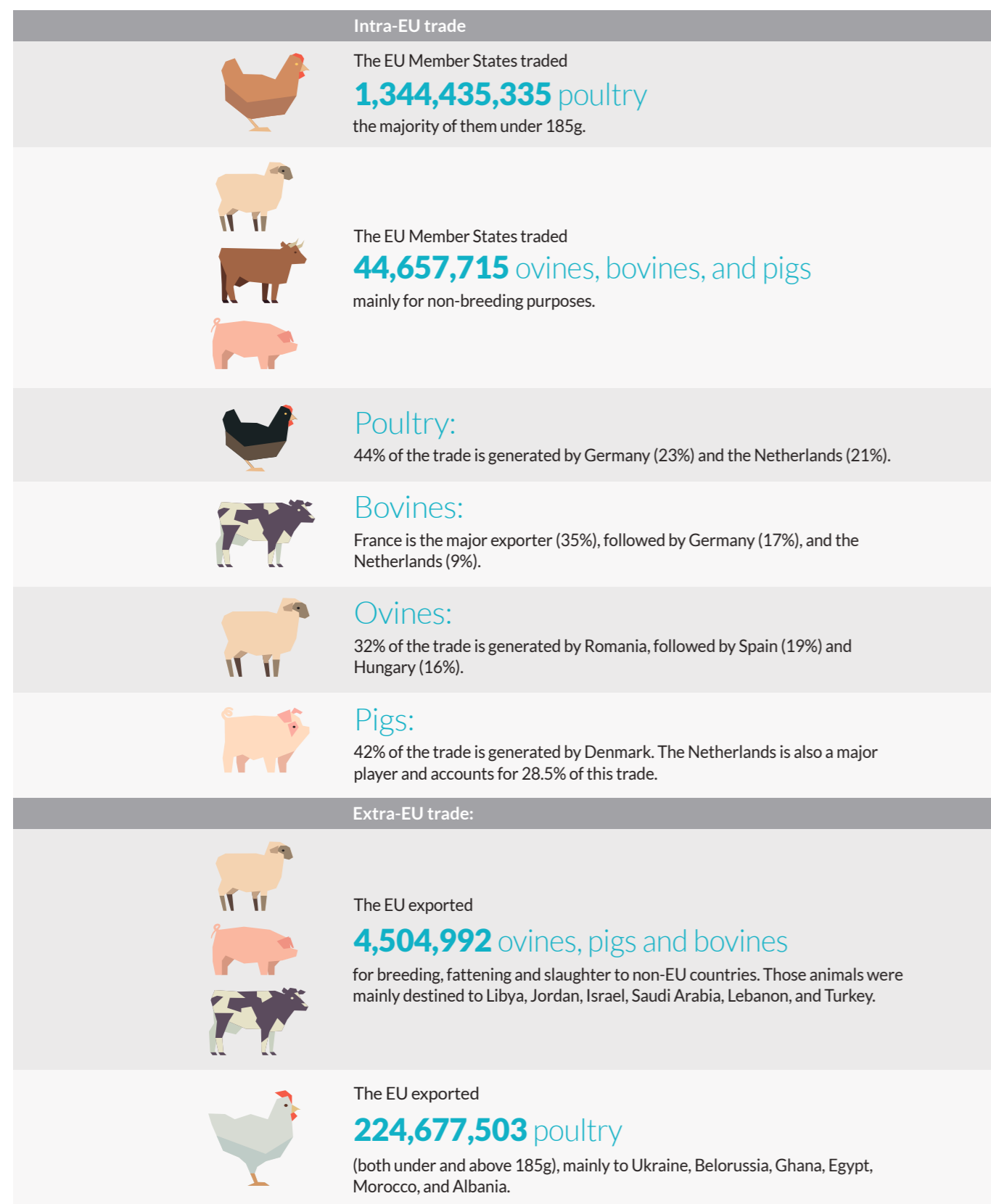
<sup>1</sup> The methodologies for the data extractions and/or analysis are reported in Appendix A.

<sup>2</sup> As defined by Directive 90/426/EEC, Art. 2(c).



# Terrestrial farmed animals

In 2019, 1,618,275,545 ovines, bovines, poultry and pigs were transported alive across the EU and from the EU to non-European countries.



Sheep and chickens being fed.

In 2019, a total of 229,182,495 bovines, pigs, poultry, and ovines were exported from the EU to non-EU countries. Poultry is the most traded farmed animal species (98% of the total export). The top EU exporters were Poland (with 61,922,019 head), Hungary (35,592,697 head), the Netherlands (29,806,473 head), and France (25,399,220 head).

Within the mammals, ovines are the most exported animals (3,117,585 head), followed by bovines (1,018,060 head) and pigs (369,347 head). For bovines the export market is dominated by Spain (193,092 head), Romania (141,924 head), France (124,182 head) and Hungary (91,966 head); for pigs the major EU exporter was Croatia (124,410 head), followed by Greece (92,140 head), Germany (71,474 head) and Bulgaria (31,814 head).

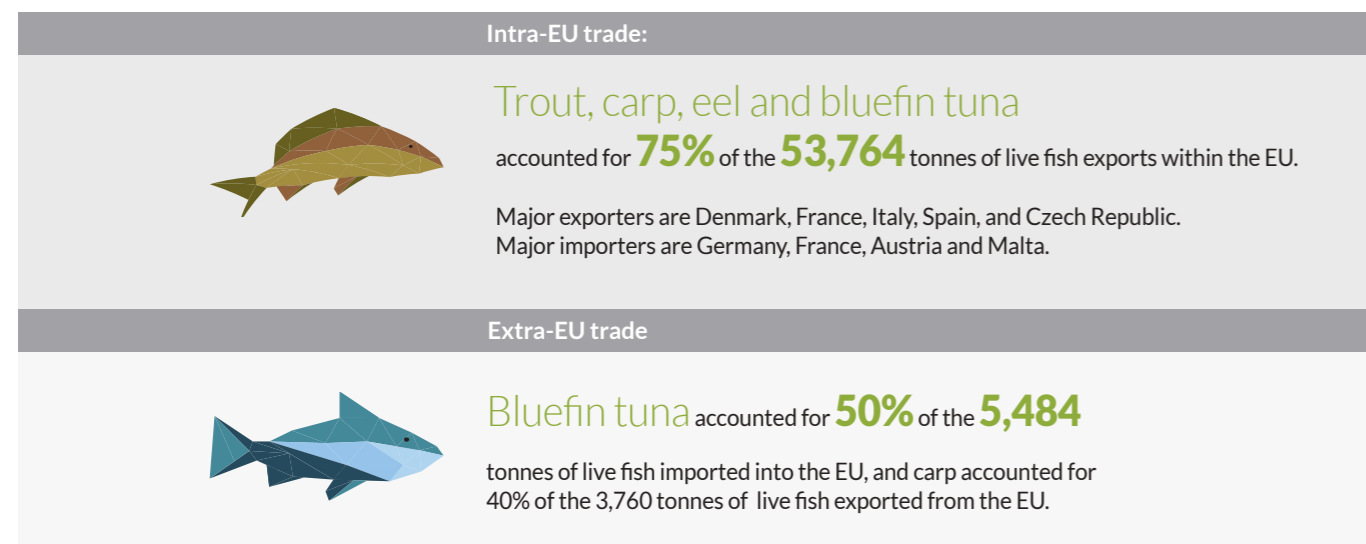
Major trade partners for the EU are Ukraine, which in 2019 imported 84,590,184 terrestrial farmed animals from the EU, followed by Belorussia, Ghana, Egypt, Morocco, and Albania. These are the major importers of poultry, and given the high portion of these animals in extra-EU trade statistics, they also render them major EU trade partners in absolute terms. However, by looking at the export data for mammals only, the major EU trade partners are Libya (that in 2019 imported from the EU 1,105,445 ovines, bovines, and pigs), Jordan, Israel, Saudi Arabia, Lebanon, and Turkey.

Animals are also traded across the EU Member States: in 2019, 1,389,093,050 bovines, pigs, poultry, and ovines were moved between the EU Member States. Poultry is the most traded farm animal species (about 97% of the total intra-EU trade). Out of the over one billion poultry transported in 2019 over 312,000,000 birds departed from Germany, about 283,000,000 from the Netherlands, while Belgium, France and Czech Republic, each saw the departure of over 100,000,000 birds.

As for mammals, EU Member States traded about 36,964,378 pigs, 3,340,664 ovines, and 4,352,673 bovines in 2019. The vast majority of these animals (a medium of 96% across-species) is transported for "non-breeding purposes". The major exporters are France for bovines, Romania for ovines, Denmark for pigs and the Netherlands for poultry. However, in absolute terms, the major players in intra-EU trade are Germany, the Netherlands, Belgium, France and Czech Republic. Excluding poultry, the major exporters are Denmark, the Netherlands, Spain, Germany, and France.

## Fish and aquatic invertebrates

*In 2019, 57,523 tonnes of fish was reported as exported alive by EU Member States, with 93% of these destined for other Member States. Total imports are reported as 57,154 tonnes.*



The available data on the live transport of fish and aquatic invertebrates is very limited. Firstly, fish are the only major farmed species that are reported only by weight and not by head, and the range of sizes at which they are transported makes it impossible to infer the number of heads from the weight. The reported data gives only partial views of cross-border trade, with many exemptions applied to reporting, and gives no insight at all into live transport that does not cross a border. For other aquatic invertebrates, no differentiation is made between live and dead animals.

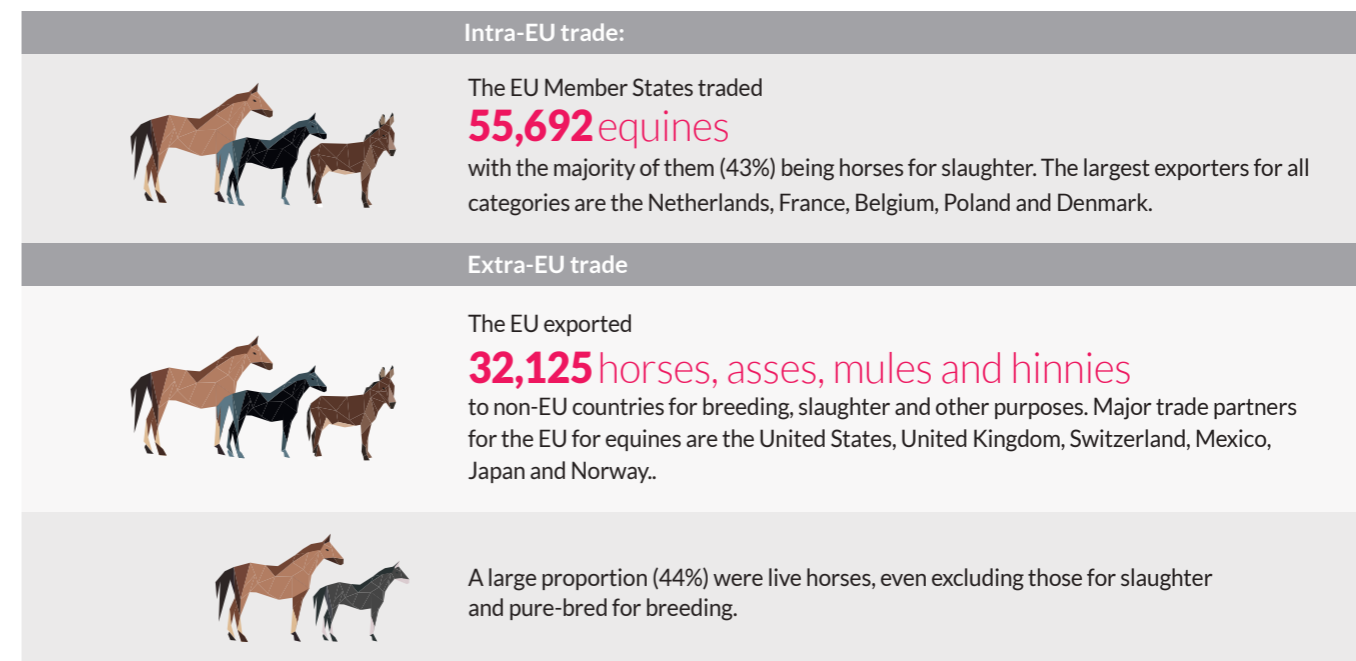
Reported trade between Member States is dominated by commercial aquaculture species. 22,938 tonnes of trout were exported, primarily from Denmark (6,331 tonnes), France (5,662 tonnes), Italy (4,582 tonnes), and Spain (4,309 tonnes). Major importers of trout were Germany (7,087 tonnes), France (4,169 tonnes) and Austria (3,849 tonnes). 12,386 tonnes of carp were exported, primarily from Czech Republic (9,440 tonnes) and Hungary (2,083 tonnes). Major importers of carp were Germany (2,554 tonnes), Romania (1,878 tonnes), Poland (1,303 tonnes) and Slovakia (1,025 tonnes). 2,727 tonnes of eels were exported, primarily from the Netherlands (1,007 tonnes), Germany (436 tonnes), France (400 tonnes), and Denmark (390 tonnes). Major

importers were the Netherlands (1,109 tonnes), and Italy (369 tonnes). 2,263 tonnes of bluefin tuna were exported, primarily from France (1,630 tonnes). The major importer was Malta (3,496 tonnes). 3,879 tonnes of unspecified freshwater fish were exported, primarily from Denmark (1,684 tonnes). 6,393 tonnes of saltwater ornamental fish were exported, primarily from Spain (5,106 tonnes), and major importers were Greece (1,339 tonnes) and Spain (1,081 tonnes).

Reported EU trade with third countries is much smaller. Exports are primarily 1,191 tonnes of carp, primarily from Hungary (397 tonnes), Czech Republic (335 tonnes), Croatia (212 tonnes), and Bulgaria (210 tonnes). Also, 545 tonnes of trout were exported, primarily from France (271 tonnes), Germany (129 tonnes), and 388 tonnes of tuna were exported, primarily from Malta (372 tonnes). 932 tonnes of ornamental fish were also exported, primarily from the UK (898 tonnes), and 514 tonnes of other saltwater fish, primarily from Italy (242 tonnes) and France (150 tonnes). Imports from third countries were dominated by 2,753 tonnes of bluefin tuna imported into Malta, plus a further 2,392 tonnes of aquarium fish and only 340 tonnes of other aquaculture species.

## Equines

*In 2019, 87,817 horses, asses, mules and hinnies were transported alive across the EU and from the EU to the rest of the world.*



According to the statistics, almost 88,000 horses, asses, mules and hinnies (equines) were transported alive across the EU and from the EU to non-European countries. Intra-EU trade is dominated by horses for slaughter (43%) and pure-bred breeding horses (30%), while extra-EU trade is led by live horses (excluding those for slaughter and pure-bred for breeding) (44%); and pure-bred breeding horses (28%).

Regarding intra-EU trade, EU Member States specialise in specific categories of equines. In the case of pure-bred breeding horses, more than half of exports was generated by Belgium (46%) and Denmark (21%). In terms of horses for slaughter: 23% of exports comes from the Netherlands, followed by Poland (22%), France (20%) and Romania (13%) that together represent 55% of the market share. When considering live horses, excluding those destined for slaughter and pure-bred for breeding, 48% of the trade is accounted for by France, followed by Spain with a further 23% of the exports. For live asses, and live mules and hinnies the picture depicted by data is quite extraordinary with 99% and 87% of the trade respectively accounted for by the Netherlands.

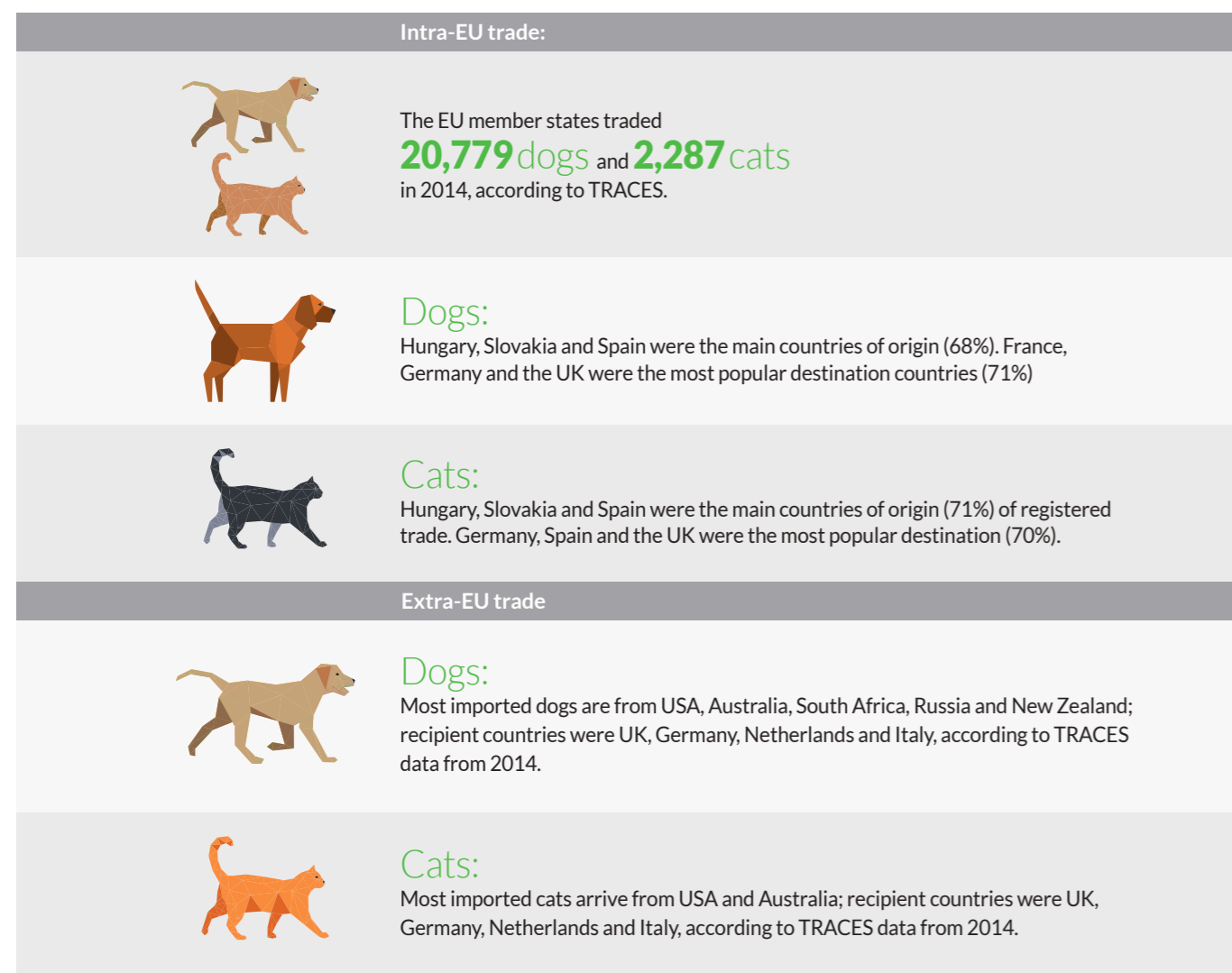
In terms of extra-EU trade in the course of 2019, the United Kingdom was the main market for EU pure-bred breeding horses with 59% of total EU exports. Looking at other categories of equines, the trade is certainly a long-distance one with 94% of live horses for slaughter destined for Japan; 63% of live horses (excluding for slaughter and pure-bred for breeding) exported to the United States (32%), Switzerland (15%), Mexico (10%) and China (6%). In parallel, 75% of live asses were exported to Switzerland, and 92% of live mules and hinnies to the United States.

As regards the top trading partners and top species, the United States imports the highest numbers of live mules and hinnies from Denmark, the United Kingdom pure-bred breeding horses from Ireland, Switzerland live horses (excluding for slaughter and pure-bred for breeding) from Germany, Mexico live horses (excluding for slaughter and pure-bred for breeding) from the Netherlands, Japan horses for slaughter from France, and Norway live horses (excluding for slaughter and pure-bred for breeding) from Denmark.



## Companion animals

*There are no reliable publicly available data collected on a systematic basis for the commercial movement of cats and dogs both for intra-EU and extra-EU trade.*



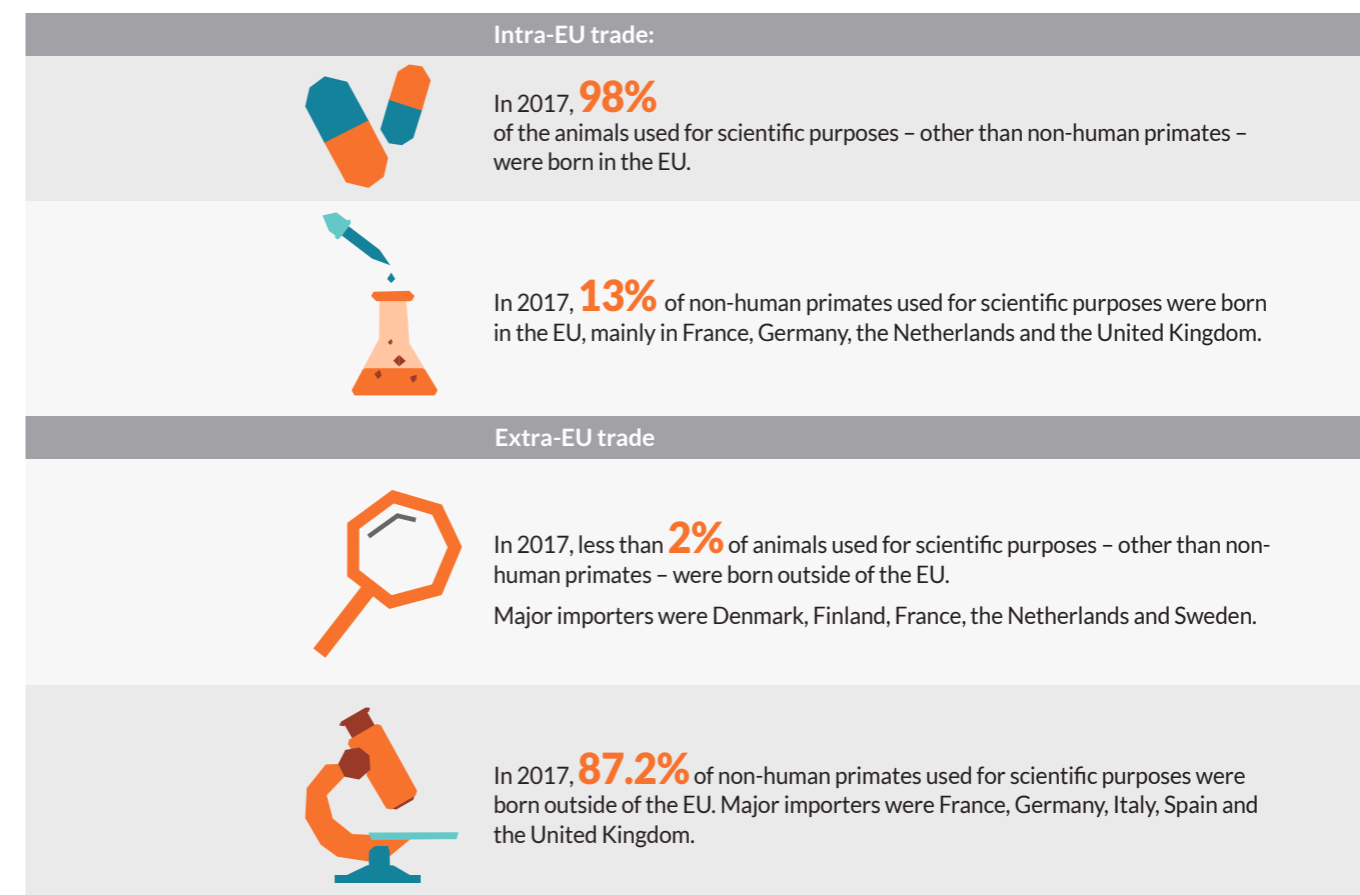
The most recent available official data found on intra- and extra-EU transport of cats and dogs is from 2014 (EC, 2015). While other anecdotal, historical and/or incomplete data is available, it is, however, highly likely underestimated. For instance, the available data indicates that 53,911 dogs in the UK came from other Member States in 2013. In contrast, only 1,878 dogs were recorded in TRACES as intra-EU trade to the UK from other Member States. In Italy, only 4% of controlled animals appear

in TRACES (BIO-CRIME). According to the official numbers provided by the National Veterinary Office, about 5,000 dogs leave Romania every month. The number of animals illegally transported between countries also needs to be added: in France alone, the Brigade nationale d'enquêtes vétérinaires et phytosanitaires (BNEVP)<sup>3</sup> – the law enforcement unit focusing on dog trafficking – estimates that roughly 50,000 dogs enter France illegally every year.

<sup>3</sup> <https://agriculture.gouv.fr/les-missions-de-la-brigade-nationale-denquetes-veterinaires-et-phytosanitaires-bnevvp>

## Laboratory animals

*In 2017, 9.39 million animals were used for the first time for research, testing, routine production, and educational and training purposes in the EU. The main species used were mice, fish, rats and birds. Additionally, 13.9 million animals were bred in EU laboratories in the same year. However, little published information is available regarding the transport of these animals.*



Data related to the transport of animals to and within the EU is not available for most laboratory species. Further, since movements of animals within Member States are not subject to a compulsory declaration, there is no data on the number of animals transported within individual Member States. The following section presents the current situation of laboratory animal transport based on the little accessible information. Most data were extracted from the report on the statistics on the use of animals for scientific purposes in the Member States of the EU in 2015-2017 (EC, 2020b) and from national statistical reports on the use of animals for scientific purposes submitted by each Member State (EC, 2014). In 2017, 98% of the animals used for scientific purposes other than non-human primates were born in the EU at registered or not registered breeders. Less than 2% were born outside of the EU (either in the rest of Europe or in the rest of the world) and mainly included Xenopus,

hamsters, cats and dogs. Zebrafish hatched outside of the EU are regularly imported into the EU from North America or Asia (Reed, 2011). Major importers of animals born outside of the EU were Denmark, Finland, France, the Netherlands and Sweden. In 2017, 87.2% of non-human primates used for scientific purposes were born outside of the EU, mainly in Africa and Asia. Major importers of non-human primates were France, Germany, Italy, Spain and the United Kingdom. Data extracted from the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) database reveals that non-human primates born outside Europe are mainly exported from China, Vietnam and Mauritius. Non-human primates born outside of the EU but within Europe are mainly exported from Switzerland. Since the import and export of non-human primates between the EU Member States does not require a CITES permit, it is impossible to assess the trade of non-human primates within the EU.

## II. Eurogroup for Animals proposal

The core of following proposal is to:

- Set mandatory trainings to enable people involved in such transport operations to recognise and alleviate physical and psychological signs of stress
- Guarantee the welfare of all the animals transported by providing clear definitions and species-specific provisions to which operators, competent authorities and the European Commission need to abide by
- Establish a centralised and harmonised monitoring and reporting system

The patchy and poor implementation of the EU Regulation, and its negative consequences in terms of animal welfare, is due to different factors:

- Technical requirements unfit for purpose
- Provisions difficult and/or impossible to implement
- Unpreparedness of operators
- Lack of willingness by certain Member States to act upon the official recommendations
- Soft approach by the European Commission
- Lack of species-specific provisions and inspections
- Reporting system that makes it difficult to tackle violations and promote responsibility and enforcement

To transport live animals also poses serious risks for animal and public health due to the possible spread of diseases. Scientific evidence shows that the stress associated with handling and transport weakens the immune system, making animals more vulnerable to diseases: "Such animals are more likely to infect others during the journey or after arrival at their destination, and in many cases (e.g. salmonellosis) this will also increase the risk to public health" (EFSA, 2011). Also the Food and Agriculture Organisation of the United Nations (FAO), defined live animal transport as "ideally suited for spreading disease"

given that animals may originate from different herds or flocks and are "confined together for long periods in a poorly ventilated stressful environment" (FAO, 2002). Therefore, live transport should be reduced as much as possible.

The revision of the Transport Regulation offers the opportunity to tackle all these issues at once. This Paper provides the European Commission and EU co-legislators with key inputs to meet the objectives of the revision process: namely, align the Transport Regulation with the latest scientific evidence, broaden its scope, make it easier to enforce and ultimately ensure a higher level of animal welfare (EC, 2020a).

The following proposal is based on a species- and category-specific approach; therefore, terrestrial farmed animals, fish and aquatic invertebrates, equines, companion animals, and laboratory animals have dedicated sections. Current problems are highlighted and solutions put forward.

Pigs on a truck.







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## SECTION II.1

# Terrestrial farmed animals

### II.1.1 Current problems:

*Scientific bodies and committees have provided abundant evidence that the Transport Regulation is unfit for its purpose. In 2011, EFSA concluded that “parts of the Regulation are not in line with the current scientific knowledge” (EFSA, 2011). An independent study on the impact of the Regulation on the protection of animals during transport concluded that “there are no indications that animal welfare during transport has improved substantially with the Introduction of Regulation 1/2005” (Baltussen et al, 2011).*

Over a 13-year period, investigations, assessments and official reports have revealed the Regulation's gaps and shortcomings.

#### Mismatch between scientific recommendations and the provisions laid down in the Transport Regulation.

Despite the expert advice that “animals should be reared as close as possible to the premises on which they are born and slaughtered as close as possible to the point of production” (FVE, 2008), animals can currently, by means of a derogation, be transported for several days throughout and outside the EU. Live transport, especially over long distances, is a major animal welfare concern. Indeed, animals are exposed to stress at loading and unloading, and can suffer hunger, thirst, exhaustion, and lack of space and rest during transit. The Scientific Committee on Animals Health and Animal Welfare (SCAHAW) acknowledged that animal welfare tends to become worse as journey length increases (SCAHAW, 2002).

Beside this, as terrestrial farmed animals of different species and age may respond very differently to the stress of transport, animal welfare recommendations should be adapted to each type of animal (EFSA, 2004). However, the Transport Regulation

lacks this species- and category-specific approach and it does not provide *ad hoc* provisions to meet the physiological and behavioural needs of certain animal categories and species that are particularly sensitive to the challenges posed by transport. As a result, not all terrestrial farmed animals are transported in accordance to their needs. For instance<sup>4</sup>:

- For poultry “any journey above 4 hours [...] increases the likelihood of increased mortality” (FAWC, 2019) and “the type and the age of bird determine its potential for reduced welfare in transport” (EFSA, 2011). However the Transport Regulation does not provide a maximum journey time to meet the needs of these animals.
- Literature suggests that the transport of very young terrestrial farmed animals (e.g. rabbits, ratites, deer, calves, etc.) should be avoided (EFSA, 2004). Young calves should not be transported where possible (Sossidou et al., 2009), as they are not well adapted to cope with transport, which results in high rates of morbidity and mortality, both during, and in the few weeks immediately following transport (Knowles, 1995). However, the Transport Regulation pays very little attention to this, allowing for instance for the transport of calves over long-distances.
- Effective temperature during transport has a major effect on poultry and pig welfare and their mortality rate (Mitchell and Kettlewell, 2009; Temple et al, 2014). However, the Transport Regulation lacks species-specific temperature and humidity ranges for these as well as other species. Only a general provision on temperature is provided.
- The current systematic use of poultry containers for the transport of rabbits is responsible for animal welfare problems (EFSA, 2020) because of the design of these containers not being adapted to rabbits and their needs. However, the Transport Regulation does not provide species-specific strict provisions for the design and construction of animal crates.

#### Unenforceability of certain provisions contained in the Transport Regulation.

The EU Transport law contains a vast number of provisions which are unenforceable<sup>5</sup> and/or unenforced in practice (Animals' Angels, 2016). Among others there's the ruling by the Court of Justice of the European Union (CJEU) on the obligation to implement the Transport Regulation provisions also in case of EU livestock consignments leaving the EU territories until final destination (CJEU, C-424/13). This remains unenforced and, *de facto*, unenforceable. Indeed, given the lack of routine

<sup>4</sup> The list provided is not exhaustive.

<sup>5</sup> For example, the loading densities for small pigs of weights other than 100 kg. In the Transport Regulation, for road transport of pigs, the only indications for the space requirements concern animals of 100kg. However, it is impossible to apply this loading density to piglets, because this would result in completely overcrowded trucks (for piglets of 6kg, for example, it would result in almost 40 animals per m<sup>3</sup>).

<sup>6</sup> The reports to be submitted to the European Commission have six categories of infringements: Documentation; Fitness of animals for transport; Transport practices, space allowances, height; Means of transport and additional provisions for livestock vessels or vessels transporting sea containers, and for long journeys; Other cases of non-compliance; and Watering and feeding, journey times and resting period. Between 2015 and 2018 the highest percentage of infringements (between 26-37%) in Italy, have been constantly recorded under “documentations” and “fitness for transport.”

feedback from third countries on the condition of animals during transport and at arrival (DG(SANTE) 2019-6835), it is impossible for Member States to assess compliance. To enforce this Court ruling, would mean for Member States to refuse any export of animals towards non-EU countries. Far from this, Member States routinely send live animals to outside the EU without having any assurance that the Transport Regulation will be effectively implemented.

#### Weak implementation and enforcement system.

Three years after the adoption of the Transport Regulation, the Federation of Veterinarians of Europe (FVE) highlighted that the legal text failed to achieve adequate implementation and enforcement in all Member States (FVE, 2008). Indeed, official audits shows as the same violations have been perpetuated throughout the years by Member States: for instance, in Spain in 2018 (DG(SANTE) 2018-6446), the European Commission's auditors reported a lack of effective control on animals; the same point was raised during the audits carried out in 2008, 2009, and 2014 (respectively, DG(SANCO) 2008-8347; 2009-8284; 2014-7079). Similarly, the audit carried out in France in 2017 (DG(SANTE) 2017-6108) revealed that the competent authority did not properly enforce the law on the transport of unfit animals, regardless of the auditors' recommendations in 2012 and 2015 (respectively, DG(SANCO) 2012-6446; 2015-7427). Also in Italy there has been a consolidation of critical issues<sup>6</sup>, as reported by the analysis submitted by the Italian government to the European Commission in 2018<sup>7</sup>.

Additionally, as the Transport Regulation delegates Member States with the powers to adopt their own sanction systems (Reg. 1/2005, Art. 25) “there is no generalised use of actions such as suspension or revoking of licences, increased controls or restrictions in activity. While most Member States opt for administrative processes (fines) and sanctions, the former are generally too long to be effective and the latter too low to be dissuasive” (DG(SANTE) 2015-8721).

Also, the approval of livestock vessels is left to the Member States' competent authority or body designated by it (Reg 1/2005, Art. 19). This approach led to authorities approving and/or permitting the use of substandard vessels not in compliance with EU rules for animal welfare (DG(SANTE) 2019-6835), due to the different attitudes of Member States towards animal welfare and maritime safety, and the lack of mandatory inspection criteria. The basic legislative requirement that animals should not be transported in a way to cause them suffering, remains un-met.



## SECTION II.1

### II.1.2 Solutions

*The proposal put forward in this section is based on EFSA's advice to avoid transport wherever possible and keep journeys as short as possible (EFSA, 2004) and with the aim of following up on experts' recommendations to shift from live transport to a trade in meat and carcasses as well as genetic material (FVE 2008; 2016; 2019; OIE, 2009; EFSA, 2011).*

*Therefore, maximum journey times have been proposed and strict conditions and requirements laid down to make sure that the remaining transport of animals is carried out in full respect of the welfare of the animals transported and that violations are effectively tackled, their occurrence reduced, and their consequences mitigated.*

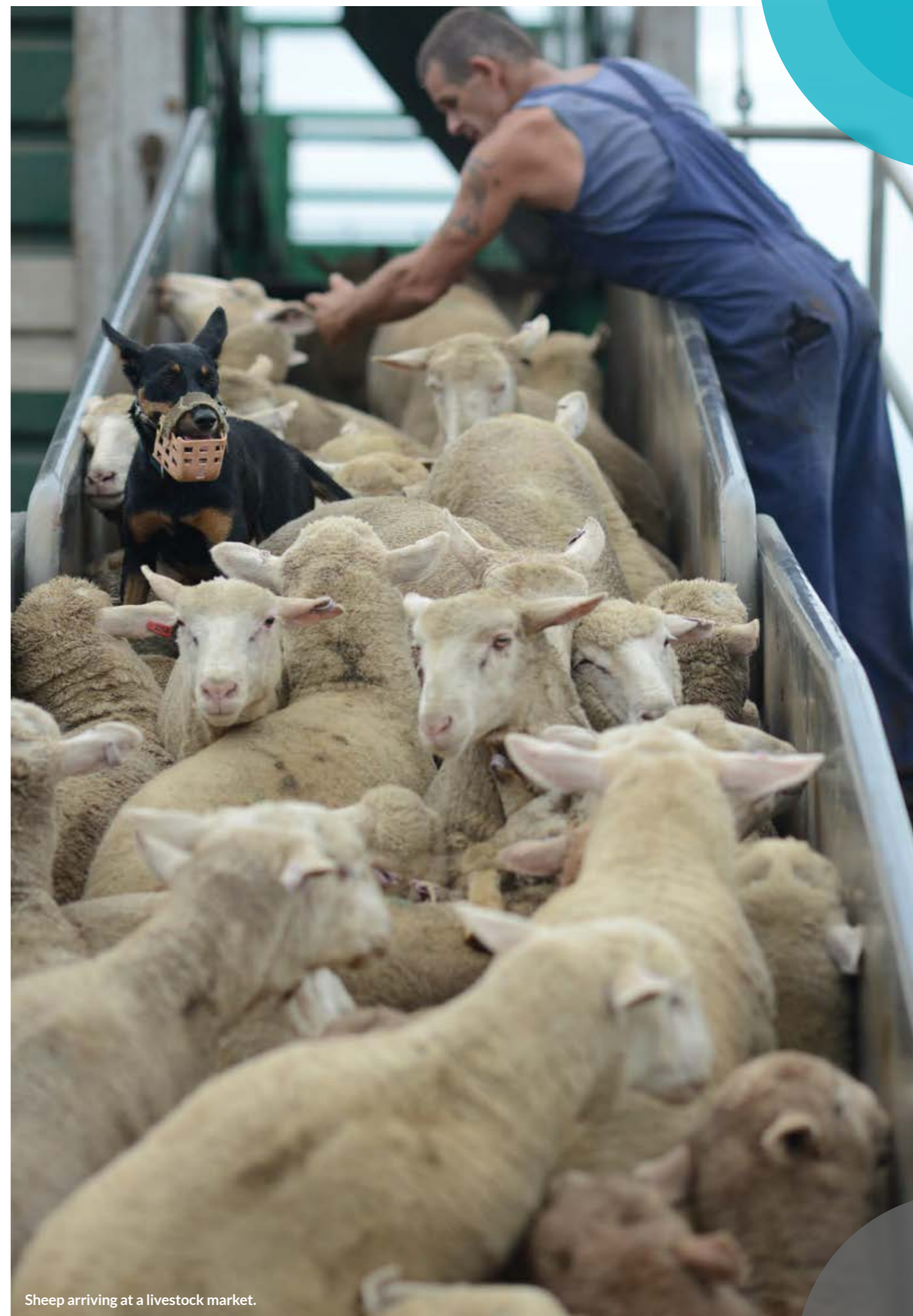
#### Legislative proposal <sup>7</sup>

This proposal puts forward the minimum species-specific requirements for the transport of bovines, swine, poultry, rabbits and ovines (terrestrial farmed animals). Provisions related to intra-EU trade, should also be applied to imported animal-based products, such as meat.

#### Definitions:

- § 'Animals at the end-of-production cycle': defined as animals kept for dairy production, breeders of any species, and animals used for egg production at the end of their career.
- § 'Beginning of journey': the journey begins when the first animal of the group meant to be transported, is loaded into the means of transport.
- § 'Container': any crate, receptacle or other rigid structure used for the transport of animals which is not a means of transport.
- § 'Diseased animal': defined as an animal suffering an impairment of its normal state that interrupts or modifies its vital functions.
- § 'Distressed animal': defined as an animal in an aversive state in which it is pushed beyond its limit of adjustment and starts to show clinical and behavioural signs of disease.
- § 'End of journey': the journey ends when the last animal from the animal consignment is unloaded from the means of transport that has reached the final destination.

- § 'Final destination': defined only as (i) the slaughterhouse where animals will be killed, or (ii) the farm for further fattening (to be considered as a final destination, the animals transported have to stay on the farm for at least 30 days), or (iii) the farm for breeding (to be considered as a final destination, the animals transported have to stay on the farm for at least 30 days). This list is exhaustive.
- § 'Injured animal': an animal presenting physical damage/s to part/s of its body.
- § 'Journey time' and 'journey': defined as the entire time elapsing from the 'beginning of journey' till the 'end of journey' including loading and unloading of animals. In case of sea and air transport the journey time includes the time animals spend on the road from the farm to the harbour or airport, and from the harbour or airport to the final destination, as well as the part of the journey animals spend on the vessels and the roll-on/roll-off time.
- § 'Realistic planning': defined as a transport that fulfils all the requirements on (i) the weather forecast (as laid down in point 5) for the whole journey time, (ii) the journey time (as laid down in point 1), which shall include an estimation of the quality of roads, speed limits, and possible waiting times, and (iii) the space allowance.
- § 'Transport': defined as 'journey'.
- § 'Transporter': defined as any natural or legal person transporting animals on their own account, or on behalf of a third party. No person shall act as a transporter unless they hold an authorisation issued by an EU Competent Authority pursuant to Article 10 (1).
- § 'Unfit bovines, swine, rabbits, poultry and ovines': defined as animals belonging to those species that cannot be transported, regardless of the duration and quality of the journey. Diseased, injured, distressed, unweaned and pregnant animals for whom 40% or more of the expected gestation period has already passed, as well as animals that gave birth in the 8 weeks before the expected transport, shall be considered unfit for transport.
- § 'Unweaned bovines, swine, rabbits and ovines': Defined as animals belonging to those species that are (i) incapable of independent intake of solid feed and water, and (ii) younger than 12 weeks (for bovines and ovines), 30 days (for pigs) and 6 weeks for rabbits.
- § 'Vulnerable terrestrial farmed animals': defined as bovines, swine, rabbits, poultry and ovines in a post-surgery period and/or an injured in such a way that their physiological, psychological and physical functions have been impacted in the 8 weeks preceding the date of the beginning of the journey; bovines, swine, rabbits and ovines in the 2 weeks after weaning; terrestrial farmed animals at the end-of-production cycle; and lactating bovines, swine, rabbits and ovines.
- § 'Young bovines, swine, poultry and ovines': defined as weaned pigs until the achieving of puberty, weaned bovines up to 6 months of age, and weaned ovines until 1 year of age, pullets up to 1 year of age and chicks under 5 weeks of age.



Sheep arriving at a livestock market.

<sup>7</sup> Among others, the Guides to Good Practices (Consortium of the Animal Transport Guides Project, 2017), the EFSA opinions (EFSA, 2004; 2011) and the Handbuch Tiertransporte Stand (Marschner, U. et al., 2019) have been consulted for the purpose of this section.





### Intra-EU transport of live bovines, swine, poultry, ovines and rabbits (applicable to any kind of transport taking place within the EU)

1. Introducing species-specific maximum journey times with a maximum travel time of 8 hours for weaned bovines, ovines and swine. Loading and unloading time shall be considered as travel time. For younger animals (as detailed under point 3), animals at the end of the production cycle (as detailed under point 4), poultry, and rabbits, the maximum journey time shall be 4 hours. The loading time for poultry and rabbits is not calculated as journey time for such transport.

1.1 For road transport, the maximum journey times must be calculated on the basis of an average truck speed of 70 km/h.

2. Bovines, ovines and swine during the journey must have continuous access to water; drinking devices on board shall be suitable to the animal species and category transported, and sufficient in number to guarantee access to appropriate quantities of water for all the animals loaded. Drinking devices shall be positioned in a way to be easily accessible for all the animals transported and to guarantee animals can drink in their natural position. Rabbits and poultry should always be watered before loading and at arrival. Hydrogel solutions should be provided to rabbits during transport.

3. The transport of bovines, swine, rabbits and ovines that are unweaned, younger than 8 weeks of age, and at 40% or more of the expected gestation period, is forbidden.

3.1 Prior to approval for the transportation of pregnant bovines, swine, rabbits and ovines, the gestation stage of these animals must be assessed, and the organiser must provide documentation to the competent authority on the insemination/mating approximate date, and the last gestation check carried out by the veterinarian on the farm not longer than two weeks before the expected planned departure. In case of natural insemination, the first day the male was put together with the female shall be considered as the date of conception. In case of continuous coexistence of the males with the females, only the latter applies.

4. On-farm killing and the use of decentralised slaughterhouses for terrestrial farmed animals at the end-of-production cycle should be promoted by forbidding their transport over 4 hours (including loading and unloading time).

5. The transport of terrestrial farmed animals (excluded for lactating cows, spent hens and rabbits) can only be approved when – within the maximum journey time foreseen in point 1 – minimum and maximum external temperatures are between +5 to +25 degrees Celsius for the whole duration of the journey (the weather forecast shall be taken into account before the approval of any journey).

Stricter rules on temperatures and on the Temperature-Humidity-Index (THI) as well as species and category-specific internal temperatures ranges must also be set by law.

- 5.1 For lactating cows, transport can only be approved with external temperatures between +5 to +15 degrees Celsius.
- 5.2 For spent hens, transport to slaughterhouses can only be approved with external temperatures between +15 to +25 degrees Celsius.
- 5.3 Transport of rabbits can only be approved with external temperatures between +5 to +20 degrees Celsius.
6. Each means of transport shall be provided with a sensor to record temperatures in each compartment.
7. Species- and category-specific space allowances must be set by law, including ceiling heights (calculations to be made on the tallest animal loaded) that must guarantee at least 50cm above the backbones of each animal for heifers, 30-50cm above the backbones of each animal for bulls, at least 30cm above the backbone of each animal for un-horned cattle, 20-30cm above the backbone of each animal for pigs, ovines and young bovines. These minimum head spaces must be respected for each of the levels on which animals are transported (see point 9 for indications on the maximum levels allowed).
- 7.1 For pigs, bovines, and ovines, the space allowance must be calculated on the basic principles that animals transported shall be able to:
- Lie down (laterally) all at the same time
  - Easily reach drinking devices
  - Turn around
  - Stand in a natural position, and
  - Access the airflow of the ventilation system
- 7.2 For poultry, the container should not be of a height that allows birds to stand as this may result in falling and causing injury. The height should allow them to sit comfortably, with the head raised, during transport. The space allowance for the different categories must follow the space allowances set in the German handbook on animal transport (Marschner et al, 2019).
- 7.3 The height and design of containers for rabbits shall be in accordance with the breed and size of the animal transported and allow postures to adopt adequate thermoregulation. Rabbits should always be transported in compatible pairs that have already stable hierarchies; if not possible, they must be transported individually. In any case, no more than 2 rabbits shall be transported in the same container.
8. Forced ventilation must be installed in each means of transport for live bovines, swine, poultry, rabbits and ovines to maintain a suitable ambient temperature and possibly remove toxic gases originating from animals urine and faeces.
9. Bovines older than 6 months must be transported on a single level in a road transport vehicle.

9.1 Bovines, swine, poultry, rabbits and ovines must be accessible and reachable in each compartment and/or crates during the whole duration of the journey to guarantee that animals in a bad condition can be treated and eventually euthanised at any time. Each compartment and each cage must have side-access doors, and cages must be loaded to allow for direct access to all the animals from outside the means of transport.

9.2 Loading and unloading must be performed in a quiet and competent manner. Loading bays should be raised so that bovines, swine, and ovines need only to walk up a slight slope onto the vehicle. Vehicle ramp angles should be no more than 15° for pigs and young bovines, and no more than 20° for sheep, goats and adult bovines. Unloading ramps must respect the same species-specific inclines.

10. Containers for the transport of poultry must be solid, safe, clean, suitable to the age and category of the birds transported. Containers shall have:

- An anti-slip floor
- Large sliding top doors
- Large side-access doors
- A solid lip at the bottom to prevent toes sticking out, and
- Holes not so large that heads and body extremities can pass through

11. Rabbits must be transported in containers designed specifically for them. Container ventilation holes shall allow adequate ventilation, but shall not permit ears to protrude through the top of the cage.

11.1 During transport rabbits must be provided with material to chew and containers shall be equipped to provide rabbits with water in hydrogel solution.

12. To prevent heat stress, trucks transporting poultry should be equipped with roofs that can be lifted, so warm air can leave the truck. These roofs can also have fans/grids or openings to prevent temperatures rising.

13. With the aim of giving all EU Member States the time to equip themselves to transport and import meat and carcasses as well as semen and embryos, a derogation to the maximum journey time laid down in point 1 is foreseen. Via this derogation a maximum journey time of 12 hours for weaned bovines, swine and ovines, could be granted by a competent authority only if all the following conditions are met:

- The animals to be transported do not fall under the definition of 'Unfit' and are older than 3 months of age
- All the provisions applicable to the journey time of maximum 8 hours are complied with
- The transport of these animals is departing from and/or destined to a remote area in the EU (a list shall be prepared by the European Commission on the basis of geographical justifications)



- (d) The transport takes place within 18 months of the entry into force of the revised Transport Regulation
- (e) The transporter is granted authorisation by fulfilling the requirements under Art 10(1) and 11(1) of Council Regulation 1/2005
- (f) After travelling for 6 hours these animals are unloaded at an EU assembly centre for at least 5 hours and provided with water, feed, and rest, and
- (g) The competent authority (veterinarian) is present at time of loading (departure).

Point (f) only applies when the longer-distance transport approved by derogation takes place via road.

- 13.1 To fulfil the requirements under point 13(a), documentation on the birth date, on the giving birth date, or documentation on the insemination/mating date, as defined in point 3.1 shall be provided to the competent authority in charge for approving the animal consignments.
- 14. The competent authorities of the departing and destination country are equally responsible for implementing EU transport rules with regard to longer journeys (maximum 12 hours journey time). Competent authority of departure and destination must implement measures to prevent further breaches of the legislation. For this reason, the competent authority of the destination country shall demand documentation from the competent authority of the departure in advance (prior animals loading at departure) and refuse any consignments of animals that do not respect the conditions laid down in point 13 and 13.1.
- 15. Introducing a harmonised and effective EU sanction system, including on-the-spot fines to be applied every time a violation is detected. An infringement grill will lay down proportionate fines and actions for each violation category (e.g. unfit animals, animals injured and in suffering, lack of water, lack of food, overcrowding, lack of bedding, inappropriate means of transport, etc.).
- 16. A toolbox of effective and reliable species- and age-specific animal-based measures (ABMs) shall be inserted in the Regulation. It must be mandatory for the competent authority, official veterinarians, and/or the other entities involved, to apply them in the checks – on the animals' physical and psychological conditions – to be carried out before loading, during the journey and after arrival. Additionally, an Annex with the welfare consequences, and a system ranking the severity of these consequences, shall be inserted in the Regulation. To encourage proper application of EU law, this assessment tool shall be linked to appropriate infringement measures, as requested under point 15.
- 17. A harmonised system including mandatory emergency measures to be undertaken in the event of non-compliance with the legislative requirements by transporters, shall be inserted in the Regulation, to avoid inappropriate use of the actions currently listed under Art 23 of Council Regulation 1/2005.
- 18. In case of bovines, ovines, swine, rabbits and poultry falling ill or being injured during transport, drivers must immediately call a veterinarian. Animals that get injured during transport must be considered and treated as 'unfit' to continue the journey: they shall be separated from the others and receive first-aid treatment on the spot or, if severely injured, they shall be euthanised.
- 18.1 Euthanasia by injection shall be performed by a veterinarian on the spot, and after administration of an anaesthetic that renders the animal unconscious. If euthanasia on the spot cannot be performed on poultry and rabbits, these animals shall be transported to the nearest slaughterhouse and killed. Those killings shall be considered as 'emergency killing' and meat coming from those animals shall not enter the food chain.
- 18.2 A list of veterinarians, including contact details, available 24 hours a day to assist animals being transported shall be laid down and published by the European Commission on a dedicated website in English. All drivers must have access to this list.
- 19. Introducing a harmonised and effective system related to the requirement of contingency plans for different emergencies (e.g. mechanical breakdowns of vessels/trucks; delays during loading or unloading; bad weather; sick/injured animals; emergency killing or euthanasia of animals at ports and the disposal of carcasses; etc.).
- 20. The organiser is required to submit journey log(s) at least 2 working days before the planned start of the road journey. In signing the journey log the organiser takes responsibility for:
  - (a) The organisation of the whole journey, and
  - (b) The organisation of suitable arrangements to safeguard the welfare of the bovines, swine, poultry, rabbits and ovines throughout the journey in accordance with the legislative provisions. 'Suitable arrangements' includes the need to provide a fully compliant livestock vessel, if sea transport is foreseen.
- 21. Due to rising temperatures, Type-2 requirements must be mandatory for all road vehicles (ventilation, satellite navigation system with temperature measuring), regardless of the journey duration.
- 22. Competent authority must have access in real-time to the navigation system installed on the means of transport. The data to which the competent authority must have access includes:
  - (a) The whole route from the opening of the tail gate door at the place of departure until their closure at the destination with the dates, times and coordinates of eventual stops
  - (b) The data must be provided in a format permitting a check on the consistency and accuracy of the information reported in section I and II of journey log, and



Broiler chicken on a truck.

- (c) The transporter has to present current data to the competent authority during checks and submit a printed version to the competent authority of departure not later than 3 days after the completion of the journey
- 23. Authorisations shall be granted only to transporters and organiser that have no record of serious infringements of EU legislation and/or national legislation on the protection of animals in the 3 years preceding the date of the application. A definition of "serious infringements" and a system of verification of such infringements should be established.
- 24. Mandatory species-specific trainings should be provided to applicants before granting the certificate of competence for attendants<sup>8</sup>. These certificates must have a validity of 24 months maximum and be species-specific. The certificates can be extended for a further 2 years if the holder can prove that they were not subject to any administrative or judicial sanctions according to the Regulation on the protection of animals during transport.
- 25. The competent authority shall carry out a number of checks on transport that is proportionate to the number of animal consignments departing from their own territory (at least 10% of the total, to be re-calculated in September every year on the basis of the previous year's data).
- 26. For intra-EU transport of bovines, swine, poultry, rabbits and ovines by sea
  - 26.1 To be approved, vessels shall:
    - (a) Meet all the requirements already laid down in Council Regulation 1/2005 and in the revised Network document on livestock vessels
    - (b) Be equipped to transport those animal species
    - (c) Not be older than 5 years
    - (d) Be ranked in the white list of the Paris Memorandum of Understanding (MoU)
    - (e) Have cameras on board (the recording shall be made available to the European Commission, the National Contact Points, and interested parties – including NGOs, farmers, and food businesses – upon request)
    - (f) Have a veterinarian on board for the whole duration of the journey (maximum journey time see point 1), and
    - (g) Be equipped with a temperature and humidity measuring system on all decks where the animals are situated. The temperature and humidity measuring system must be placed in the part of the enclosures that are most likely to reach the highest temperature or humidity rate
  - 27. In case of veterinary intervention on board, a detailed report specifying the problems, the number and the species of the animals involved, the actions undertaken, and the outcomes shall be transmitted to the European Commission.

<sup>8</sup> 'Attendant' means a person directly in charge of the welfare of the animals who accompanies them during a journey, as defined in Section II.4.2 of the present Paper.



28. The official veterinarian at departure (harbour) shall compile a document providing the following information:
- Characteristics of the animals (number, species, age and sex of the animals loaded)
  - Status of individual animals (defined as general physical and psychological conditions to be assessed via the use of mandatory ABMs)
  - Number of animals refused at loading and reasons for refusal, and
  - Number of animals euthanised due to non-fitness to continue the journey
29. The document required under point 28 shall be checked at arrival by the official veterinarian and completed with the number of bovines, swine, poultry, rabbits and ovines injured and dead, if any. In reporting the latter, the official veterinarian must take into account the data provided by the transporters as well as carry out a proper check to verify the transporter's declaration. If the presence of dead animals is assessed, the official veterinarian must check and report the procedures for the disposal of dead animal bodies.
30. The full documents, as required under points 28 and 29, must be provided to the European Commission inspectorate (DG SANTE) within 1 month after the completion of the journey. Any delays shall be subject to sanctions.
31. The documents as required under points 28 and 29, and the report as required under point 27 shall be made publicly available via the DG SANTE website.
- 31.1 On the basis of the information retrieved with the procedures laid down in point 30 and 31, the European Commission shall lay down a list of guilty operators, reporting the percentage of violations detected on a yearly basis. The list must be updated every year, if necessary.
32. Compulsory training should be provided to the crew, and it should include at least the requirements laid down in Annex IV of Council Regulation 1/2005.

#### Infringements and notification of infringements (any kind of transport)

33. Where the designated entity/ies to check livestock consignments (e.g police, official veterinarians) of an EU Member State establish that a transporter has not observed, or a means of transport does not comply with, this Regulation, it shall:
- Notify without delay the competent authority which granted the authorisation to the transporter and, where the driver is involved in the failure to observe the requirements of this Regulation, the competent authority that issued the driver's certificate of competence. Any relevant data and documents shall accompany such notification. The authorisation of the transporter and/or the certificate of approval of the means of transport concerned and/or the driver's

certificate of competence shall be immediately suspended or withdrawn, and

- Apply a proportionate fine as laid down in the EU sanction systems infringement grill, both to the transporter and the competent authority/ies involved, as well as to the drivers, if applicable.

Violations of the Regulation must be communicated as soon as possible between the Member States involved, by using the template provided in the Annex 6 of the Network Document on checks before journeys when live animals are destined for export. Corrective and preventive measures undertaken by the competent authority of the EU Member States involved must also be communicated.

34. The competent authority/ies concerned (see point 33(a)) shall make the violation/s detected public via Ministry websites no later than 50 days after the detection (date of the checks and of the notification to the competent authority). This list shall include:

- The details of the checks (when, where)
- The transport origin and destinations
- The nature of the non-compliances (means of transport, drivers, transporters)
- Proof of the evidence collected
- The violations detected (e.g. unfit bovines, swine, poultry, rabbits and ovines), and
- The fine applied with reference to the EU sanction system grill

An English version of this report shall be uploaded onto a DG SANTE dedicated page within the same time frame (no later than 50 days after the violation's detection).

No later than February every year, all EU Member States shall report to the European Commission, a detailed list and evidence of the checks carried out, the violations detected and the corrective actions undertaken. The template for this report shall be provided by the European Commission to EU Member States. These reports shall be made publicly available via the DG SANTE website no later than April every year.

#### Additional requirement for sea transport on infringements and notification of infringements

35. With regard to point 28, should an official veterinarian, or the designated entity, at arrival find inconsistency/ies between the declaration made by the official veterinarian at loading with regard to the animals' physical and psychological status and characteristics, a notification shall be sent to the competent authority of their own country who will immediately inform its departure country counterpart as well as the European Commission inspectorate (DG SANTE).

If inconsistency between the veterinarian assessments persists, this should be published via the DG SANTE website (as required by point 34).



Cows on a truck.

© Jo-Anne McArthur - We Animals with Eyes on Animals

#### Extra-EU transport of live bovines, swine, poultry, rabbits and ovines (any kind of transport)

36. To ensure full compliance with the legally binding CJEU C-424/13, within a maximum period of 18 months from the entry into force of the revised Transport Regulation, EU Member States shall not approve any transport of bovines, swine, poultry, rabbits and ovines to non-EU countries, regardless of the journey duration, transport conditions, means of transport used and purpose of the export (fattening, breeding, non-pure breeding, and slaughter).
37. During this 18-month transitional period, all the conditions (except the derogation under point 13) concerning the transport of bovines, swine, poultry,

rabbits and ovines taking place intra-EU, shall also apply to the transport of bovines, swine, poultry, rabbits and ovines departing from an EU Member State with a final destination outside EU territories.

38. For animal welfare reasons, the transport of bovines, swine, poultry, rabbits and ovines towards war zones or zones with insecure political situations and non-EU countries with critical epidemiological situations (list to be laid down by the European Commission in line with World Health Organisation and OIE advice) is forbidden starting from the first day of the entry into force of the revised Transport Regulation.





Catfish aquaculture.

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## SECTION II.2

# Fish and aquatic invertebrates

### II.2.1 Current problems

*The vast majority of the provisions of the Transport Regulation refer to “animals”, defined by the Regulation as live vertebrate animals (Reg. 1/2005, Art. 2(a), and therefore apply to fish. Unfortunately, the language in which the provisions are formulated as well as the technical requirements make the Regulation unenforceable for these animals.*

In practice, prior to transport, fish that are used to regular feeding have their feed withdrawn for two days or more. At loading they are crowded in the farming unit and lifted or pumped into the transport container. During transport, fish and aquatic invertebrates are confined in smaller containers and at higher densities than in normal farming conditions. Space is extremely limited and water quality parameters are poorer than in normal farming conditions. Accumulating metabolic wastes from the fish have toxic effects. Animals are able to tolerate this for a limited period only. After transport, they are introduced to a new aquatic environment for acclimatisation or pre-slaughter holding.

Transport and related handling operations cause stress. A brief period of stress, including at egg stage, may lead to long-lasting effects. Inappropriate transport and handling procedures can result in injury, pain, distress, and suffering. As a result, increased disease incidence, increased mortality, reduced appetite, impaired development, and deformities in fish may ensue.

Additionally, a large number of aquatic animals are outside the scope of Council Regulation 1/2005, despite the fact that they are transported alive as an economic activity. Indeed, the Transport Regulation is applicable to vertebrate animals, and was predated by Directive 91/628/EEC, which had a scope beyond vertebrates and included cold-blooded animals.

**Council Regulation 1/2005 makes provisions that are so general that, when applied to fish transport, the protection they provide is very weak and implementation difficult.**

The Commission Report to Parliament and Council of 2011 on the impact of the Transport Regulation (EC, 2011b) reports that the lack of detailed rules has created difficulties in implementing that Regulation for animal categories other than livestock and “in particular farmed fish”. This leads to differing interpretations of the rules, market distortions, and difficulties for operators. A more recent study commissioned by the European Commission (2017) identified that the protection for fish welfare in the Transport Regulation is at a lower level than OIE standards, specifically identifying examples in Germany and Poland where carp transport meets the Regulation’s provisions but fails to meet OIE standards. In most cases OIE animal welfare standards are an international baseline and exceeded by EU standards.

**Certain provisions contained in the Transport Regulation are detrimental to fish welfare and others are unimplementable.**

The requirement to inspect fish at border control points is detrimental to the welfare of fish due to light exposure and changes in ambient noise causing stress, and stationary periods affecting water quality. The requirements to ensure “adequate ventilation above the animals when they are in a naturally standing position” and to ensure “a flooring surface that is anti-slip” are not applicable in fish transport.

**The general approach to the protection of fish in the Transport Regulation has resulted in no provisions being made for several key aspects of fish welfare during transport.**

The equipment for monitoring and maintaining water quality during transport, feed withdrawal prior to loading, and acclimatisation prior to unloading are the most critical aspects of welfare in the transport of fish.





Fish processing.

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## SECTION I I.2

### II.2.2 Solutions

*This proposal aims at addressing the major shortcomings of the current legislative framework and ensure an effective protection of fish and aquatic invertebrates transported within the EU. The specific checks to be carried out by officials on consignments entering or leaving the customs territory of the EU are included.*

#### Legislative proposal

This proposal puts forward specific requirements for the transport of vertebrate finfish, fertilised eggs, decapod crustaceans, and cephalopods.

#### Definitions:

§ The definitions of 'Beginning of journey', 'End of journey', 'Journey time', 'Journey', 'Transport' and 'Final destination', as provided in Section I.1.2 of the present Paper, also apply to transport of fish and aquatic invertebrates.

- § 'Closed system': a system which does not regularly replace the water.
- § 'Degree day': average daily water temperature °C x number of days.
- § 'Dispatcher': operator handing over the fish and aquatic invertebrates to the transporter.
- § 'Fish pump': device for pumping and moving fish in water.
- § 'Open system': a system which can continually exchange water using an external source.
- § 'Ornamental animals': fish or aquatic invertebrates for display in domestic or commercial aquarium activities.
- § 'Recipient': operator receiving fish and aquatic invertebrates from the transporter.
- § 'Transportation unit': the smallest loadable unit of a vehicle that is used to transport fish and aquatic invertebrates. The transportation unit can be, but does not need to be, part of a vehicle.

#### Requirements:

#### Intra- and extra-EU transport of fish and aquatic invertebrates (applicable to any kind of transport taking place within and from the EU)

39. Vehicles and vessels shall be approved by the competent authority in which they are registered or primarily operating. Approvals shall be valid for a period of not more than 5 years from the date of issue and shall be invalid as soon as the means of transport are modified or refitted with new equipment in a way that affects the welfare of the fish.
40. The application for approval shall contain the data necessary to assess whether the approval can be granted, and which conditions need to be set. The application shall include the following, at least:
  - (a) Identifying data such as the name or registration details of the vehicle or vessel, the person responsible for the vehicle or vessel, form of ownership, address, telephone number and mobile number of the responsible person
  - (b) Information about the type of journeys for which the vehicle or vessel is applying to be approved, and whether the vehicle or vessel has previously been approved or refused approval
  - (c) Drawings which show the vehicle or vessel construction, water exchange, ventilation, and well and/or pipe systems
  - (d) Details of control systems that demonstrate sound operation including operator competence and routines for cleaning and disinfecting, handling dead fish, water exchanging, monitoring water quality, maintaining water quality, and record keeping, and
  - (e) Documentation of the fittings and equipment's suitability in relation to fish welfare
41. For approval to be granted, the vehicle or vessel shall demonstrate that sound operations in terms of promoting welfare, including construction, operator competence, routines for cleaning and disinfecting, handling dead animals, monitoring and maintaining water quality, and record keeping, can be fulfilled.
42. Approval shall be withdrawn if significant infringements of the conditions of approval have occurred, and/or if it emerges that knowledge about conditions pertaining to fish welfare has changed significantly since approval was granted.
43. Vehicles, fittings and equipment shall respect the following technical requirements:
  - (a) The surfaces of the transport unit shall be smooth, easy to clean and disinfect. The transportation equipment shall have no holes, cracks, sharp angles etc., which may make effective cleaning and disinfection significantly difficult. The volume of water tanks or vessel wells shall be known

- (b) Installed fish and water pumps and pipes shall be constructed so they are sealed and do not suck in air, which can generate a total gas problem in the transportation water when running a closed system
- (c) Transportation units shall have exit valves large enough to allow the fish to exit without being physically injured
- (d) The transportation equipment shall not emit substances detrimental to animal welfare
- (e) Devices or materials shall be installed or used to dampen vibrations and limit their transfer to transportation units, and
- (f) It shall be possible to inspect satisfactorily all areas of the vehicle. It shall be easy to remove grills, caps, hinges and similar so that inspections can be performed

43.1 New transport units, methods, fittings and equipment shall be tried and tested and have been documented to be suitable in terms of welfare before they are offered for sale or used. Necessary information shall be available about how the equipment is to be used to ensure welfare. For pumps and related equipment, instructions shall be available stating for which size of fish they are suited and the number of fish that can be transported through the system per unit of time.

44. Following each journey the following data shall be reported to the Competent Authority by the operator, and data generated up until any inspection of the vehicle shall be made available for inspection:

- (a) Journey start and end time
- (b) Number, species and size or weight of animals loaded
- (c) Number of animals injured and number of mortalities by the time that unloading is complete
- (d) Route of the journey including aquaculture and other animal holding
- (e) Sites visited
- (f) Time and place of any release or intake of water in closed systems, and closing and opening of valves of open systems
- (g) Consumption of oxygen, if any
- (h) Water temperature, and
- (i) The disinfectants and methods used to clean and disinfect and time of disinfection

The records shall also be available to the dispatcher, to the recipient and to the appropriate authority. The records for previous trips shall be kept by the transporter and be available to the appropriate authority for 5 years after the journey.

45. In the event of increased mortality during and up to 1



week after transport, apart from when such mortality is obviously not caused by disease, a health check shall be carried out without unnecessary delay to determine the cause. The health check shall be carried out by a veterinarian or relevant animal health biologist.

- 45.1 The relevant competent authority at point of departure and final destination shall be notified immediately if the cause of increased mortality is undetermined, or if disease, technical failure, or injuries are associated with the cause.
46. Before transportation, risk factors which can affect the welfare and the health of fish and aquatic invertebrates along the route of transportation and at the final destination, shall be assessed.
- 46.1 There shall be a contingency plan ensuring animal welfare in emergency situations. It shall provide an overview of the sanitary, hygienic, reporting and animal welfare measures pertinent to implement to prevent and, if necessary, tackle acute events and mass death, including the handling of dead fish and aquatic invertebrates and their destruction.
47. It shall be ensured that there are sufficient personnel with the necessary competence to ensure animal welfare at any time. The driver/skipper and others responsible for the animals shall have the necessary knowledge about the mode of transport and about the behavioural and physiological needs of fish and aquatic invertebrates.
- 47.1 The necessary competence shall be documented by virtue of practical and theoretical training to be repeated at least every 3 years. This training shall include:
- Regulatory requirements
  - The species' physiology, natural needs and behaviour, an understanding of stress and disease, and how the animals react to the effects of stress or infection with disease
  - Conditions that are significant when handling the species and which affect their welfare
  - Water quality, including water quality parameters, monitoring of these and measures to maintain good water quality, and
  - The significance of the manner of driving/sailing for animal welfare
48. The dispatcher is responsible for communicating in due time to the recipient the means of transport used, the animal consignments departure time and estimated time of arrival.
49. The transporter shall require that the dispatcher state all information about the animals which may be of significance for the performance of the transportation and for animal welfare.

50. If the time or means of transportation is delayed or changed, the transporter shall inform the establishment of the destination so they can ensure that the animals are received appropriately. The establishment of destination shall keep itself informed of the time of arrival and prepare to receive the animals appropriately.
51. Transportation shall be conducted in a careful way which is adapted to the species and to the age, stage of development and condition of the fish, and to the feed withdrawal time and water temperature.
- Transportation shall be carried out as quickly as possible. The duration of the transportation and density of animals in containment units shall be adapted to factors which may be of significance for animal welfare. On long journeys, special emphasis shall be placed on water quality, water temperature, and density.
52. Species-specific maximum stocking densities for different life stages shall be established by the European Commission and mandatorily applied by operators. Reference shall be made to the manual produced by the Ministero della Salute (2018), the guidelines developed by the Bayerische Landesanstalt für Landwirtschaft (LfL, 2020), and other best practice guidelines.
53. Fish which at the outset are not intended for transportation may be transported if this means better animal welfare than not transporting the fish.
54. Animal separation is an important requirement and fish and aquatic invertebrates from different aquaculture establishments shall not be transported simultaneously on the same transport unit.
55. Incompatible animals (e.g. where aggression is expected), animals of considerably different sizes, post-larval decapod crustaceans, and post-paralarval cephalopods, shall be transported separately from each other in such a way that each animal cannot see or access another animal. This requirement does not apply to ornamental fish transport.
56. Containers shall be secured to the means of transport so as to prevent their displacement due to the movement of the means of transport.
57. In closed systems and on journeys of less than 2 days, no feed shall be offered.
58. The dispatcher shall ensure that the fish and aquatic invertebrates to be transported are fit enough to undergo the whole journey: the health and welfare status of the animals shall be assessed prior to loading and they shall not be handled or loaded unless fit and able to withstand the rigours and stress of handling and transport without risking adverse welfare implications. Weakened, injured or lethargic animals shall not be handled or loaded. Fish that are not maintaining their balance and a horizontal position in the water shall not be handled or loaded. Animals shall not be handled or loaded at the outer limits of the temperature ranges they can tolerate.



59. Handling shall be gentle and occur at an appropriate rate. Loading and unloading shall occur as fast as possible. Animals shall not be handled unnecessarily. Time out of water shall be minimised. While being handled, fish and aquatic invertebrates shall be ensured appropriate water quality based on the needs of the species concerned.
60. If the animal exhibits changes in behaviour beyond what is normal during handling, the necessary measures shall immediately be taken to ensure animal welfare.
61. The journey shall not begin before the animals have settled in their transport units.
62. Animals shall not be mutilated before or during transport.
63. Crowding shall be carried out without invoking a maximal stress response, hence it shall be carried out in several steps, for the shortest time possible, and at the lowest density possible. During crowding, the oxygen level shall be monitored using suitable measuring equipment. Crowding shall not be carried out at the outer limits of the temperature range that the species can tolerate.
64. Loads of over 50kg shall be collected and loaded using pumps.
65. When pumping fish and aquatic invertebrates, it shall be ensured that the height of the pump, pressure and falling height are of a nature which avoids injury and allows animals to disperse without other animals landing on top of them. Pumps shall have an appropriate piping size and systems shall be without sharp bends, rough surfaces

- or protrusions. The pump distance shall be as short as possible. An appropriate procedure shall be in place to ensure that all animals have been removed from the system at the end of the operation.
66. Jolting and shaking movements of containers shall be avoided during loading and during the journey. Vibrations and noise shall be kept to a minimum during loading and during the journey.
67. Fish and aquatic invertebrates and eggs shall not come into direct contact with ice.
68. Fish and aquatic invertebrates shall be humanely euthanised when no better way to address their welfare needs is available.
69. Fish shall not be inspected during the journey unless monitoring equipment indicates that the planned and/or tolerated water quality parameters cannot be maintained.
70. A maximum water temperature change rate (value per hour) shall be established and mandatorily applied by operators when lowering the water temperature prior to transport (sedation) to reduce activity. When adding salt to containers for freshwater fish to reduce activity the concentration shall not exceed 0.5%.
71. Prior to transport, feed shall be withdrawn for as short a period as necessary to clear the gut, and it shall be for a maximum of 50 degree days and 48 hours, whichever is shorter. In case of temperatures below 10°C, it shall be for a maximum of 72 hours.



72. During transport fish and aquatic invertebrates shall be ensured good water quality and enough water suited to their species, age, stage of development, conditions, the duration of the journey, and the number of fish transported.

72.1 Eel and fertilised fish eggs can be transported out of water for limited periods and then provisions shall be made to keep them continually moist.

72.2 Water quality shall be monitored throughout the journey. Carbon dioxide content and total ammonium nitrogen in the transport water shall be kept low. When carrying out transportation lasting over 2 hours, systematic measuring of O<sub>2</sub>, pH, temperature, and if necessary, salinity, shall be automated with continual measurements available to the driver, and procedures shall be developed for measures against the risk of detrimental levels or poor water quality. During transport using a closed system, particular attention shall be paid to levels of CO<sub>2</sub> and O<sub>2</sub>. Measuring pH may be replaced by measuring CO<sub>2</sub>. Transporting small numbers of animals in plastic bags, and transporting animals or eggs not in water, are exempt from this requirement for systematic measuring.

Species-specific tolerance limits and ranges for the following water quality parameters shall be established by the European Commission and mandatorily applied by operators – oxygen, total ammonia, CO<sub>2</sub>, pH, and temperature. Reference shall be made to the guidelines Ministero della Salute (2018) and the guidelines Bayerische Landesanstalt für Landwirtschaft (LfL, 2020).

72.3 The means of transport shall have suitable equipment with which to add oxygen when necessary and especially during loading and the first hour of transport. The means of transport shall carry 50% more oxygen than required for the intended journey. Well-boats shall have adjustable valves to ensure enough water flows through. Suitable sampling bottles shall be available on the means of transport to allow for the extraction of water samples to be analysed.

72.4 Other measures as appropriate shall be taken to maintain water quality parameters: total gas oversaturation generated by air in pipes and pumps and from filling the well shall be removed by means of active airing before the animals are transferred to the means of transport.

73. Pertaining especially to water quality and water volume in a closed system:

- (a) Transport shall be planned so good water quality is maintained
- (b) There shall be suitable equipment and customisations of the transportation system to maintain sound water quality
- (c) When loading the animals onto a closed system, it shall be possible to separate used farm water and the animals, and

(d) When transporting fish and aquatic invertebrates using a closed system, actions which lead to a sudden rise in the pH of the transportation water with high accumulated levels of total ammonium nitrogen shall be avoided

74. To achieve acclimatisation to the water into which they will be received during unloading, the following requirements must be complied with:

- (a) A maximum water temperature change rate (value per hour) shall be established and mandatorily applied by operators
- (b) Prior to unloading, tanks shall have their water slowly replaced by water from the receiving water body
- (c) Acclimatisation measures that raise the water temperature shall not be taken during transport
- (d) Plastic bags shall be placed into the receiving water body to achieve temperature acclimatisation prior to opening
- (e) The transport operator shall inspect the fish after unloading for signs of external injury, and
- (f) The receiving operator shall record the time to resume feeding after unloading, and mortality at unloading time and each day for 1 week from unloading

75. In case of fish and aquatic invertebrates transported in plastic bags, they shall be contained in at least 2 plastic bags and shall not be transported for over 12 hours. Plastic bags (packaged in polystyrene boxes) shall comply with the following requirements:

- (a) They shall have rounded corners; square bags shall have their corners tied or held open by design. They shall lie flat and at right angles to the direction of travel, except in the case of high-backed ornamental species when plastic bags shall be placed and stabilised upright
- (b) A dark cover shall be placed over the plastic bags in the transport vehicle
- (c) Stationary periods shall be avoided, not exceeding 20 minutes for salmonids and 60 minutes with cyprinids, and
- (d) Water and pure oxygen shall be used to fill the bags. The water/oxygen ratio shall be situated between 1/3 and 2/3

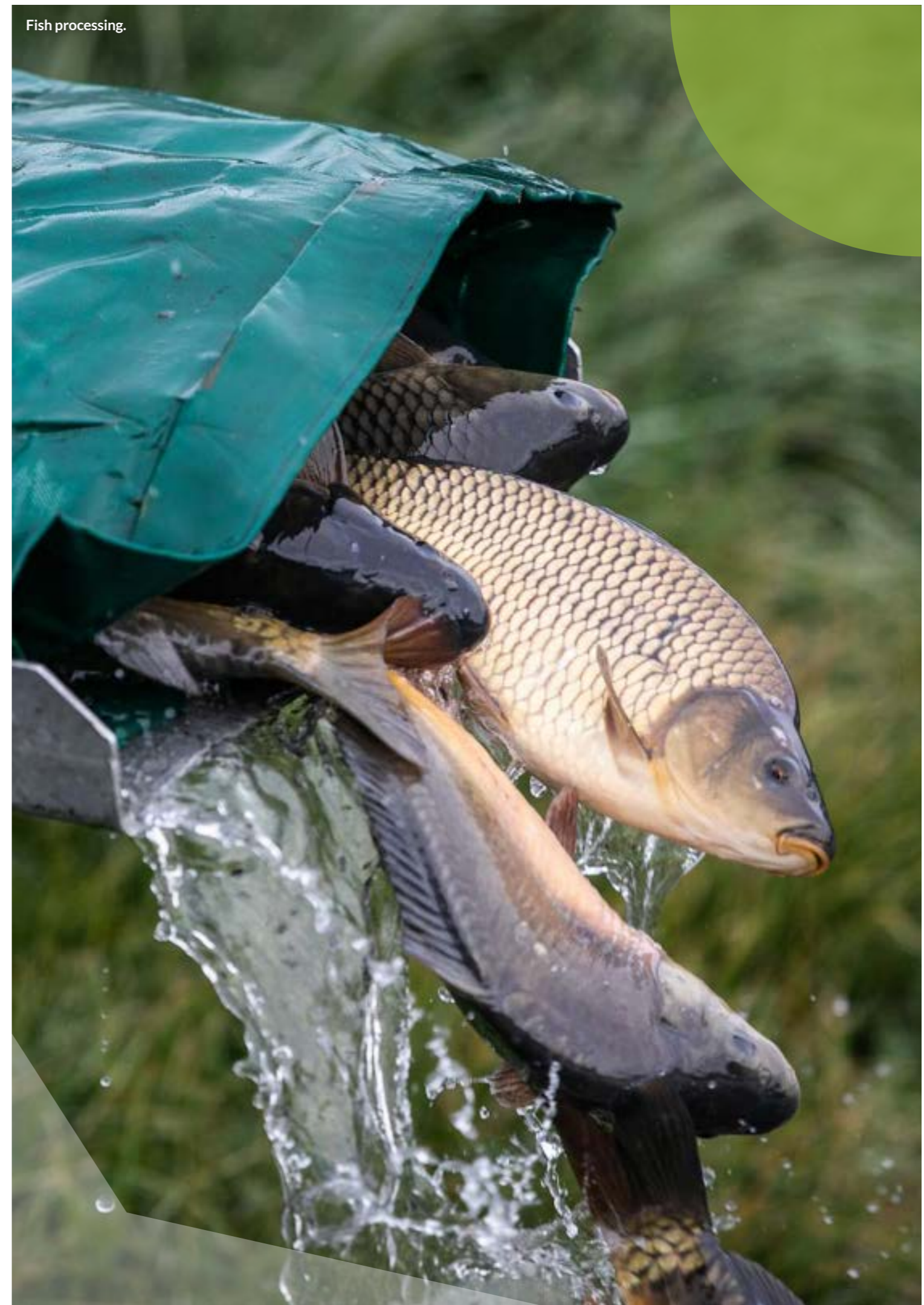
76. Animal Towing vehicles shall be equipped with a satellite tracking and monitoring system.

77. Species-specific mandatory tolerance limits and ranges shall be set by the EU law.

**Infringements and notification of infringements (applicable to any kind of intra- and extra-EU transport)**

78. The requirements laid down under points 31.1, 33 and 34 also apply to the transport of fish and aquatic invertebrates.

Fish processing.







## SECTION I I.3

# Equines

### II.3.1 Current problems

*As reported over the years by animal welfare organisations as well as by the European Commission (DG(SANCO) 2008-7982), equines transported both intra-and extra-EU suffer from the serious shortcomings of the current Transport Regulation, including its contradictions to scientific recommendations, unenforceable provisions and its poor implementation and enforcement system. The Regulation also lacks equine-specific requirements, specifically for asses, mules and hinnies.*

The shortcomings of the Regulation presented below impact the equines differently depending on the category they belong to.

#### **The Regulation does not provide for sufficient training requirements for the truck drivers.**

Human factors are associated with the risk of an injury during transport (Padalino et al., 2018a). Horses struggle to maintain their balance in a moving vehicle and are constantly expending energy to stabilise themselves, there is therefore a strong correlation between driver skills, and the amount of stress, disease and injury on the animal (Giovagnoli et al., 2002). Compromised welfare of equines is usually associated with handling during loading and unloading, unfit and/or unsecured loading-ramps, driver's errors, internal fittings and vehicle type or design, as well as with mixing of animals of different sex and weight without proper separation leading to fighting.

#### **The derogation granted by the Transport Regulation to registered horses (Reg. 1/2005, recital 21) does not ensure animal traceability.**

This is cause of concern, because of the wide-ranging nature of the definition of the animals to which it is applicable (World Horse Welfare and Eurogroup for Animals, 2015). While registered equines being transported to a slaughterhouse should be subject to the full provisions of the Regulation, in practice there is no requirement for any evidence of the purpose of the journey to be presented (Reg. 1/2005, Annex I, Chapter I, point 7).

Since registered horses are currently exempt from a variety of provisions as laid down by the Regulation, their health and welfare during transport is not secured or supervised by a competent authority. Given this fact, a consignment of registered horses destined for slaughter will fully meet the exemption-criteria of the Regulation, which leads to an illegal market for equine passports, trade of horses and food-fraud across borders (World Horse Welfare, 2011). As for the journey logs, they do not include sufficient information regarding source, transportation, rest stops and destination.

#### **The Regulation does not provide sufficient provisions to ensure the fitness of equines for transport.**

Although a definition of unbroken equines exists, many unbroken equines are considered and treated as broken resulting in nervous and highly stressed animals being transported for long distances (Ibidem). No clear assessment methods make it difficult for transporters as well as competent authority to assess the fitness of the animals for transport. In addition, the Regulation lacks clarity over who is responsible for ensuring the fitness of transported equines, between the transporter, the driver and the farmer (ibidem), may lead to lack of control.

Indeed, a number of studies on equines intended for slaughter have shown that only few of them were actually fit for transport (Marlin et al., 2011). Their unfitness for transport (e.g. due to not being accustomed to transport, age, or lack of physical fitness) and the poor inspection prior to transport, result in the transport of animals that are diseased, injured or otherwise unfit to travel (EFSA, 2011) and prone to injury (Marlin et al., 2011). Young animals are even more prone to the negative effects of transport: recently weaned thoroughbreds experience elevated levels of stress and show signs of dehydration when transported for 15 hours (Tadich et al., 2015).

#### **The Regulation's technical requirements are not adequate to protect the welfare of equines.**

The current minimum space allowances for transport of horses by road are related to the length of travel and the age of the animals, rather than their size. Misinterpretations of definitions and translations across EU Member States lead to confusion, for example in regard to the transport of foals under 9 months or to vehicle design. The minimum space allowance in place for foals and young horses is not linked with the provision that foals and young horses need to be able to lie down during transport. There are no specifications to ensure equines are not transported at a 90-degree angle, which highly reduces their stability and provides insufficient space (Waran et al., 1996).

Many trailers used to transport equines do not meet the basic requirements for a safe transport as well as the provisions of the Regulation regarding long journeys.<sup>9</sup> The Regulation requirements for partitions are not adapted to equines, in terms of design, size and materials used (World Horse Welfare, 2011) and thus lead to injuries. In terms of space and separation, the EFSA identified a lack of appropriate individual penning results in aggression, injury, disease, exhaustion, and inability to balance or maintain posture as one of the main hazards (EFSA, 2011).

The provisions on watering and feeding are also inadequate. Equines intended for slaughter or of a low value consume little or no forage (hay/haylage) after being transported until water is made available. If the time period between forage meals increases beyond 6 hours, as is allowed under the Regulation, the risk of gastric ulceration increases (Iacono et al., 2007). Horses that are fasted and then transported for 12 hours are associated with ulceration of the gastric squamous mucosa (Padalino et al., 2020), and those that are not given proper opportunities to drink and eat on the vehicle or during the journey become exhausted and dehydrated when travelling for more than 16 hours (Stull, 1999).

A lack of water leading to dehydration can result in health problems such as gastrointestinal disturbance and colic. Even in the case of healthy horses, transport for more than 24 hours during hot weather and without water causes severe dehydration (Friend, 2000). The EFSA confirmed that poor watering provision at all stages in the transport process results in dehydration, heat stress and exhaustion (EFSA, 2011). At assembly centres, where equines of different ages, sex, origins and with different destinations are grouped together, traded and transported again, there are numerous issues such as shelter, food and water, hygiene, space, transport time, equine passports and reporting.

Additionally, the derogation for long and very long journeys set in the Transport Regulation (Reg. 1/2005, Annex I, Chapter V, 1.4(c)) is mostly incompatible with ensuring the welfare of equines. The journey time is tightly correlated to increases in cortisol levels and changes in the heart rate and heart rate variability (HRV), indicative of stress (Schmidt et al., 2010). Cortisol levels rise during the whole journey, although they most rapidly increase during the first 3 hours of transport. Numerous reports and scientific studies (Padalino et al., 2015; Padalino et al., 2017; Padalino and Raidal, 2020; Stull, 1999; Tateo et al., 2012), as well as the European Commission (SCHAW, 2002) agree that 8 hours should be the maximum transport time for all animals. Long journeys are also associated with injuries (Roy et al., 2015), muscular problems as well as respiratory issues exacerbated when equine health was not properly assessed before the journey. Multiple studies confirm that journey times of 20 hours increase the risk of horses developing respiratory complications, pyrexia and pneumonia (Oikawa, et al., 1995) due to higher levels of bacteria in the respiratory tract (Padalino et al., 2018b) and leading animals to becoming immunocompromised and susceptible to diseases (Padalino, 2015).

#### **The temperature range provided by the Regulation goes beyond the thermoneutral zone (TNZ) of horses and does not take into consideration the impact of long journeys.**

The TNZ of horses is around 5-25°C (Morgan, 1998). Outside this range horses must expend energy in order to thermoregulate, potentially contributing to fatigue. Meanwhile, the temperatures in which the equines are actually transported fall outside that range from 0-38°C with ambient relative humidity ranging from 25-89% (Marlin et al., 2011). Current journey times mean that both upper and lower extremes of temperature may be encountered in the same 24-hour journey. Air quality inside the transporter deteriorates during long journeys which could potentially lead to welfare implications (Smith et al., 1996).

<sup>9</sup> E.g. Vehicles have no camera, ventilation or temperature control and have dark coloured roofs.





### II.3.2 Solutions

Poor welfare during transportation is caused by multiple factors. However, journey time can exacerbate the situation: something that may only cause minor stress or discomfort during a short journey can become life threatening if an animal is subjected to it for long periods of time. Hence, the duration and quality of the journey are both crucial to maintain the welfare of transported animals.

The greatest challenge remains for horses destined for slaughter with a selection of recommendations already available.

#### Legislative proposal <sup>10</sup>

This proposal puts forward species-specific requirements for the transport of horses, asses, mules and hinnies, together defined as equines.

#### Definitions:

§ The definitions of 'Journey time', 'Beginning of journey', 'End of journey', 'Transporter', 'Realistic planning', as presented in Section I.1.2 of the present Paper, shall also be applicable for equine transport.

- § 'Equidae' (equines): domesticated animals of the equine (including zebras) or asinine species or the offspring of crossings of those species.
- § 'Equidae assembly centres': places such as holdings, collection centres and markets, at which only domestic equines originating from different holdings are grouped together to form consignments.
- § 'Equidae control posts': control posts destined for domestic equines.
- § 'High Health', 'High Performance Horse (HHP)': an adult horse belonging to a high health status subpopulation and registered by the International Equestrian Federation (FEI) or the International Federation of Horseracing Authorities (IFHA) as eligible to take part in international competitions and races accompanied by a certificate for temporary international movement in accordance with the OIE Terrestrial Code.
- § 'Final destination': defined as (i) the slaughterhouse where animals will be killed, or (ii) the farm (to be considered the final destination, the animals transported have to stay in the farm for at least 30 days). This list is non-exhaustive.
- § 'Unweaned equidae': defined as (i) animals incapable of independent intake of solid feed and water, and (ii) younger than 6 months.
- § The definition of 'registered equidae' must be removed and no differentiation shall be made.

#### Requirements:

##### Intra-EU transport of equines (applicable to any kind of transport taking place within the EU)

79. Introducing species-specific maximum journey times considering the following requirements:
- (a) With a maximum travel time of 8 hours for all adult equines other than adult equines categorised as HHP with current certification from their governing sporting body who can be transported for a maximum of 12 hours. All other requirements apply
  - (b) Equines intended for slaughter should be slaughtered as close to their point of origin as possible with an eight-hour maximum journey limit introduced
  - (c) Loading and unloading time shall be considered as travel time, and
  - (d) Unbroken equines must not be transported unless the animals and the journey are certified by an approved veterinarian with expertise in the impact of transport on equines
80. All equines must have water and food rest stops at least every 4 hours. Good quality forage must be provided at the same time as water. A minimum of 30 minutes and a maximum of 1-hour food and water rest stops are allowed in addition to the maximum journey time, which must be included on the journey log.
- 80.1 In case of hot and/or humid conditions, water shall be offered more frequently than during normal weather conditions.
81. The transport of unweaned equines, of equines younger than 6 months of age, of pregnant equines for whom 40% or more of the expected gestation period has already passed, and of equines within 8 weeks of giving birth, is only allowed where the equines and the journey have been certified by an approved veterinarian with an expertise in the impact of transport on equines.
82. Stricter rules on temperatures and on THI shall be introduced: live animal transport can be approved only when – within the maximum journey time foreseen – minimum and maximum internal temperatures are between +5 and +20 Celsius degrees for the whole duration of the journey. Humidity levels should be kept at 50% throughout the journey.
83. Species- and category-specific space allowance (including ceiling heights) must be set by law based on the weight and age of the equines. Equines should have sufficient space and freedom to adjust their posture and to lower their heads. Equines should not be tied. Wide

bay and rear-facing positions should be preferable. The calculations shall be done on the basic principles laid down in points 7.1 (b) and (e). In case of equines not partitioned, the principles laid down in points 7.1 (a) and (c) shall also be considered in the calculation.

84. The partitions must be partly rubber and plastic with head sections to prevent biting. There must be individual stalls for all journeys, regardless of their length. Stallions must never be directly placed next to mares. Asses, mules and hinnies must not be separated.
85. Requirements regarding bedding, ramps for loading and unloading shall apply to any journey regardless its length. There shall be rubber matting and minimal bedding<sup>11</sup> for comfort and support, ideally dust-extracted bedding such as shavings.
86. There must be authorised assembly centres and control posts intended solely for equines including certification systems and Total Quality Management (TQM) both for facilities and personnel. Equines, other than those destined for slaughter or HHP, may be unloaded after 8 hours of transport to be rested for 11 hours minimum and then continue the transport for another 8 hours, during which the final destination must be reached.
87. With the aim of giving time to all the EU Member States to equip themselves to transport and import meat and carcasses as well as semen and embryos, a derogation to the maximum journey time laid down in point 79 is foreseen. Via this derogation a maximum journey time of 12 hours for adult equines, including those destined for slaughter, excluding HHP, could be authorised only if the conditions laid down in point 13 (b), (c), (d), (e), and (g) are met. Additionally, when the longer-distance transport approved by derogation takes place via road, equines must be provided with a food and water break every 4 hours for 45 mins minimum. Food and rest stops are included within the derogation's maximum journey time.
- 87.1 This derogation to maximum journey time is not applicable in the case of the transport of unweaned equines, pregnant equines for whom 40% or more of the expected gestation period has already passed, and females during 8 weeks of the post-natal phase, unless the journey has been certified by an approved veterinarian with expertise in the impact of transport on equines. Further to this certificate being issued, authorisation for such transport can be granted only if documentation on the birth date (in case of transport of young equines) or documentation of the insemination/mating/foaling date (for the transport of pregnant equines) is also provided to the competent authority in charge of approving the livestock consignments.

<sup>10</sup> If not stated otherwise in the sections below, the recommendations of the Animals Transport Guide to good practices for the transport of horses destined for slaughter (Consortium of the Animal Transport Guides Project, 2017a) are applicable, along with the driver checklist, factsheets on correct handling, loading and space allowance, feeding and watering.

<sup>11</sup> A reduction in the amount of bedding improves the air quality within the box.



**87.2** The competent authority of the departing and destination countries are equally responsible for implementing EU transport rules with regard to longer journeys (maximum 12 hours journey time). For this reason, the competent authority of the destination country shall demand the documentation from its departure counterpart and refuse any consignments of livestock that do not respect the conditions laid down in points 13 (b), (c), (d), (e), and (g).

- 88.** All the requirements laid down under points 13, 15, 16, 19, and 20 also apply to the transport of equines.
- 88.1** To fulfil the requirements under point 16, the ABMs listed in Table 1 shall be included in the revised Regulation.
- 89.** In case of equines falling ill or being injured during transport, the provisions laid down in points 18 and 18.1 also apply to equines.

Issues to be checked	Animal Based Indicator	Resource Based Indicator
Animal fitness for transport	Please consult Practical Guidelines to Assess Fitness for Transport of Equidae (Horses, Ponies, Donkeys and their Hybrids)	
Suitability of the means of transport	Assessment of animals after transport to identify any injuries. Assessment of behaviour and mental state of animals during transport	Inspection of transportation vehicles on a regular basis
Suitability of the loading and unloading facilities	Assessment of animals after loading to ensure they have not become injured	Inspection of loading area by an appropriate person. Supervised loadings
Handling of the animals	Assessment of behaviour and mental state of animals during handling. Assessment of animals during and after handling to identify any injuries	
Appropriateness of checks on animals		Logs kept of when welfare checks, conditions of animals and environment are made
Space allowance	Assessment of animals after transportation to identify any injuries	
Watering and feeding	Logs on timing of watering and feeding for individual animals should be kept	
Fulfillment of the planning obligation	Assessment of behaviour and mental state of animals during handling. Assessment of animals during and after handling to identify injury	Journey logs to include an expected weather/temperature section
Transporter skills		Certificates of competencies checked and copied
Proper implementation of the transporter's obligation		Identification of everyone involved in the transportation process logged

Table 1



Horses on a truck.

© World Horse Welfare

**Additional provisions for intra-EU and extra-EU transport of live equines by road**

- 90.** The vehicles can be only certified by the competent authorities following a targeted training and clear protocols.
- 91.** Vehicles are used solely for the purpose of transporting equines, fitted with partitions of adequate size for the safe transportation of equines and provided with adequate ventilation so that the equines remain comfortable during the journey regardless of the external temperature or level of humidity.
- 92.** All vehicles must be equipped with devices that allow monitoring of temperature and humidity both inside and outside the vehicle.
- 93.** All vehicles used for the transport of animals must have a ventilation system and at least one electric roof fan in place that operates from an independent power source even when the engine of the vehicle is switched off, as well as other means by which the level of ventilation can be adjusted (windows, side vents, etc.). The temperature inside the vehicles must remain between +5°C and +20°C. If the outside temperature is higher/lower, the transport can only be carried out in air-conditioned, closed vehicles.
- 94.** Temperature and humidity monitoring systems shall be installed to alert the drivers that the temperature and/or humidity have reached the maximum or minimum level allowed, so that they can take the appropriate action to rectify the situation.

**95.** All vehicles should have an internal camera system in order to ensure proper surveillance of animals at any time.

**Additional provisions for intra-EU transport of live equines by sea**

- 96.** Animals must be provided with permanent access to water for the entire duration of the journey. Drinking devices on board shall be suitable for the animal transported.
- 97.** All the requirements laid down under points 22, 23, 24, 25, 26, 27, and 28 also apply to the transport of equines.

**Infringements and notification of infringements (applicable to any kind of transport taking place within and from the EU)**

**98.** All the requirements laid down under points 29, 30, 31 and 31.1 must also be applicable to the transport of equines.

**Additional requirement on infringements and notification of infringements for intra- and extra-EU sea transport**

**99.** All the requirements laid down under point 33 also apply to the transport of equines.

**Extra-EU transport of equines (any kind of transport)**

**100.** Extra-EU transport of equines can be approved only if all the requirements laid down under points 32, 33, and 34, and the requirements for the intra-EU transport of equines, including additional provisions for transport via road, are met.





Dogs in a van.

© DSPCA

## SECTION II.4

# Companion animals

### II.4.1 Current problems

*Despite a reference in the Transport Regulation, there have been no specific provisions for cats and dogs in the law, no proposals by the European Commission and no relevant EFSA opinions regarding the movement of cats and dogs have become available since the Regulation entered into force.*

The Regulation contains exactly two species-specific references to cats and dogs: regarding young age and fitness for transport (Reg. 1/2005, Annex I, Chapter I, 2(f)), and watering and feeding (Reg. 1/2005, Annex I, Chapter V, 2.2). Both references are in contradiction with the outputs of the EU Platform on Animal Welfare voluntary initiative group on health and welfare of pets (dogs) in trade and the existing national guidelines (DAFM, 2013; SPF/FOD, 2016; Jordbruksverket, 2018; BMEL, 2018; Ministerio de agricultura, pesca y alimentacion, 2019).

The Regulation sets out that dogs and cats being transported shall be fed at intervals of not more than 24 hours and given water at intervals of not more than 8 hours and that there shall be clear written instructions about feeding and watering. The Regulation does not specify the needs per species, age or health requirements. It also does not indicate who should provide written instructions. As for other animal species, cats and dogs' fitness for transport as well as the transport conditions should be assessed before authorising their trade.

Currently, the EU Regulation specifies that puppies and kittens under 8 weeks of age are not fit for transport, unless they are accompanied by their mother. Meanwhile, for cross-border transport, the Regulation requires all dogs to be vaccinated from 12 weeks of age. As the vaccine is effective after 3 weeks, that means dogs must be over 15 weeks of age before being transported. Additionally, the Regulation does not specify when an animal is allowed to be transported after surgery (e.g. after spaying/neutering). As a result of lack of species-specific rules for the transport of cats and dogs, their health and welfare cannot be ensured (Mariti et al., 2012).

### Many important issues that have the greatest impact on the welfare of cats and dogs are currently overlooked in the EU Regulation

For instance, the size of the containers, their positioning, stacking, bedding (RSPCA, 2020) or a temperature and humidity range that is suitable to ensure dog and cat breeds' needs and thermal comfort. The Regulation lacks specifications with regards to animal separation and space allowance. There is a lack of clear distinct classification regarding which species can be transported within the same vehicle as well as on the vehicle design itself. Moreover, no mention is made of blinds/screens between containers for animals that are not familiar with each other.

Additionally, the Regulation fails to ensure that the personnel loading, handling and transporting the animals have sufficient competence to handle the animals, without force or causing unnecessary fear (Gaultier et al., 2009), injury or suffering, and also in cases of emergency (McMillan, 2017).

### II.4.2 Solutions

#### Legislative proposal <sup>12</sup>

The proposal puts forward species-specific requirements for the transport of cats and dogs.

#### Definitions:

- § The definitions of 'Journey time', 'Beginning of journey', 'End of journey', 'Transporter', 'Realistic planning', and 'Container', as presented in Section I.1.2 of the present Paper, are also applicable to the transport of cats and dogs.
- § 'Attendant': the person that – after having obtained knowledge and understanding of the behaviour and welfare needs of animals through a mandatory training – accompanies the animals during a journey. This person is responsible for their welfare, is able to provide effective management, and to promote, ensure and protect the welfare of the animals under their responsibility.
- § 'Cat': felis catus, a domesticated member of the family Felidae (order Carnivora).
- § 'Commercial movement': regular transport between countries and/or within an EU Member State that has the purpose to give the cat or dog to another person, not only for economic activities but also for the intention itself.<sup>13</sup>
- § 'Dog': canis lupus familiaris, a domesticated member of the family Canidae (order Carnivora).
- § 'Final destination': defined as (i) breeding establishment (to be considered as the final destination, the cats and dogs transported have to stay in the establishment for at least 30 days), or (ii) owner (to be considered as the final destination, the cats and dogs transported have to be registered under the person's name). This list is non-exhaustive.
- § 'Young dogs and cats': as a general principle defined as dogs younger than 2 years old and cats younger than 1 year old.

<sup>12</sup> If not stated otherwise in the sections below, the Guidelines on commercial movement of cats and dogs by land (EU Platform on Animal Welfare, 2020), are applicable.

<sup>13</sup> CJEU, C-301/14.



## Requirements:

### Applicable to any kind of transport

101. The following cats and dogs must not be transported as they are considered 'unfit' for transport (unless to visit a veterinarian):
- Animals in recovery following a planned surgery including neutering or spaying
  - Animals with body condition score 1-3 (WSAVA)
  - Animals displaying signs of aggressive behaviour (i. e. dogs which are growling, snapping, biting, barking, snarling/baring teeth, cats which are hissing, scratching, biting)
  - Muzzled animals
  - Pregnant female cats (queen) or dogs (bitch) during the last 2 weeks before the estimated birth or 1 week after birth, and
  - Puppies and kittens under 1 week old
102. The animal cargo space of the vehicle must protect the cats' and dogs' health, welfare and comfort at all times. This includes:
- Positioning of the container so that animals do not face each other with greater space in front of them (all containers in the vehicle should face one side), and
  - Keeping the interior of the cargo space well-lit, clean and clear of unnecessary items such as harmful materials or substances
103. The containers used to transport cats and dogs shall:
- Be constructed of non-toxic material and pose no hazards such as sharp edges or projections, and
  - During transport and handling, stay upright and secured so as to prevent movement or displacement and should not obstruct the driver's view
- 103.1 Cardboard containers must not be used.
104. Adequate ventilation, humidity and temperature controls are required at all times and be adapted to breed requirements if applicable. The temperature must be maintained between 15°C and 25°C. Humidity levels must be within 30-70% throughout the journey.
105. The following provisions must be complied with:
- A dog and/or cat transported alone in a container must have enough space to stand up fully and hold its head in a natural position. It must be able to sit erect comfortably, turn around and lie down normally, and rest in a natural position
  - In the case of dogs being transported with other dogs, there must be adequate space for all dogs to carry out all these behaviours without touching other dogs, and allow them to stand, sit, turn and lie comfortably
- In the case of cats transported with other cats, there must be enough space allowed for them to stand, sit, turn and lie comfortably
  - Puppies and kittens under 8 weeks must share the container with their mother
  - Puppies and kittens under 14 weeks should be transported together if transported without their mother
  - Suitable, non-slip bedding must be supplied as appropriate. Any bedding material used must be non-toxic, absorbent, non-allergenic and padded so as not to cause injury. Puppies and kittens of transportable age must be provided with adequate quantities of a bedding material appropriate to the species to ensure their thermal comfort and adequately absorb urine and faeces. Materials such as newspaper, shredded paper, sawdust or straw must not be used, and
  - The cat container must contain a litter box with enough unused litter to absorb and cover excreta
106. The personnel loading, handling and transporting cats and dogs must be competent regarding the health and welfare of the species being transported and have the necessary licencing qualification and/or experience.
107. Cats and dogs should be transported in compatible groups. The following animals must be transported in separate containers:
- Animals of different species<sup>14</sup>
  - Animals of significantly different sizes or ages
  - Sexually mature males and females, in heat should be transported in separate vehicles from mature males
  - Animals known or likely to be hostile towards one another<sup>15</sup>
  - Unfamiliar dogs, and
  - Unfamiliar cats

In cases where cats and dogs have been raised in compatible groups, are comfortable with one another and there is evidence for this, then the categories referred to under points 107 (a) and 107 (b) may be transported together. The ultimate decision depends on the behaviour and situation at the time of travel.

108. The space allowance per cats and dogs must be calculated with regard to the length, height and width of the animal. The indications below are minimum values:
- Length: while standing, the dog or cat should be measured from the tip of its nose to the base of the tail, between 5cm and 12cm should then be added to this (from cats and small dogs to large dogs) to calculate the correct length of container



Pets in a car boot.

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- Height: while standing, the dog or cat should be measured from the tips of the ears (for pointed eared dogs) or the top of the head (for floppy-eared dogs) and then 12cm should be added to calculate the correct height of the container, and
- Width: while standing, the dog or cat should be measured at its widest point (usually the shoulders). The width of the container should be calculated at 2.5x the animal's width

108.1 If necessary, a cat might be delivered to the transporter in their own carrier that can then be placed into the container. Such a carrier must fulfil the space requirements as outlined above and the container it is to be placed in must be big enough to accommodate both the animal, its carrier, a litter tray, food and water.

109. The following feeding and watering requirements shall be introduced:

- The food shall be offered twice daily for both adult dogs and cats, morning and evening, with breaks every 3 hours to provide water

- The food shall be offered 3 times a day every 3 hours for young cats and dogs with breaks every 3 hours to provide water
- If the cats and dogs have any special feeding requirements certified by a veterinarian, there must be clear written instructions provided by the owner, and
- Each cat and dog transported must have two separate receptacles for food and water respectively. They must be of sufficient size to hold enough water and food for the individual, be securely attached to the inside of the transport container, be able to be filled from the outside of the container, and be designed, constructed or installed so that the animal cannot leave the container through the food and water openings.

<sup>14</sup> If dogs and cats are being transported together in a single vehicle, containers must be arranged in a manner where dogs do not walk in front of cats when being loaded or unloaded onto the vehicle (including during rest stops).

<sup>15</sup> All of the above is possible if the animal containers are facing one side and the animals are not directly exposed to each other.



**109.1** Consignors must certify that each animal was offered food 6-8 hours prior and water within the 4 hours preceding delivery of the animal to a transporter (or intermediate handler for transportation). Kittens and puppies must be offered food 2-4 hours prior and water within 3 hours preceding the delivery to a transporter. Consignors must log the date and time the food and water were offered and state whether any was eaten or drunk. The logged information and certified statement should be securely attached to the animal's container with clear instructions for food, water and equipment<sup>16</sup> to be used that fall outside the scope of normal transport recommendations, or any medical requirements for the journey's duration.

**110.** Cats and dogs must be observed on a continuous basis to check if they have sufficient air for normal breathing and they do not show signs of obvious physical distress (i. e. laboured breathing, excessive salivation, vomiting/diarrhoea, frantic scratching, chewing or biting on the transport container, frantic sounds). All vehicles must have an internal camera system in order to ensure proper surveillance of animals at any time and an alarm on the temperature and humidity monitoring systems that alerts the driver.

**110.1** Cats and dogs must never be left in a vehicle unattended.

**111.** A contingency plan must be carried in the vehicle together with the necessary equipment. Staff must be familiar with the contingency plan.

**111.1** In the event that any cat or dog is ill or injured such that the most humane option is euthanasia, the driver or attendant must have access to the contact details of a registered veterinary surgeon, for example, via a mobile phone internet service. The animal must be transported to the nearest registered veterinary surgeon as soon as possible and the owner/consigner contacted in order to make an appropriate decision and minimise any unnecessary suffering.

**112.** The following maximum journey times shall be introduced:

- Adult cats and dogs: After 6 hours of travel, a rest period of at least 1 hour must be given. After this rest period they may be transported for a further 6 hours. If animals have not reached their destination after these journey times, they must be unloaded, fed, watered and rested for 24 hours at a suitable location.
- Young cats and dogs: In the case of young cats and dogs under 14 weeks old, they must not be transported for longer than 3 hours, and if aged 1-8 weeks old in addition they must be accompanied by their bitch/queen unless the journey has been approved by a veterinarian with expertise in the impact of transport on cats and dogs. After 3 hours of travel a rest period of at least 1 hour must be given. After this rest period they may be transported for a further 3 hours followed by a 1-hour rest stop and another 3 hours travel. If animals have not reached their destination after these journey times, they must be unloaded, fed, watered and rested for 24 hours at a suitable location where they have the opportunity to exercise, toilet and properly rest.

**113.** The requirements laid down under points 15, 16, 19 and 21 also apply to the transport of cats and dogs.

**113.1** In order to fulfil the requirements laid down under point 16, reference shall be made to the guidelines prepared by the EU Platform on Animal Welfare (2020).

#### **Infringements and notification of infringements (any kind of transport)**

**114.** The requirements laid down under points 29 and 30 shall also apply to the transport of cats and dogs.

#### **Additional requirement for sea transport on infringements and notification of infringements**

**115.** The requirements laid down under point 31 shall also apply to the transport of cats and dogs.

#### **Extra-EU transport of cats and dogs (any kind of transport)**

**116.** The requirements laid down under points 31.1, 32, 33 and 34 shall also apply to the transport of cats and dogs.

<sup>16</sup> Leashes and muzzles to be used in case of unloading of dogs.



Young dog being checked at the vet.





## SECTION II.5

# Laboratory animals

### II.5.1 Current problems

Currently, for intra-EU movement, laboratory animals are normally transported by road and on journeys over 8 hours. Transport by air remains the most practical and rapid means of transport for animals born outside the EU (Bayne et al., 2010). From the perspective of the animal undergoing transport, two significant factors in determining the overall welfare impact are the duration of the journey and the number of stops or changes between vehicles, especially if unloading and reloading is required. During transport, animals experience new and significant stress because they are exposed to numerous unfamiliar environmental and psychological stressors such as handling, sounds, odours, vibrations, temperature, humidity,

different sources of food and drink, and unfamiliar bedding. The physiological and behavioural responses to stress affect a number of biological functions and systems. If stress is extreme or prolonged, substantial effort is required to regain a state of equilibrium and the animal may suffer as a result. This effort can be compounded by the effects of fear, nausea, hunger, thirst or pain, depending on the species and circumstances under which they are transported (Guidance on the Transport of Laboratory Animals, 2005).

Since the entry into force of the Transport Regulation, the European Commission did not take any specific action with regards to the welfare of the laboratory animals during transport and the impact this Regulation has on the welfare of these animals has not been assessed so far. Indeed, the Guides to Good Practice published in 2017 as well as the study on the impact of the Regulation of the welfare of animals (Baltussen et al., 2011), did not include laboratory animals. However, *ad hoc* studies make it possible to identify the main problems:

#### Mismatch between scientific evidence on the unfitnes of animals to transport and the provisions laid down in the Transport Regulation.

Despite the fact that the Transport Regulation allows for pregnant animals to be transported up to 90% of their gestation period, there is strong evidence that the transport of pregnant laboratory mammals during the last 20% of gestation is risky and may be associated with stress-induced abortion (Bayne et al., 2010; Swallow et al., 2005). Indeed, the Transport Working Group established by the Laboratory Animal Science Association (FELASA-AALAS) recommended that pregnant animals should not be transported during the last 20% of gestation unless animals are under appropriate veterinary direction and supervision (Swallow et al., 2005).

Further, the Transport Regulation does not set forth minimum species-specific age provisions except for dogs and cats, only stating that newborn mammals should not be transported if the navel has not completely healed (Reg. 1/2005, Annex I, Chapter I, Art.2(d)). As a result, young and very young animals are transported despite the risk of illness and death as well as their inability to regulate their body temperature and drink independently of their mothers. In case animals are weaned just before transport, the presence of unfamiliar watering devices in the transport containers as well as the absence of maternal care add to the various transport-related stressors and disease that are more likely to occur in such animals (Bayne et al., 2010).

#### Lack of well-defined provisions for the transport by air of laboratory animals.

Animals transported by air face different challenges, such as: long-waiting periods (days or even weeks) under varying climatic conditions and with restricted watering and feeding; exposure to high temperature when transported in shipments using passenger airlines; and incorrect handling due to airline cargo's untrained staff. Unsurprisingly, animals, in particular non-human primates, often arrive with illness and significant injuries related to the journey (Syversen et al., 2008; Animal Defenders International, 2009). Unfortunately, only a very short and undeveloped paragraph is assigned to the transport by air in the Transport Regulation (Reg. 1/2005, Annex I, Chapter III).

#### The provisions relevant to the journey planning set out in the Transport Regulation are insufficient.

The type of journey, its duration, and the physical environment during transport all significantly influence the animals' safety and well-being. It is essential that the consignor clearly understands all aspects of the procedures involved in transporting their animals as well as most eventualities and problems that may be encountered during the journey. Also, in order to avoid the death of animals at arrival, both consignor and consignee should agree in advance the departure and arrival times so that the animals can be quickly placed, fed and watered in prepared cages upon arrival. Further, a common issue when transporting animals by air is the arrival of an aircraft in the middle of the night. In these cases, the transport length increases significantly due to the lack of competent personnel available during the night hours to inspect the animals, which have to wait until the morning to be checked (Animal Defenders International, 2009). However, Council Regulation 1/2005 lacks well-defined planning-related provisions that would minimise discomfort, stress, adverse events, and waiting delays.

#### Lack of inspections and data.

Despite the fact Member States are responsible for carrying out official inspections on animals, means of transport and accompanying documents, it seems that no transport-related inspections are performed with regard to laboratory animals. Indeed, the annual reports submitted to the European Commission on the inspections carried out and the major deficits detected, do not include any data on the transport of laboratory animals. Aside from this, reliable data concerning the number and type of laboratory animals being transported intra- and extra-EU, and details of the transport (i.e. duration and journeys) make it very difficult to track such transport operations, which are likely to have dramatic effects on the welfare of laboratory animals.



## II.5.2 Solutions

Efforts should be made to avoid transporting laboratory animals whenever possible, to ensure the humane treatment of these animals during transport and to certify that conditions in which laboratory animals are transported are designed to minimise stress and anxiety.

### Legislative proposal <sup>17</sup>

This proposal puts forward well-defined general and species-specific provisions for the transport of amphibians, zebrafish, rodents, ferrets, minipigs, and non-human primates transported for scientific purposes. In the case of aquatic invertebrates transported for scientific purposes, the provisions and definitions laid down in II.2.2 apply. In the case of dogs and cats transported for scientific purposes, the species-specific provisions and the definitions laid down in II.4.2 apply. In the case of rabbits transported for scientific purposes, the species-specific provisions and definitions laid down in II.1.2 apply, unless specified otherwise in the tables below. In the case of zebrafish, besides the species-specific provisions laid down in this proposal, the general provisions in II.2.2 also apply.

### Definitions:

- § The definition of 'Journey time', 'beginning of the journey', 'end of the journey', and 'container' as provided in Section I.1.2 and of 'attendant' as provided in Section II.4.2 of the present Paper, shall also apply to the transport of laboratory animals.
- § 'Consignee': defined as any person or company who receives the transported animals at the place of destination.
- § 'Consignor': defined as any person or company who sends the animals from the place of departure.
- § 'Juvenile laboratory animals': defined as terrestrial animals transported for scientific purposes that are capable of functioning independently from their mother, consuming solid food and water and maintaining normal physiological and metabolic functions.
- § 'Unweaned laboratory animals': defined as terrestrial animals transported for scientific purposes that are not yet able to eat and drink independently of their mothers.

### Requirements

#### General provisions related to laboratory animals (intra- and extra-EU)

- 117. Journeys shall be carefully planned in advance, from departure to destination. Both consignor and consignee shall agree on the conditions of transport, including departure and arrival times. The consignee shall be in charge to ensure appropriate accommodation, the provision of fresh food and good quality drinking water, appropriate enrichment (e.g. litter and nesting material for terrestrial species, or refuges for aquatic species).
- 118. The journey log must be accessible to all involved in each stage of the journey (i.e. consignor, organiser, transporter, driver, attendant, consignee); the journey log must contain an emergency telephone number available 24 hours a day to give assistance, and a back-up system for replacement vehicles and transporters should be available.
  - 118.1 Documentation on the country of birth and on the birth date, and in the case the animal was captured from the wild, documentation on date and country of capture, and on the countries it was transported to after capture shall be provided to the competent authority in charge for approving the animal consignments. It must be ensured, that these documentations are not changed due to transport over several countries.
- 119. Journey logs shall be adapted to also report on laboratory animal welfare aspects during the journey, including transport temperatures within both the vehicle hold and animal containers, water and feeding times, as well as on vehicle and container aspects.
  - 119.1 A document that addresses most eventualities and problems that may arise during the journey as well as instructions for emergency responses (e.g. transport delays, exposure to extreme temperatures, animal escapes, mechanical problems with transport vehicles) according to the laboratory species transported and to the means of transport used shall be prepared in advance by the consignor or the organiser and accompany the journey log. This document shall also include clear guidance on actions in case of laboratory animals unfit for travel, morbidity or mortality.
- 120. Any mortality during a journey shall be reported and the cause of death properly investigated. Appropriate post-mortem examinations shall be carried out by a veterinarian on arrival.

- 121. Prior to being placed in the transport containers, laboratory animals shall be inspected by a competent person, trained to assess their fitness to travel. During these inspections, attention must be given to animal health and physical fitness in relation to the length of the journey and of the conditions likely to be experienced during the journey and at the place of destination. The transport operator or driver should, in no case, accept to load and carry animals which are obviously unfit for transport. Where there is any doubt about a laboratory animal's fitness for travel, a veterinary opinion shall be sought since they are the figure ultimately responsible to declare an animal fit or unfit for transport.
- 122. Transport of pregnant laboratory animals shall be avoided. The transport of pregnant animals for whom 40% or more of the expected gestation period has already passed, shall not be allowed unless animals are under appropriate veterinary direction and supervision and the animals and the journey have been certified by an approved veterinarian with an expertise on the impact of transport on laboratory animals.
- 123. Unweaned laboratory animals not accompanied by their mother or without appropriate veterinary direction and supervision, juvenile laboratory animals not accompanied by their dam until when they are capable of functioning independently from their mother (i.e. independently consuming food and water as well as maintaining normal physiological and metabolic functions), sick laboratory animals, injured laboratory animals, and laboratory animals less than one week after having given birth shall be considered unfit for transport. This list is not exhaustive: a clear definition of 'fitness for transport' for laboratory animals shall be set by law.
- 124. Transport time and duration shall always be kept to a minimum. Nevertheless, an uninterrupted journey is preferable to one broken by stops or rest periods, especially if unloading and reloading are involved. The planning of a route longer than the most direct path, as well as a deviation from an approved route, has to be justified by the transporter and by the driver.
- 125. Laboratory animals shall be loaded as near as possible to the time of departure. Transporters cannot accept an animal for transport more than four hours before departure time.
- 126. Consignors and/or organisers shall check the opening hours of border inspection posts as well as public holidays in each country laboratory animals are travelling through to avoid any additional delays. They shall also notify the competent authority in advance so that the appropriate inspection personnel can be available.

- 127. An attendant in charge of the welfare of the transported laboratory animals shall be present during the entire journey except where the driver or the transporter performs the functions of the attendant. This person shall have a valid certificate of competence for the handling, transport and caring of laboratory animals, including in case of emergency. Methods likely to cause unnecessary fear, injury or suffering are forbidden. Training shall include:
  - (a) The ability to provide species-specific husbandry
  - (b) The ability to recognise when an animal becomes ill or unfit for transport
  - (c) The ability to recognise physiological signs of stress and alleviate the cause
  - (d) A protocol to interact with veterinarians who have skills in the treatment of injuries of laboratory animals, and
  - (e) Guidelines to administer veterinary drugs including anaesthesia or perform euthanasia

Additionally, guides to good practice for the transport of laboratory animals on the basis of the latest scientific knowledge shall be made publicly available in all EU languages and disseminated among all Member States. These guides shall include additional standards with regards to the planning of the journey; the packing, handling, loading and unloading of laboratory animals; container and vehicle designs; the provision of an adequate microclimate within animals' transport containers during the different means of transport (e.g. temperature, humidity, ventilation); the vehicle maintenance; the monitoring, feeding and watering of animals during transport and transit; the care of sick or injured animals; and emergency procedures.

- 128. The attendant shall carry out regular inspections, at a frequency that takes the laboratory animals' needs into account, to check on their health and welfare using the viewing windows of the container, and ensure that animals are adequately protected from any significant exposure to precipitation, direct sunlight or high winds; and to provide water and/or food in accordance with the feeding and watering instructions. The attendant shall ensure that temperatures remain within the recommended temperature ranges for each laboratory animal species. During transit and stopovers, the attendant shall closely monitor that laboratory animals are maintained under the same environmental conditions as when travelling. In case the transport vehicle breaks down, the attendant shall remain with the vehicle where possible and laboratory animals shall not be left alone.
- 129. Transporters shall be trained in loading and unloading the laboratory animals from the transport vehicles. This shall be done as calmly and quietly as possible and transport containers shall always be handled with care and kept level.

<sup>17</sup> The proposal is based on the literature and guidelines available, on existing transport practices and on the effects of transport on common research animals





Mice in a laboratory cage.

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130. All laboratory animals shall be transported in vehicles with controllable light, temperature and ventilation. Alarms shall be fitted to warn the transporter when certain variables (e.g. temperature, humidity) go outside pre-set limits. The ventilation system must be capable of maintaining recommended temperatures and ensure even distribution within the entire vehicle. The ventilation system shall be capable of working independently of the vehicle's main engine. In case of long journeys, the temperatures recorded within representative animal containers, as well as in the vehicle hold, while laboratory animals are in the vehicle must be registered. These records must be presented to official inspectors when required.
131. Light levels within the vehicle shall take into account the physiological and behavioural needs of the laboratory animals.
132. The interior of the vehicle must be designed to allow thorough cleaning and disinfection. Transport vehicles shall be cleaned and disinfected immediately after every transport of laboratory animals, using disinfectants officially authorised by the Competent Authority.
133. Transport containers shall be protected from adverse weather conditions such as extremes of temperature, sunlight, noise and draughts. Lashing points shall be available on the floor and walls to secure containers during transport and prevent them from toppling.
134. When laboratory animals are to be transported in quantity, great care shall be taken to maintain proper separation of containers in the vehicle so that there is adequate air circulation.
135. Vehicles shall be clearly and visibly marked indicating the presence of live animals, except when the laboratory animals are transported in marked containers.
136. Containers shall be constructed of non-toxic materials so that laboratory animals cannot bore, claw or bite them open at the seams or joints, and they shall be designed to:
  - (a) Prevent animal injuries during loading, transport and removal from the container
  - (b) Prevent accidental opening, either from the inside or the outside, while ensuring that the openings of the container are easily accessible at all times for emergency removal of animals
  - (c) Prevent or limit the entry of microorganisms and so that they can be thoroughly disinfected between shipments if intended to be reused
  - (d) Ensure that the laboratory animals and their provisions can be viewed and inspected without opening the container
  - (e) Maintain stable temperature, and
  - (f) Assure adequate ventilation
137. To meet the requirement laid down in point 136(e), air vents should be sited on at least two opposite sides of the container. Both container and vents should be designed so that occlusion of the vents cannot occur. Vents should be covered with wire or plastic mesh of such a gauge that no part of the animal can protrude. In case containers are placed in a stack, containers must be provided with spacer bars or other offsets to allow enough air flow.
137. Transport containers shall be designed in accordance with the laboratory animals' size and enable the animal to turn around, lie down and make normal postural adjustments, but without having so much space that animals could fall and be injured.
- 137.1 Recommended species-specific container provisions shall be set by law, only as a general guideline, following the minimum standards reported in Annex I.1.
- 137.2 Recommended species-specific space allowances for laboratory animals (including ceiling heights) shall be set by law only as a general guideline, and following the minimum standards reported in Annex I.2.
138. Transport containers for laboratory animals shall be provided with:
  - (a) Species-specific enrichment to reduce stress, facilitate physical comfort, prevent boredom as well as to improve animal well-being, and
  - (b) Species-specific clean, disinfected, dry, non-consumable and non-toxic litter sufficient to absorb urine and faeces and any spillage from liquid sources placed in the container, to provide comfort and security, to protect against vibrations, and to help animals to maintain their body temperature but without interfering with ventilation aperturesA spare container containing clean bedding in case of emergencies shall be provided.
- 138.1 Additional litter and nesting material shall be provided for laboratory animals with special needs that require this (e.g. diabetic and hairless animals). In the case of specific-pathogen-free laboratory animals, suitably disinfected bedding that matches their microbiological status shall be provided.
- 138.2 Species-specific litter and container enrichment provisions shall be set by law as a general guideline, on the basis of the minimum standards reported in Annex I.3
139. Transport containers shall be provided with adequate handles or handholds so that the container can be lifted without tilting and to ensure that anyone handling it will not come into physical contact with the laboratory animals inside. They shall be provided with properly designed entries for the load forks to engage safely and securely.
140. The filters of the containers shall be constructed of water-resistant and tear-resistant materials and situated so that they cannot get wet if it rains or shall be protected from rainfall. All filters shall also be protected from direct animal access by wire mesh or other coverings.



**141.** When transporting laboratory animals of special categories (e.g. specific-pathogen-free animals; genetically altered animals, animals that have undergone surgery or those that are disease 'models'), great care must be taken with all packing and handling and disinfection processes. Such animals shall be transported in filtered containers to minimise exposure to potential pathogens. When transporting hairless laboratory animals, extra care must be taken to select a transport container without rough edges that could injure the unprotected skin. In such cases, the transporter must be previously informed by the consignor to comply with specific container requirements.

**142.** Each container for the transport of laboratory animals must be clearly marked with:

- (a) "Live Animals"
- (b) "This Way Up", including orientation arrows
- (c) The type and number of animals in the container, and
- (d) The consignor and consignee's name, address and a 24h contact telephone number.

**142.1** Certifications and other instructions must be securely attached to the outside of the container in a manner that makes them easily noticed and read. They must include:

- (a) Each animal's tattoo or tag number
- (b) Feeding and watering instructions and time and date when each animal was last fed and watered, and
- (c) Instructions for the administration of drugs or medication

Wherever possible, animals shall be accustomed to transport containers at the time of loading: It is recommended to expose them to the containers a few days before departure to reduce anxiety levels.

**143.** Social groups should be maintained or re-established as soon as possible. Therefore, efforts shall be made to ensure that conditions in which laboratory animals are transported encourage social stability. It is preferable to transport compatible laboratory animals in socially harmonious pairs or well-established larger groups within the same transport container or container compartment.

**143.1** Laboratory Animals that are aggressive must be transported individually. Breeding pairs and their offspring shall travel in the same container. Juvenile laboratory animals shall not be transported in the same enclosure with adult laboratory animals other than their dams. A female in oestrus must not be transported in a container with a male laboratory animal.

**144.** Recommended species-specific grouping and density provisions shall be established based on the minimum standards reported in Annex I.4 and on the principles that terrestrial laboratory animals being transported must be able to:

- (a) Lie down at the same time
- (b) Easily reach drinking devices
- (c) Comfortably adjust their posture, and
- (d) Access the airflow of the ventilation system

**144.1** For laboratory animals with genetic mutations (e.g. obese) and in a pregnancy stage, stocking density shall be decreased. Specific space allowances shall be set for these animal categories.

**145.** Species- and age-specific temperature ranges for the transport of laboratory animals vary widely and should be based on current science and the environment in which they were previously housed.<sup>19</sup>

During warm weather it may be advisable to travel overnight to avoid high ambient temperatures during the day. Additional heating or cooling shall be provided for laboratory animals that require this (e.g. obese, diabetic, hairless, newborns, late-pregnancy and lactating animals).

**145.1** Laboratory animals shall not be transported outside the temperature ranges established for each species. The consignor shall give full instructions to the transporter before departure. These instructions shall also figure in the document accompanying the journey log.

**146.** Presentation of food and water shall be done using a method the laboratory animal being transported is accustomed to. The food and watering shall be of the type to which the animals are accustomed, or they should be habituated to it before transport. Species-specific provisions for the feeding and watering must be set by law, on the basis of the minimum species-specific requirements reported in Table 2<sup>20</sup>.

Species	Type of food	Type of water receptacle	Feeding and watering frequencies
<b>Amphibians</b>			Because of very low metabolic rates, they can be deprived of food for short periods (up to two-three days).
<b>Zebrafish</b>			Feeding shall be withheld from juveniles and adults during the journey and for 24 hours prior to placing the animals in the transport containers in order to reduce excretion and avoid water fouling in the container.
<b>Rodents</b>	Pellets except when special diets are recommended. The pellets can be soaked in water to form a mash providing both water and nutrients.	Moisture sources such as agar or colloid, stabilised water ('gelled water') are often used as an alternative to water. Gelled water products may also contain additional nutrients, including energy sources.	Sufficient moisture and food sources must be provided inside the container when the animals are packed.
<b>Ferrets</b>	Tinned cat or dog food except when special diets are recommended.	Automatic watering or water bowl.	Water shall be provided every 3 to 4 hours and food shall be provided at least once every 12 hours.
<b>Minipigs</b>	Fresh fruit and/or vegetables except when special diets are recommended.	Water bowl.	Water shall be offered every 3 to 4 hours and food shall be offered at least once every 12 hours.
<b>Non-human primates</b>	Fresh fruit and/or vegetables except when special diets are recommended. Careful consideration needs to be given to the various foods provided to ensure local import rules are not broken.	Water bowl.	Water shall be offered every 3 to 4 hours and food shall be offered at least once every 12 hours.

Table 2

<sup>19</sup> Arts 2016; National Research Council, 2006; Swallow et al., 2005; Home Office, 2014.

<sup>20</sup> Bayne et al., 2010; National Research Council, 2006; Ellegaard et al., 2010; Kaliste, 2007; McNamara et al., 2018; Swallow et al., 2005.





**146.1** Additionally:

- (a) More frequent feeding and watering shall be provided for laboratory animals that require this (e.g. neonates, late-pregnancy, lactating, diabetic and obese animals)
- (b) Food and water as well as their presentation shall be adapted in case of transport of laboratory animals with special needs (e.g. genetically altered animals, animals who have undergone surgery or those who are disease 'models')
- (c) For international travel, an additional allowance of food and water must be considered
- (d) During extreme high temperatures, additional water sources shall be provided if transport cannot be avoided
- (e) Food and water must be always available during transport by boat and by air, and
- (f) All water and food receptacles must have rounded edges or be adequately covered so that animals do not injure themselves. They must be attached inside the enclosure and placed so that they can be filled from outside the enclosure without opening the door.

**147.** The attendant must receive written instruction on the feeding and watering. They must also be affixed to the container and a copy of the instruction must accompany the transport documents. Any feed or water given must be recorded on the container instructions and noted in the journey log with the date and time of supply.

**147.1** In the case of bio-secure transport containers, there is usually no means to refill water containers during transit and still maintain the microbiological integrity of the container. Sufficient moisture and food sources must therefore be provided in sufficient quantities to allow for twice the anticipated duration of the journey inside the container when the animals are packed.

**148.** In case of illness or injuries during transport, laboratory animals shall be separated and immediately receive appropriate treatment and, if necessary, be euthanised by the attendant in charge. Euthanasia shall take place on the spot, and after administration of anaesthesia to render the animal unconscious.

**149.** Sedation of laboratory animals prior to transport, except under certain conditions and carried out under veterinary direction, is not recommended because of the risk of compromising their welfare by affecting their ability to thermoregulate.

**150.** Competent authorities shall carry out on a regular non-discriminatory basis and at any stage of the journey announced as well as unannounced controls. Geolocation systems designed to track the animals' location, the duration of the journey, as well as any non-compliance with transport schedules shall be developed.

**151.** Inspectors and/or official veterinarians shall be trained in the inspection of transported laboratory animals. A toolbox of species-specific effective and reliable ABMs shall be set by law.

**152.** In case of long journeys, means of transport, including aircrafts, and containers used to transport laboratory animals shall be controlled and approved before departure. Authorities should be responsible for determining the suitability of the means of transport for transporting laboratory animals in terms of the vehicles' state and the nature of their equipment.

**153.** The annual reports submitted each year to the European Commission by Member States, shall include a section related to the transport of laboratory animals (intra- and extra-EU). Such reports shall include reliable data on:

- (a) The species, the genetic status and the number of the animals departing from their territory
- (b) Mortality rate
- (c) The number of announced inspections carried out, and
- (d) The number of unannounced inspections carried out

The report shall be accompanied by an analysis of the major deficiencies detected and an action plan to address them.

**Additional requirements for transport by air**

**154.** The aircraft and its fittings must be designed, constructed, maintained and operated so as to avoid injury and suffering and ensure the safety of the laboratory animals. The cargo space must be kept clean and animals may not be transported with any items that may be expected to cause harm to them.

**155.** Containers must be positioned in the cargo space in a manner that provides protection, maintains their location and their integrity during turbulence in flight, provides enough space to allow air to freely circulate, and allows for the removal of the animals in the event of an emergency.

**156.** Laboratory animals must be transported by aircraft in conditions where air quality, temperature, pressure, humidity and carbon dioxide levels can be maintained within an appropriate range during the entire journey, having regard to the species of the animals. Animals shall not be transported in cargo compartments that contain a lot of moisture such as perishables, refrigerated products, flowers and frozen products. Arrangements shall be made in advance for any additional equipment which may be required, such as a ground power unit or auxiliary ventilation, to be available for the aircraft while on the ground.

**157.** Minimum space allowances, stocking densities, container and ventilation requirements and appropriate temperature ranges for laboratory animals transported by air shall be set forth by law.

Handling of a laboratory rat.



**158.** Loading of laboratory animals shall take place as close to the expected time of take-off as possible. Whenever possible, loading shall be avoided in very cold and hot ambient conditions. Animals shall be unloaded as soon as possible after the aircraft has landed. Arrangements shall be made for suitable equipment to be available for transfer of the laboratory animals from or to the road vehicle, and for loading into or unloading from the aircraft and/or containers.

**159.** During air transport, laboratory animals must be frequently observed unless the cargo area is not accessible during flight, in which case the animals must be observed whenever they are loaded or unloaded to check on the animal's health and welfare. Transporters must ensure that an attendant accompanies the animals except where a member of the aircrew performs the functions of attendant. The requirements laid down under point 127 of Section II.5.2 of this Paper shall also apply to the attendant. If an animal is obviously unwell or in distress, veterinary care must be provided as soon as possible.

**160.** Personnel involved in the transport by air of laboratory animals (e.g. airport ground-staff, handling agents, aircraft commander, loadmaster and aircrew, attendant) shall be trained to perform their functions with respect to the transport of animals. Consignors and/or organisers must ensure that the personnel responsible for animals during transport have received such training.

**161.** Direct flights shall be preferred over flights with stopovers and the use of private charter jets shall be preferred over commercial air carriers to reduce the number of stops or aircraft changes. Transfers between road and air transport shall be well organised to avoid delays. If laboratory animals remain at the airport for long periods, consideration must be given to quarantine requirements, veterinary services, food, watering and protection from environmental conditions.

**Infringements and notification of infringements (any kind of transport)**

**162.** The requirements laid down under points 29, 30, 31 and 31.1 also apply to the transport of laboratory animals.

**Extra-EU transport of live animals (any kind of transport)**

**163.** The requirements laid down under points 32 and 34 also apply to the transport of laboratory animals.



### III. Advantages of our proposal

*The poor level of animal welfare during transport, will be tackled via the proposal of species- and category-specific minimum requirements and clear definitions for all the animals being transported. Therefore, major animal welfare problems would be prevented and mitigated by transposing this proposal into the new legislative text.*

Following up on the recommendations by the EFSA, FVE and OIE that transport should be reduced and other ways of trading favoured, species- and category-specific maximum journey times and minimum standard are proposed. This would ensure that also fragile animal categories (i. e. pregnant, old and young animals) will be transported according to their needs.

**The promotion of a short-distance animal transportation would reduce the risks of virus transmission that might be linked to the movement of animals on long- and very long-distances, with potential negative effects on both animal and public health.** Additionally, it would ensure a more efficient flow of foodstuffs, mitigating the impact of possible restrictions in the movement of human beings and animals due to disease outbreaks. Indeed, the pandemic caused by SARS COV-2 demonstrated to Member State governments and EU Institutions how fragile our system is, due to it being strictly dependent on the long-distance transport of farmed animals, and how much a local food chain is needed for food security reasons.

**European resilience will also be improved through more efficient and more reliable local fish production.** Despite the fact that fish are in the scope of the EU Transport Regulation, no specific details relevant to these animals are included, and the most important aspects of their welfare during transport are not provided for. Invertebrates are not included in the legislative framework. The proposal put forward in this Paper makes the best use of available knowledge to maximise the welfare of fish and other aquatic animals during their transport and mitigate producers' losses, by reducing mortality and disease, and improving feeding and growth.

**This Paper offers a targeted approach to equines, thus effectively responding to EFSA's conclusion that "equidae differ markedly from other commonly transported farmed species, [...] in terms of inter-animal behaviour and, in particular, the**

levels of aggression during transport" (EFSA, 2011). Therefore, species-specific requirements for equines are presented to respond to their needs during transport (i.e. thermoregulation, physical balance inside the compartments, handling) and a call for separate classification is inserted to establish a clear and *ad hoc* set of rules and technical measures. Transport is a stressful, high-risk activity. Nevertheless, it can also bring benefits, allowing equines to be moved from poor situations to better ones, provided it is done properly. Hence there is a need to balance better enforcement and more responsibility with compliance if it is of benefit to equine welfare. Legislation needs to be detailed, but not too prescriptive, making allowances for the individual characteristics of animals, while guidance should provide the additional detail and support to all key stakeholders. All equines have the potential to become 'low value', for example because of injury or reduced performance, therefore they all must be protected.

This proposal has also **the advantage to ensure the welfare of cats and dogs when transported for commercial reasons**, in line with the EU Animal Welfare Platform Guidelines (2020). Both short and long journeys are stressful for domestic dogs and cats, and can be mitigated by appropriate stops, size and position of the containers as well as the presence of bedding. Higher and more specific requirements support animal welfare, as better transportation conditions equal less stress and healthier animals.

This Paper also addresses the lack of rules on the transport of laboratory animals, proposing both general and species-specific provisions to respond to their needs during transport and reduce their stress. **It also establishes higher welfare provisions for the transport of laboratory animals** with special needs (e.g. genetically altered animals, animals who have undergone surgery, those who are disease 'models', or animals that present abnormal behaviour).

To maximise compliance with all these provisions and ensure the creation of a level playing field for transporting companies across the EU, a centralised monitoring and reporting system is proposed. This monitoring system is also meant to tackle illegality in pet trade, thus preventing negative animal health and welfare consequences. Additionally, it also addresses the current lack of controls that concerns the transport of animals for scientific purposes, by proposing a reporting system that would make it possible to extend enforcement of the transport law to laboratory animals.

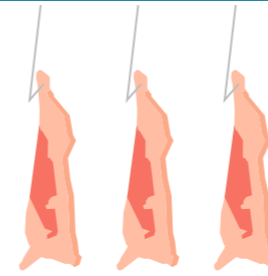




# Key points

- A strict and transparent monitoring and reporting system to ensure that systematic violations will be effectively identified and prevented; illegal pet trade tackled; and animal transportations that have been so far forgotten, be subjected to checks and controls.
- Species-specific science-based minimum standards for all animals being transported to ensure conditions that meet animals specific physical and psychological needs.

**Bovines, swine, ovines and poultry transported for breeding, fattening and slaughter; and rabbits transported for breeding, fattening, slaughter and scientific purposes.**



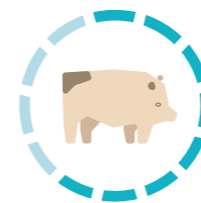
The transport of farmed animals shall be reduced, refined and **replaced by meat/carcasses and semen/embryos**, as recommended by the FVE, OIE and EFSA

## 'Journey time'

is defined as the entire time elapsing from the 'Beginning of journey' until the 'End of journey' including loading and unloading of animals. In case of sea transport, the 'Journey time' includes the time animals spend on the road from the farm to the harbour and from the harbour to the 'Final destination', as well as the part of the journey animals spend on the vessels and the roll-on/roll-off time



**Species and category-specific maximum journey times** with a maximum travel time of

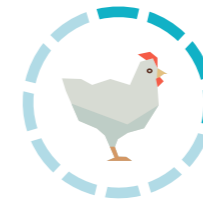


**8 hours**

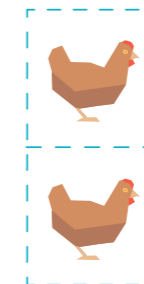
for adult bovines, ovines, swine

**4 hours**

for poultry and rabbits



Poultry and rabbits shall be transported in species-specific containers



**It is forbidden to transport:**



Farmed animals outside the **EU borders**

**Pregnant animals**

for whom 40% or more of the expected gestation period has already passed

**Unweaned animals**



**End-of-career animals** cannot be transported for more than

**4 hours**

- ✓ **Livestock vessels must be approved by a EU Authority** on the basis on the fulfillment of mandatory and strict technical requirements and conditions

**To preserve animal welfare,**

species and category-specific conditions on fitness for transport, minimum and maximum external temperatures, space allowance, watering, and feeding **shall be set by law**





### Data

necessary for assessing the impact of **journeys will be recorded** and available to all operators involved in the transport

### Live transport vehicles

will be designed and constructed to avoid injury and to monitor and maintain the necessary water quality

Fish and aquatic invertebrates will be **transported in water** of a quality that matches their needs

### The causes of mortalities

will be established and monitored

The **condition of the fish** will be assessed and their ability to cope with the rigours of transport will be **confirmed before loading**

Important **water quality** parameters will be monitored continuously and maintained throughout the journey

### Inspections

**will not be carried out unless** monitoring equipment has indicated a problem

### Feed

will be withheld from fish only for the minimum time necessary prior to loading, to preserve water quality during transport

### Contingency plans

will be in place to manage anticipated and unforeseen problems

Fish and aquatic invertebrates will be **acclimatised** to their destination water

Sufficient appropriately **trained personnel** will be carrying out operations

### Handling

will be gentle and time out of water will be minimised

Equines must have **maximum journey times**

**Adequate and fixed rest times** must be stated between each stage of the overall journey

### Increasing the total resting time

on a long journey, as well as **cleaning the vehicle** frequently reduces transportation related stress and in turn the risk of respiratory related disease

Welfare can be improved by **familiarising equines** with transport vehicles and loading procedures **before travel starts**

There needs to be better training for staff and monitoring to prevent avoidable risks to equine welfare based on the EU Animal Transport Guides

should take place in **appropriate environments** to ensure there is no added stress and no increased risk of injury

Member States must provide a high-standard network of **authorised control posts and assembly centres** solely for equines

### EU harmonised standards

must be set for the approval and production of vehicles for the **transport of equines**

### Behaviour

is more sensitive than haematology, biochemistry or plasma cortisol for assessing the emotional status of the animals in transit

That is why **behavioural observation and video-cameras** for observing the behaviour during transportation are strongly recommended

Welfare can be improved by providing **thermally comfortable and well-ventilated conditions** during the journey

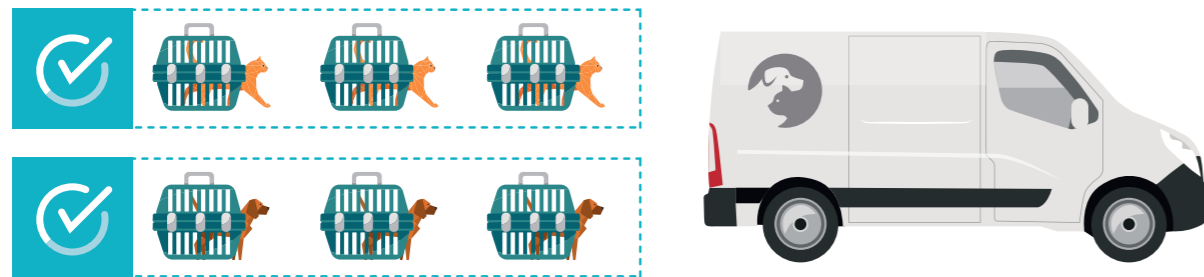
Temperature ranges for transporting equines are needed as well as an explicit reference made to when equines are not permitted to be transported due to extreme temperature ranges



## Cats and dogs transported for commercial activities and for scientific purposes

### Cats and dogs

have **different species-specific requirements** than those defined in the Regulation and at this stage their health and welfare during transport are not protected by EU law



There is a strong **incentive from the Member States** to come up with a clear **set of rules** for the transport of cats and dogs



Only setting up **species-specific rules** accompanied by **effective enforcement** will provide a basis for transport of cats and dogs that is both legal and animal welfare conscious



### Unclear transport rules

facilitate the **illegal movement** of cats and dogs across Europe



## Amphibians, zebrafish, rodents, ferrets, minipigs and non-human primates transported for scientific purposes.

**Clear and species-specific provisions for laboratory animals shall be set by law** – including litter and container enrichment, temperature ranges, feeding and watering requirements, grouping and density provisions



The **transport of laboratory animals** should be **avoided**

### An attendant,

trained to handle, transport and care for laboratory animals, shall be present during the entire journey except where the driver or the transporter performs the functions of the attendant



### Journey logs

shall be adapted to also report on animal welfare aspects during the journey, transport temperatures, water and feeding times, as well as on vehicle and container aspects

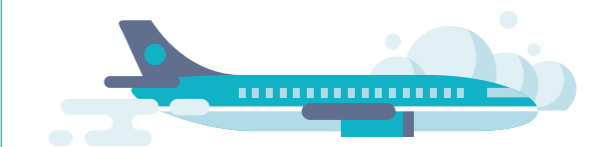


**Guides to good practice for the transport** of laboratory animals on the basis of the **latest scientific knowledge** shall be made publicly available in all EU languages and disseminated among all Member States



### Specific provisions

must be in place for Specific Pathogen Free, Genetically Altered or hairless animals, those who have undergone surgery or have conditions such as diabetes



Clear and species-specific provisions for **transport of laboratory animals by air** shall be set

**Announced and unannounced controls** shall be carried out by Member States to assess compliance.

**Geolocation systems** designed to track the animals' location; the duration of the journey; as well as any non-compliance with transport schedules shall be developed



### Annual reports

submitted each year by Member States on the inspections carried out shall include a detailed section related to laboratory animals





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# Annex I

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► **WSAVA Body Condition Score Dog**

## 1. Species-specific container provisions - as required under point 137.1

Recommended species-specific container provisions for the transport of laboratory animals shall be set by law, on the basis of the following minimum standards<sup>21</sup>:

Species	Container material and design	Ventilation	Additional provisions
<b>Amphibians (in particular <i>Xenopus</i>)</b>	Dark plastic containers or polystyrene containers with sealable lids. The containers shall be placed in compatible cardboard boxes adapted to the size of the container to prevent any movement within the box.	The lids of the containers and the cardboard boxes shall be perforated with holes to ensure good air supply.	Cardboard boxes must be labelled indicating the correct upright position of the container as well as the words "Live Frogs". When shipping <i>Xenopus tropicalis</i> , it is necessary to use a heat pack or a hand warmer wrapped in damp paper towels, placed in a plastic bag with holes in it for ventilation, and taped to the inside lid of the polystyrene container.
<b>Zebrafish</b>	Adults shall be double-bagged in a good quality leak free plastic fish bag. Provisions laid down in point 75 apply. The first bag shall contain approximately 2/3 air and 1/3 water (from the fish' holding tank). The top shall be knotted and closed with rubber bands or metal or plastic clips. This bag shall be placed inside the second bag that shall be closed like the first one. Bags shall be placed inside thick foam containers filled with packing peanuts. The foam container shall be placed in a closed cardboard box adapted to the size of the bag to prevent any movement within the box.  Embryos shall be transported in labelled 250ml culture flasks filled with embryo medium. The flasks shall be placed in thick foam containers filled with foam packing peanuts to prevent any movement within the container. The foam container shall be placed in an adequate closed cardboard box.		Cardboard boxes must be labelled indicating the correct upright position of the container as well as the words "Live Fish". When transporting adults, a heat pack shall be placed in the box during winter months. Activated heat packs shall be taped to the inner side of the foam lid. A small hole shall be made in the centre of the foam lid to allow oxygen to reach the heat pack. For genetically modified zebrafish lines, regulations related to a transgenic or genetically modified organism's biosafety and restrictions must also be fulfilled.
<b>Rodents</b>	The material used for the construction of the container must be hard, rigid, and resistant, especially to moisture. For this, specially coated cardboard, fibreglass, aluminium, or rigid plastics may be employed. The interior surfaces shall be durable and smooth, so that the animal cannot damage or gnaw them.  For guinea-pigs and hamsters, the entire interior of the container shall be lined with at least one (preferably two) layers of screen wire. One or more viewing windows made from metal wire or transparent sheet plastic covered with a protective flap made of materials the same as or similar to the rest of the container can be placed in the lid.	Ventilation, provided by wire mesh or barred grilles, shall be situated on at least two of the walls of the container. The total ventilation area shall represent at least 14% of the total combined surface area of all walls. One-third of the surface area of openings must be in the lower half of the enclosure, and at least one-third of the surface area of openings must be on the upper half of the enclosure.	For genetically modified rodent lines, regulations related to a transgenic or genetically modified organism's biosafety and restrictions must also be fulfilled.

<sup>21</sup> The following sources were consulted: Aleström et al., 2019; Ball, 2006; Bayne et al., 2010; National Research Council, 2006; Kaliste, 2007; McNamara et al., 2018; Swallow et al., 2005; Varga, 2016; National Research Council, 1994.



Species	Container material and design	Ventilation	Additional provisions
<b>Rabbits</b>	Containers shall be made of strong cardboard, fibreboard, fibreglass, rigid plastic, or wood lined with wire mesh. The container must have a leak-proof, solid floor or have a raised floor and a leak-proof collection tray. One or more viewing windows made from metal wire or transparent sheet plastic covered with a protective flap made of materials the same as or similar to the rest of the container can be placed in the lid.	Provisions 8 and 11 of section II.1.2 shall be guaranteed. Additionally, ventilation, provided by wire mesh or barred grilles, shall be situated on at least two of the walls of the container. The total ventilation area shall represent at least 14% of the total combined surface area of all walls. One-third of the surface area of openings must be in the lower half of the enclosure, and at least one-third of the surface area of openings must be on the upper half of the enclosure.	
<b>Ferrets</b>	Containers shall be made of strong cardboard, fibreboard, fibreglass, rigid plastic, or wood lined with wire mesh. The container must have a leak-proof floor or have a raised floor and a leak-proof collection tray. The floor shall be solid to prevent digging. One or more viewing windows made from metal wire or transparent sheet plastic covered with a protective flap made of materials the same as or similar to the rest of the container can be placed in the lid. To ensure the safety of weaned and older ferrets, grid openings for all surfaces shall not exceed 6.5cm <sup>2</sup> . Preweaning ferrets require a grid that does not exceed 3.2cm × 6.4cm.	Ventilation, provided by wire mesh or barred grilles, shall be situated on at least two of the walls of the container. The total ventilation area shall represent at least 14% of the total combined surface area of all walls. One-third of the surface area of openings must be in the lower half of the enclosure, and at least one-third of the surface area of openings must be on the upper half of the enclosure.	
<b>Minipigs</b>	Minipigs are frequently transported in rigid containers. The principles of container design and construction for dogs are relevant to minipigs.		
<b>Non-human primates</b>	Suitable materials for the container are wood, medium-density fibreboard and rigid plastic. The container must have a leak-proof, solid floor or have a raised floor and a leak-proof collection tray.  The front of the container shall allow the animals to be easily observed by the use of wire mesh.	Ventilation, provided by wire mesh or barred grilles, shall be situated on at least two of the walls of the container. The total ventilation area shall represent at least 14% of the total combined surface area of all walls. Ventilation openings must be above the midline of the enclosure.	

## 2. Species-specific space allowances - as requested under point 137.2

Recommended species-specific space allowances for the transport of laboratory animals shall be set by law, on the basis of the following the minimum standards<sup>22</sup>:

Species	Minimum container height	Minimum space per animal	
		Weight	Space
<b>Rat</b>	15cm	< 50g	120cm <sup>2</sup>
		50g to 75g	160cm <sup>2</sup>
		75g to 100g	200cm <sup>2</sup>
		100g to 125g	240cm <sup>2</sup>
		125g to 150g	280cm <sup>2</sup>
		150g to 175g	360cm <sup>2</sup>
		175g to 200g	360cm <sup>2</sup>
		200g to 225g	420cm <sup>2</sup>
		225g to 250g	500cm <sup>2</sup>
<b>Mouse</b>	10cm	> 250g	600cm <sup>2</sup>
		10g to 20g	120cm <sup>2</sup>
		20g to 25g	150cm <sup>2</sup>
		25g to 30g	150cm <sup>2</sup>
<b>Guinea pig</b>	15cm if < 500g and 18cm if > 500g	> 30g	180cm <sup>2</sup>
		100g to 150g	330cm <sup>2</sup>
		150g to 250g	400cm <sup>2</sup>
		250g to 350g	440cm <sup>2</sup>
		350g to 450g	480cm <sup>2</sup>
		450g to 550g	520cm <sup>2</sup>
<b>Hamster</b>	15cm	> 550g	560cm <sup>2</sup>
		30g to 60g	120cm <sup>2</sup>
		60g to 90g	160cm <sup>2</sup>
		90g to 120g	200cm <sup>2</sup>
<b>Rabbit and ferret</b>	20cm	> 120g	240cm <sup>2</sup>
		600g to 1000g	1000cm <sup>2</sup>
		> 1000g	2000cm <sup>2</sup>

<sup>22</sup> The following sources were consulted: National Research Council, 2006; Swallow et al., 2005.



Species	Container size	Inner dimensions (cm)	Maximum weight of minipigs (kg)	Number of mini-pigs
Minipigs	Small	50 x 36 x 35	7	1
			4	2
	Medium	64 x 46 x 44	12	1
			7	2
			4	3
	Intermediate	77 x 51 x 53	20	1
			12	2
			8	3
			5	4
	Large	86 x 56 x 62	28	1
			15	2
			10	3
			7	4
			5	5
	Extra Large	97 x 65 x 71	45	1
25			2	
15			3	
10			4	
8			5	
6			6	

### 3. Species-specific litter and container enrichment provisions - as requested under point 138.2

Species-specific litter and container enrichment provisions for the transport of laboratory animals shall be set by law, on the basis of the following minimum standards<sup>23</sup>:

Species	Type of substrate	Cage enrichment
<b>Amphibians (in particular <i>Xenopus</i>)</b>	Several pieces of moss or sponge that have been soaked in water from the animals' holding tank or in dechlorinated water.	
<b>Zebrafish</b>	Embryo medium in case of embryos and water from the fish holding tank in case of adults. For transport of adults longer than a day, it is recommended to add ammonia binder to the water to further limit health risks to the fish.	
<b>Rodents</b>	Commonly used materials are shredded or chipped wood or paper products.	Additional non-toxic nesting material shall be used to aid thermoregulation by making nests or burrows and to provide security.
<b>Rabbits</b>	Sawdust.	Additional cage enrichment shall be provided to animals presenting abnormal behaviours. Suitable enrichment includes straw, hay and chew sticks. A mirror placed in the cage can also improve the welfare of rabbits.
<b>Ferrets</b>	Deep layer of sawdust.	Additional cage enrichment such as tubes of cardboard or rigid plastic shall be provided to stimulate the ferret's instinct for burrowing and hiding.
<b>Minipigs</b>	Sawdust.	
<b>Non-human primates</b>	Woodchips or shavings.	Additional cage enrichment such as hay, straw, chewing or gnawing sticks shall be provided. Small items of food (e.g. grain or sunflower seeds) can also be scattered in the substrate.  If primates are accustomed to nest boxes, consideration shall be given to allowing them access to these during transport.

<sup>23</sup> Aleström et al., 2019; Bayne et al., 2010; National Research Council, 2006; McNamara et al., 2018; Swallow et al., 2005; Varga, 2016.

### 4. Species-specific grouping and density provisions - as requested under point 140

Species-specific grouping and density provisions for the transport of laboratory animals shall be established by law, on the basis of the following minimum standards<sup>24</sup>:

- Amphibians, whenever possible, shall be transported in single-sex groups. Containers of approximately 750ml volume are suitable for transporting 1 or 2 adult females or up to 4 small male *Xenopus*.
- Rodents, whenever possible, shall be transported in compatible groups. According to the size of the animals, no more than 40 mice, 20 rats, 25 hamsters or 10 guinea pigs shall be transported in the same container.
- Zebrafish, whenever possible, shall be transported in groups. Density: 100 embryos per 250ml flask and 10 adults to 1.9 litres of water.
- Ferrets, whenever possible, shall be transported in compatible pairs or groups. Exceptions are sexually intact adult or breeder male ferrets.
- Minipigs, whenever possible, shall be transported in compatible pairs or groups. A maximum of 6 minipigs can be transported within the same container. Same-sex adults that have been maintained in an established compatible cohort shall travel as pairs.
- Non-human primates adult mothers shall not be separated from nursing infants. Different sexes and species shall be carried separately, with the exception of juvenile animals which shall not be separated from one another. Juveniles shall be transported in pre-established single-sex pairs or in the company of compatible conspecifics. No more than 2 adults shall be transported in the same container.

<sup>24</sup> Aleström et al., 2019; Ball, 2006; Bayne et al., 2010; National Research Council, 2006; Ellegaard et al., 2010; McNamara et al., 2018; Swallow et al., 2005; Varga, 2016; National Research Council, 1994.



# Appendix A

## I. Methodology for the data extraction presented in Section I.1

The data presented in Section I.1 is extracted using Comext, Eurostat's reference database. The data is presented in head. The species covered are: bovines, pigs, sheep and goats, and poultry. For each species the data are divided into two categories: "pure-breeding", which are the categories that are explicitly denominated as such, and "non-pure-breeding", which are all others. The poultry category does not follow the same pattern, as tariff lines do not specify whether birds are pure-breeding or not. The two categories chosen in this case are: "under 185 grams" and "above 185 grams". Eurostat does not report multiple moves within the EU – just the final point before exiting for extra-EU trade, and for intra-EU trade, not the final destination of each lot.

For bovines, sheep and goats, and swine, the Harmonised System (HS) codes<sup>25</sup> selected for extraction were: 0102, 0103, 0104. The data was then reorganised by species and into two categories:

- Pure-breeding [HS codes: Bovines: 01021000; 01021010; 01021030; 01021090; 01022110; 01022130; 01022190; 01023100; 01029020; Pigs: 01031000; Sheep and goats: 01041010; 01042010.
- Non-pure-breeding [HS codes: Bovines: 01022905; 01022910; 01022921; 01022929; 01022941; 01022949; 01022951; 01022959; 01022961; 01022969; 0102299; 01022999; 01023910; 01023990; 01029005; 01029010; 01029021; 01029029; 01029031; 01029033; 01029035; 01029037; 01029041; 01029049; 01029051; 01029059; 01029061; 01029069; 01029071; 01029079; 01029090; 01029091; 01029099; Pigs: 01039110; 01039190; 01039211; 01039219; 01039290; Sheep and goats: 01041030; 01041080; 01041090; 01042090].

For poultry, the HS code selected for extraction was 0105. The data was then reorganised into two categories:

- Above 185 grams [HS codes: 01051100; 01051111; 01051119; 01051191; 01051199; 01051200; 01051300; 01051400; 01051500; 01051910; 01051920; 01051990].
- Below 185 grams [HS codes: 01059100; 01059200; 01059300; 01059400; 01059910; 01059920; 01059930; 01059950].

Data extracted was organised in three Excel sheets:

- (A) 2019\_intra-EU trade: reporting the headcount for exports from each Member State to all other Member States, divided by species (two categories);
- (B) 2019\_extra-EU trade-top EU partner: data was organised by species and by categories. For each of them, the non-EU partners for the EU-28 were listed, in descending order; and
- (C) 2019\_extra EU trade Member States flows: reporting the headcount for exports from each Member State to non-EU countries, divided by species (two categories). For each category the main non-EU partners were listed, as well as the totals.

## Intra-EU trade

To facilitate the reporting of the data contained in (A), the data was analysed as follows:

EU Member States	Bovine (head)		Ovine (head)		Pig (head)		Poultry (head)		TOTAL	TOTAL without POULTRY	TOTAL POULTRY
	Breeding	Non-breeding	Breeding	Non-breeding	Breeding	Non-breeding	Under 185 g	Above 185 g			
Austria	20,652	62,037	458	8,565	439	50,213	25,753,896	1,345,510	27,241,770	142,364	27,099,406
Belgium	26,326	239,761	-	3,512	289,853	915,110	84,155,360	52,614,124	138,244,046	1,474,562	136,769,484
Bulgaria	101	-	-	-	-	-	25,248,100	47,000	25,295,201	101	25,295,100
Croatia	125	15,883	-	600	394	209,108	2,617,563	2,439,707	5,283,380	226,110	5,057,270
Cyprus	-	-	-	-	-	-	-	-	-	-	-
Czechia	6,879	183,618	13	8,060	6,244	424,340	94,335,937	10,975,522	105,940,613	629,154	105,311,459
Denmark	65,127	39,619	-	756	256,460	15,423,213	40,354,656	24,597,827	80,737,658	15,785,175	64,952,483
Estonia	412	45,479	-	9,914	-	7,527	-	28,245	91,577	63,332	28,245
Finland	-	-	-	-	-	22,575	7,266,900	-	7,289,475	22,575	7,266,900
France	28,469	1,463,354	13,761	433,962	29,679	643,659	57,402,769	55,420,807	115,436,460	2,612,884	112,823,576
Germany	67,012	696,415	-	15,678	19,283	1,942,467	99,084,406	213,172,575	314,997,836	2,740,855	312,256,981
Greece	101	7	-	23,069	218	1	296,960	134,388	454,744	23,396	431,348
Hungary	3,155	65,927	559	536,311	2,416	472,478	81,590,025	4,364,178	87,035,049	1,080,846	85,954,203
Ireland	18,067	197,465	-	5,180	-	418,532	14,934,361	130,818	15,704,423	639,244	15,065,179
Italy	674	9,079	-	140	-	680	9,965,630	589,123	10,565,326	10,573	10,554,753
Latvia	0	51,417	-	451	138	1,385,531	492,350	1,409,444	3,339,331	1,437,537	1,901,794
Lithuania	871	111,254	-	3,415	51	124,814	330,417	1,366,765	1,937,587	240,405	1,697,182
Luxembourg	1,816	34,115	-	444	521	45,995	-	-	129,889	82,891	46,998
Malta	-	-	-	-	-	-	-	-	-	-	-
the Netherlands	104,947	324,226	1,866	174,544	787,434	10,505,938	236,421,071	46,394,266	294,714,292	11,898,955	282,815,337
Poland	2,745	37,124	-	33,230	5,900	89,126	6,543,009	4,618,376	11,329,510	168,125	11,161,385
Portugal	5,530	19,659	-	63,564	2,072	236,607	40,867,165	1,396,339	42,590,936	327,432	42,263,504
Romania	2,685	124,064	7,077	1,051,626	-	1	189,500	18,521,062	19,896,015	1,185,453	18,710,562
Slovakia	1,361	62,695	74	22,831	255	604,369	5,059,003	30,564,791	36,315,379	691,585	35,623,794
Slovenia	81	38,679	-	1	0	2,440	1,151,470	815,102	2,007,773	41,201	1,966,572
Spain	7,324	153,699	318	660,715	9,387	2,025,619	14,204,929	2,350,996	19,412,987	2,857,062	16,555,925
Sweden	972	3	-	-	102	-	6,144,424	256,869	6,402,370	1,077	6,401,293
UK	49	11,613	115	259,855	570	2,619	16,342,860	81,742	16,699,423	274,821	16,424,602
Total/s	365,481	3,987,192	24,241	3,316,423	1,411,416	35,552,962	870,752,761	473,635,576	1,389,093,050	44,657,715	1,344,435,335
		4,352,673		3,340,664		36,964,378		1,344,435,335			

<sup>25</sup> The Harmonised System (HS) attributes codes to tariff lines, organising them in categories. For instance, 01 is live animals, 0102 live bovines, etc.



To facilitate the reporting of data contained in (B), the data was analysed as follows:

Non-EU Partners	Poultry (head)		Bovine (head)		Pigs (head)		Ovine (head)		TOTAL	TOTAL WITHOUT POULTRY	TOTAL POULTRY ONLY
	Under 185 g	Above 185 g	Breeding	Non-Breeding	Breeding	Non-Breeding	Breeding	Non-Breeding			
Ukraine	84,564,061	500	3,271	198	4,771	16,655	714	14	84,590,184	25,623	84,564,561
Belarus (Belorussia)	19,707,017	-	285	32	973	376	56	-	19,708,739	1,722	19,707,017
Ghana	10,821,376	39	-	-	-	-	-	-	10,821,415	-	10,821,415
Egypt	9,682,377	-	1,811	254	-	-	-	-	9,684,442	2,065	9,682,377
Morocco	8,998,986	-	12,939	46,640	-	-	-	-	9,058,565	59,579	8,998,986
Albania	7,364,207	934,704	567	22,686	-	108,529	102	71,685	8,502,480	203,569	8,298,911
Serbia	7,727,607	471,140	1,944	8,056	843	143,143	644	2,149	8,355,526	156,779	8,198,747
Algeria	7,211,746	-	42,588	89,784	-	-	-	-	7,344,118	132,372	7,211,746
Russian Federation	6,620,492	-	73,163	13	5,687	-	3,388	79	6,702,822	82,330	6,620,492
Saudi Arabia	3,094,796	-	103	200	-	-	-	402,639	3,497,738	402,942	3,094,796
Moldova	2,898,036	28,000	936	-	545	28,715	-	270	2,956,502	30,466	2,926,036
Kosovo	2,458,260	-	1,944	25,803	-	-	-	250	2,486,257	27,997	2,458,260
Jordan	1,415,110	1,091	24	12,612	-	-	-	615,251	2,044,088	627,887	1,416,201
Uzbekistan	1,672,942	130	16,697	1,268	-	-	1,663	-	1,692,700	19,628	1,673,072
Lebanon	1,242,981	696	3,105	110,883	-	-	6,892	216,543	1,581,100	337,423	1,243,677
Turkey	992,815	999	21,707	182,403	-	-	50,875	24,346	1,273,145	279,331	993,814
Libya	-	530	5,171	67,488	-	-	95	1,032,691	1,105,975	1,105,445	530
Bosnia And Herzegovina	948,276	4,112	746	21,992	11	35,096	81	64,472	1,074,786	122,398	952,388
Georgia	1,041,798	418	1,346	32	1,342	12,834	-	16,544	1,074,314	32,098	1,042,216
Israel	212,380	-	-	167,783	178	162	42	312,204	692,749	480,369	212,380
Iran	507,697	-	2,888	-	-	-	2,643	148,980	662,208	154,511	507,697
Kazakhstan	1,034,700	-	12,423	201	906	-	280	50	1,048,560	13,860	1,034,700
Others	42,884,299	133,185	15,134	40,940	4,264	4,317	3,106	138,837	43,224,082	206,598	43,017,484
<b>Total/s</b>	<b>223,101,959</b>	<b>1,575,544</b>	<b>218,792</b>	<b>799,268</b>	<b>19,520</b>	<b>349,827</b>	<b>70,581</b>	<b>3,047,004</b>	<b>229,182,495</b>	<b>4,504,992</b>	<b>224,677,503</b>
		<b>224,677,503</b>		<b>1,018,060</b>		<b>369,347</b>		<b>3,117,585</b>			

To facilitate the reporting of data contained in (C), the data was analysed as follows:

EU Member States	Bovine (head)		Ovine (head)		Pig (head)		Poultry (head)		TOTAL	TOTAL without POULTRY	TOTAL POULTRY
	Breeding	Non-breeding	Breeding	Non-breeding	Breeding	Non-breeding	Under 185 g	Above 185 g			
Austria	18,943	32	2,367	44	58	-	960,208	-	981,652	21,444	960,208
Belgium	65	760	95	1,671	25	-	12,176,198	17,553	12,196,367	2616	12,193,751
Bulgaria	1,160	39,044	23,576	1,327	-	31,814	1,185,004	-	1,281,925	96,921	1,185,004
Croatia	2,089	80,647	6,595	43,981	-	124,410	4,571,640	463,500	5,292,862	257,722	5,035,140
Cyprus	-	-	600	-	-	-	-	-	600	600	0
Czechia	11,483	40,596	291	141	130	176	8,356,847	106	8,409,770	52,817	8,356,953
Denmark	20,885	49	-	-	12,704	12,857	211,586	37,094	295,175	46,495	248,680
Estonia	1,371	5,044	-	12	-	-	-	-	6,427	6,427	0
Finland	66	-	-	-	-	-	-	-	66	66	0
France	44,094	80,084	620	22,665	2,653	1,024	25,398,787	433	25,550,360	151,140	25,399,220
Germany	52,307	155	253	38	1,199	70,275	8,803,884	70	8,928,181	124,227	8,803,954
Greece	98	659	-	10,374	-	92,140	4,504,950	984,258	5,592,479	103,271	5,489,208
Hungary	26,234	65,732	31,301	25,423	-	31,685	35,556,557	36,140	35,773,072	180,375	35,592,697
Ireland	11,120	7,129	36	-	-	1	-	-	18,286	18,286	0
Italy	99	724	-	32	-	-	4,400,170	-	4,401,025	855	4,400,170
Latvia	576	7,280	95	-	-	-	-	-	7,951	7,951	0
Lithuania	834	190	-	2	-	-	-	-	1,026	1,026	0
Luxembourg	286	-	1,083	-	241	-	53,784	2,274	57,668	1,610	56,058
Malta	-	-	-	-	-	-	-	-	0	0	0
the Netherlands	15,116	1,236	1,042	100	1,529	7,780	29,780,462	26,011	29,833,276	26,803	29,806,473
Poland	2,221	7,877	793	-	80	7	61,921,803	216	61,932,997	10,978	61,922,019
Portugal	-	71,858	-	328,451	-	-	683,206	11	1,083,526	400,309	683,217
Romania	197	141,727	-	1,831,655	-	-	1,419,380	-	3,392,959	197,3579	1,419,380
Slovakia	3,511	9,984	-	280	-	-	1,971,936	-	1,985,711	13,775	1,971,936
Slovenia	2	48,823	-	15,136	-	-	30,600	4,112	98,673	6,3961	34,712
Spain	3,454	189,638	1,834	764,345	4	262	10,629,932	787	11,590,256	959,537	10,630,719
Sweden	-	2	-	18	-	-	-	-	20	20	0
UK	2,655	2	-	1,285	897	30	9,186,073	-	9,190,942	4,869	9,186,073
<b>Total/s</b>	<b>218,866</b>	<b>799,272</b>	<b>70,581</b>	<b>3,046,980</b>	<b>19,520</b>	<b>372,461</b>	<b>221,803,007</b>	<b>1,572,565</b>	<b>227,903,252</b>	<b>4,527,680</b>	<b>223,375,572</b>



## II. Methodology for the data extraction presented in Section I.2

The data presented in section 1.2 was extracted from Eurostat. The HS codes<sup>26</sup> selected for extraction were: 030111 (Ornamental fish freshwater), 030119 (Ornamental fish (excl. freshwater)), 030191 (Live trout), 030192 (Live eels), 030193 (Live carp), 030194 (Live Atlantic and Pacific bluefin tuna), 030195 (Live southern bluefin tuna), 03019911 (Live Pacific salmon), 03019917 (Live freshwater fish (excl. various)), 03019985 (Live saltwater fish (excl. various)).

Other HS codes for live fish with no data reported were excluded from the analysis.

The data presents only a partial picture of cross-border transport of fish. Not all operators are required to report any particular transaction. Small businesses can be exempted; in other cases, confidentiality can lead to reporting exemptions, and further mistakes can be made especially when parties in three countries are involved in a transaction. This leads to the situation where, for example, a total of 2,262 tonnes of bluefin tuna are reported as exported by Member States to other Member States, while Malta reports importing 3,496 tonnes of bluefin tuna from other Member States.

Live and dead aquatic invertebrates are not distinguished in the data. To facilitate the reporting, the data was analysed as follows:

### Intra-EU transport of live fish 2019 (tonnes)

EU Member States	Live ornamental freshwater fish	Live ornamental fish (excl. freshwater)	Live trout	Live eels	Live carp	Bluefin tuna	Live Pacific salmon	Live freshwater fish (excl. various)	Live saltwater fish (excl. various)
Belgium	210.6	4.3	0.2	2.3	46.5	0.2		53.4	0.3
Bulgaria		197.3	512.8		371.1				
Czech Republic	29.5	0.0	31.7	0.2	9,439.9			497.3	209.0
Denmark	0.3		6,331.2	389.9	1.8		15.3	1,684.4	19.4
Germany	22.9	1.1	160.0	436.4	4.0			71.3	
Estonia				30.1					
Ireland	0.0	0.0	0.0	0.0	0.0	0.6		0.0	85.2
Spain	35.0	5,105.6	4,309.3	52.2		281.5	10.5	55.1	136.2
France	6.4	23.0	5,661.9	400.4	0.5	1,630.2	38.5	285.4	700.9
Croatia					7.6			4.0	0.1
Italy	3.0	27.9	4,582.2	5.6	51.2	250.5	1.6	154.1	288.8
Cyprus									1.5
Latvia	0.0							3.8	
Lithuania	8.8	38.7	0.2		283.6			0.7	
Luxemburg	1.5		145.7	0.0	0.2			0.4	0.0
Hungary	20.9			2.4	2,083.6			692.6	
Malta									
Netherlands	69.1	804.9	4.7	1,006.6	13.0	0.1	1.0	87.7	0.0
Austria	1.1						0.4		
Poland	497.7	0.3	596.3		83.1			282.8	23.6
Portugal	1.4	29.7		15.7		99.4	0.2	0.0	84.0
Romania		16.5	0.0		0.0			0.0	7.8
Slovenia									
Slovakia	24.6		321.7				0.7		4.3
Finland									
Sweden	5.9	0.0	244.1	3.0					0.3
UK	336.1	127.2		230.7			0.5		0.2
Greece	210.9	16.8	36.3	151.1				6.4	61.4
<b>Total</b>	<b>1,485.7</b>	<b>6,393.3</b>	<b>22,938.3</b>	<b>2,726.6</b>	<b>12,386.1</b>	<b>2,262.5</b>	<b>68.7</b>	<b>3,879.4</b>	<b>1,623.0</b>

### Extra-EU exports of live fish 2019 (tonnes)

Product/ Reporter	Live ornamental freshwater fish	Live ornamental fish (excl. freshwater)	Live trout	Live carp	Bluefin tuna	Live Pacific salmon	Live freshwater fish (excl. various)	Live saltwater fish (excl. various)
Belgium						0.8	3.9	
Bulgaria			1.2	209.5			0.1	6.6
Czech Republic	2.0			334.9			3.2	
Denmark			100.0			4.8	2.6	
Germany	6.7	0.1	129.0	2.3			64.7	
Estonia								
Ireland								
Spain	0.6	2.1	1.6		16.5	1.1	7.7	39.7
France	2.5	7.1	271.1	35.6		1.1	8.3	150.0
Croatia				211.8			4.5	1.5
Italy		9.2	2.7					242.4
Cyprus								10.8
Latvia								
Lithuania							20.0	
Luxemburg								
Hungary		0.1		396.8			0.4	
Malta					372			0.4
Netherlands	9.7	12.8		0.5		6.7	0.8	4.2
Austria	0.8		17.1			4.6	0.7	
Poland							0.0	
Portugal	0.5	0.5						0.3
Romania							15.6	
Slovenia								
Slovakia								
Finland			20.8					
Sweden	11.7	0.3					0.0	20.5
UK	897.8	0.3	1.0			4.3		0.1
Greece			0.8					37.9
<b>Total</b>	<b>932.3</b>	<b>32.5</b>	<b>545.3</b>	<b>1,191.4</b>	<b>388.1</b>	<b>23.4</b>	<b>132.5</b>	<b>514.4</b>

<sup>26</sup> The Harmonised System (HS) attributes codes to tariff lines, organising them in categories. For instance, 01 is live animals, 0102 live bovines, etc.

Intra-EU imports of live fish 2019 (tonnes)

Product/ Reporter	Live ornamental freshwater fish	Live ornamental fish (excl. freshwater)	Live trout	Live eels	Live carp	Bluefin tuna	Live Pacific salmon	Live freshwater fish (excl. various)	Live saltwater fish (excl. various)
HS code	030111	030119	030191	030192	030193	03019, 030195	03019911	03019917	03019985
Belgium	61.6	107	1,314	113	411	13.6	190	64	1,036
Bulgaria		90.9	26.9		3.9		60.7		
Czech Repub-lic	2.5		210	1.7	168	22.5		82.3	6.4
Denmark	183	7.1		106				3.4	0.6
Germany	20.7	10.6	7,087	208	2,554		4.3	641	162
Estonia	0.8							5	
Ireland	25.3	25.2	181		1.3	23.4	279	0.8	0.7
Spain	140	1,081	1,162	114	0.4	997	3,419	24.9	225
France	121	18.1	4,169	9.2	637	21.1	631	35.5	780
Croatia	0.4	0.1	60.7		205		2		212
Italy	23.6	152	8.1	369	42.8	94.1	290	582	73.8
Cyprus									19.1
Latvia	0.2		0.7	1.6	119	0.5	0.9	11.5	0.2
Lithuania	1.6	8.9	13.5		81.7				0.7
Luxemburg	28.5	1.5	173	0.1	0.8	0.1	1.7	0.3	5.4
Hungary			215	1.7	252		1.2		14.7
Malta	0.1					3,496			32.2
Netherlands	76.5	191	51.2	1,109	69.4	1	942	25.3	20.7
Austria	33.2	1.7	3,849	0.6	156		44.3	430	97
Poland		0.3	644	5.1	1,303	6.4	3.9	27	8.4
Portugal	2.1	2.2		94.6		3.7	21.3	25.6	474
Romania	1.6	38.1	42.6		1,878	13.7	11.2	208	386
Slovenia	0.9	0.1	0.2		4.3			1.4	6.3
Slovakia	135		1.3		1,025	0.8	16.6	30.4	7.5
Finland			412						0.4
Sweden	0.9		13.9					2	0.6
Greece	25.4	1,339	0.1	0.2	1.7	19.3	5.9	0.1	445
UK	84.5	17.9	3.8		14.4	24.4	2	7.3	22.3
Total	969.7	3,092	19,639	2,134	8,928	4,736.9	5,927	2,207.7	4,036

Extra-EU imports of live fish 2019 (tonnes)

Product/ Reporter	Live ornamental freshwater fish	Live ornamental fish (excl. freshwater)	Live trout	Live eels	Live carp	Bluefin tuna	Live Pacific salmon	Live freshwater fish (excl. various)	Live saltwater fish (excl. various)
Belgium	233	5.6		95.7					12
Bulgaria	9.4	1.6							
Czech Repub-lic	20.5	2							
Denmark	19.7	8.8	1.8	3.7				2.2	0.4
Germany	91.5	15.5						86.5	3.3
Estonia	0.1								
Ireland	2	0.3							
Spain	57.6	10.8	0.1						
France	93.1	16.7		0.2	2.9				0.2
Croatia	0.7	0.1							
Italy	27.6	19.7			0.2			0.1	1.1
Cyprus	10.8	1.1							
Latvia								2.3	
Lithuania									
Luxemburg	0.6				62				
Hungary	17.4	2.3						0.6	
Malta	14.9	3.3				2,753			0.4
Netherlands	342	131						0.8	0.2
Austria	2	0.8						0.2	1.3
Poland	49	9.2	2.6				1.5		
Portugal	14.2	0.2		56.4	0.2				0.1
Romania	7.2	0.4							
Slovenia	2.4		0.1						
Slovakia	0.3								
Finland	0.8	0.2							
Sweden	6.7	3.8							
Greece	23.2	5.1							
UK	837	269	0.4						
Total	1,884	507.3	5	156	65.3	2,753.3	1.5	92.7	19

III. Methodology for the data extraction presented in Section I.3

The data presented in Section I.3 that refers to equines has been extracted from Comext in July 2020. The data is presented in head. The species covered are horses, asses, mules and hinnies. In the data extraction the HS code selected were: 0101. The data was then reorganised by species and into the following categories: pure-bred breeding horses (01012100), horses for slaughter (01012910), live horses (excl. for slaughter, pure-bred for breeding) (01012990), live asses (01013000), live mules and hinnies (01019000).

Data extracted was organised in two Excel sheets:

- (a) 2019\_intra-EU27\_equidae: reporting the headcount per Member State divided by species and categories; and

- (b) 2019\_extra-EU27\_equidae: data was organised by species, categories and non-EU trade partners.

To facilitate the reporting of the data contained in (a) and (b), the data was analysed. For the EU exports, there is an abnormality of collected data regarding the Netherlands, France and Germany when looking at head (not tonnes or value), hence some of the values have been cross-examined against the EU imports values. There are also concerns over the Netherlands data due to their outstanding values and possible distortion due to high port activity as well as Poland where imports of equines to China seems non-existent despite multiple reports confirming that fact.



(a) 2019\_intra-EU27\_equidae (exports in head, percentage, totals)

Country	Exports in head				Exports in %				Total in head	Total %	
	pure-bred breeding horses	horses for slaughter	live horses (excl. for slaughter, pure-bred for breeding)	live asses	live mules and hinnies	horses for slaughter	live horses (excl. for slaughter, pure-bred for breeding)	live asses			live mules and hinnies
Netherlands	847	5,580	667	1,806	4,036	5.15%	23%	99%	87%	12,936	23.23%
France	765	4,928	4130	7	20	4.65%	20%	0%	0%	9,850	17.69%
Belgium	7,573	155	144	0	0	46.07%	1%	0%	0%	7,872	14.13%
Poland	13	5,265	3	0	0	0.08%	22%	0%	0%	5,281	9.48%
Denmark	3490	0	69	0	360	21.23%	0%	0%	8%	3,919	7.04%
Spain	1,318	0	1,974	16	216	8.02%	0%	1%	5%	3,524	6.33%
Romania	0	3,222	7	0	0	0.00%	13%	0%	0%	3,229	5.80%
Slovenia	6	1,789	1	0	0	0.04%	7%	0%	0%	1,796	3.22%
Ireland	1,304	389	92	0	0	7.93%	2%	0%	0%	1,785	3.21%
Germany	745	321	691	0	0	4.53%	1%	0%	0%	1,757	3.15%
Croatia	0	1,053	33	0	0	0.00%	4%	0%	0%	1,086	1.95%
Hungary	1	615	94	0	0	0.01%	3%	0%	0%	710	1.27%
Bulgaria	2	479	42	0	0	0.01%	2%	0%	0%	523	0.94%
Austria	0	0	419	0	0	0.00%	0%	0%	0%	419	0.75%
Italy	106	144	67	1	0	0.64%	1%	0%	0%	318	0.57%
Lithuania	4	191	95	0	0	0.02%	1%	0%	0%	290	0.52%
Sweden	215	0	11	0	30	1.31%	0%	0%	1%	256	0.46%
Portugal	4	0	51	0	0	0.02%	0%	0%	0%	55	0.10%
Luxembourg	37	0	17	0	0	0.23%	0%	0%	0%	54	0.10%
Czech Republic	0	0	11	0	0	0.00%	0%	0%	0%	11	0.02%
Estonia	1	0	7	0	0	0.01%	0%	0%	0%	8	0.01%
Slovakia	4	0	2	0	0	0.02%	0%	0%	0%	6	0.01%
Greece	4	0	0	0	0	0.02%	0%	0%	0%	4	0.01%
Latvia	0	0	3	0	0	0.00%	0%	0%	0%	3	0.01%
Cyprus	0	0	0	0	0	0.00%	0%	0%	0%	0	0.00%
Malta	0	0	0	0	0	0.00%	0%	0%	0%	0	0.00%
Finland	0	0	0	0	0	0.00%	0%	0%	0%	0	0.00%
<b>Grand Total</b>	<b>16,439</b>	<b>24,131</b>	<b>8,630</b>	<b>1,830</b>	<b>4,662</b>	<b>100.00%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>55,692</b>	<b>100.00%</b>

(b) 2019\_extra-EU27\_equidae (exports in head, percentage, totals)

Country	Exports in head				Exports in %				Total in head	Total %	
	pure-bred breeding horses	horses for slaughter	live horses (excl. for slaughter, pure-bred for breeding)	live asses	live mules and hinnies	horses for slaughter	live horses (excl. for slaughter, pure-bred for breeding)	live asses			live mules and hinnies
USA	816	57	4,561	23	7,191	9%	0%	14%	92%	12,591	39%
United Kingdom	5319	57	496	1	46	59%	6%	1%	1%	5,919	18%
Switzerland	337	1	2,080	120	68	4%	0%	75%	1%	2,606	8%
Mexico	91	959	1,409			1%	0%	0%	0%	1,500	5%
Japan	33	959	146			0%	94%	0%	0%	1,138	4%
Norway	186		505		392	2%	0%	0%	5%	1,083	3%
China	113		778			1%	0%	0%	0%	891	3%
United Arab Emirates	256		300			3%	0%	0%	0%	556	2%
Morocco	49		388		2	1%	0%	0%	0%	439	1%
Kyrgyz Republic	434					5%	0%	0%	0%	434	1%
Canada	25		376			0%	0%	0%	0%	401	1%
Turkey	18		275	2		0%	0%	1%	0%	295	1%
Kuwait	68		206			1%	0%	0%	0%	274	1%
Libya	189		75			2%	0%	0%	0%	264	1%
Tunisia	135		258			0%	0%	0%	0%	258	1%
Qatar	144		123			1%	0%	0%	0%	258	1%
Mongolia	79		167			2%	0%	0%	0%	248	1%
Saudi Arabia	73		168	2	3	1%	0%	0%	0%	246	1%
Russia	6		173		6	0%	0%	0%	0%	185	1%
Belarus	31		157			0%	0%	0%	0%	157	0%
Israel	31		118			0%	0%	0%	0%	149	0%
Algeria	31		111			0%	0%	0%	0%	142	0%
Egypt	127		15			1%	0%	0%	0%	142	0%
Uzbekistan	2		80		50	0%	0%	0%	1%	132	0%
Indonesia	25		86			0%	0%	0%	0%	111	0%
South Africa	42		66			0%	0%	0%	0%	108	0%

(b) 2019\_extra-EU27\_equidae (exports in head, percentage, totals) - continued

Country	Exports in head				Exports in %				Total in head	Total %	
	pure-bred breeding horses	horses for slaughter	live horses (excl. for slaughter, pure-bred for breeding)	live asses	live mules and hinnies	pure-bred breeding horses	horses for slaughter	live horses (excl. for slaughter, pure-bred for breeding)			live asses
Bahrain	33		70			0%	0%	0%	0%	103	0%
South Korea	11		82			0%	0%	1%	0%	93	0%
Brazil	8		76			0%	0%	1%	0%	84	0%
Australia	43		37		1	0%	0%	0%	0%	81	0%
Ukraine	57		19	4		1%	0%	0%	3%	80	0%
Senegal	8		69			0%	0%	0%	0%	77	0%
Lebanon	51		12			1%	0%	0%	0%	63	0%
Colombia			51			0%	0%	0%	0%	51	0%
Guatemala	24		27			0%	0%	0%	0%	51	0%
Argentina	6		40			0%	0%	0%	0%	46	0%
Iran	42		3			0%	0%	0%	0%	45	0%
Taiwan	7		37			0%	0%	0%	0%	44	0%
Pakistan			41			0%	0%	0%	0%	41	0%
Vietnam			12	5	23	0%	0%	0%	3%	40	0%
Malaysia	1		38			0%	0%	0%	0%	39	0%
Chile	20		16	1		0%	0%	0%	1%	37	0%
Jordan	3		34			0%	0%	0%	0%	37	0%
Iraq			28		6	0%	0%	0%	0%	34	0%
Kazakhstan	34					0%	0%	0%	0%	34	0%
Tadjikistan	13		12			0%	0%	0%	0%	25	0%
Thailand			25			0%	0%	0%	0%	25	0%
Oman	6		19			0%	0%	0%	0%	25	0%
Andorra			21			0%	0%	0%	0%	21	0%
Ecuador	16		3			0%	0%	0%	0%	19	0%
Bosnia-Herzegovina	9		8			0%	0%	0%	0%	17	0%
Serbia	12		4			0%	0%	0%	0%	16	0%
Singapore	3		11			0%	0%	0%	0%	14	0%
Peru	4		6			0%	0%	0%	0%	10	0%

(b) 2019\_extra-EU27\_equidae (exports in head, percentage, totals) - continued

Country	Exports in head				Exports in %				Total in head	Total %	
	pure-bred breeding horses	horses for slaughter	live horses (excl. for slaughter, pure-bred for breeding)	live asses	live mules and hinnies	pure-bred breeding horses	horses for slaughter	live horses (excl. for slaughter, pure-bred for breeding)			live asses
Albania	7		3			0%	0%	0%	0%	10	0%
Congo			9			0%	0%	0%	0%	9	0%
Greenland	8					0%	0%	0%	0%	8	0%
Ivory Coast			8			0%	0%	0%	0%	8	0%
Philippines	3		5			0%	0%	0%	0%	8	0%
French Polynesia	6				2	0%	0%	0%	0%	8	0%
Azerbaijan	5				2	0%	0%	0%	0%	7	0%
Liechtenstein	2		5			0%	0%	0%	0%	7	0%
Panama	1		5			0%	0%	0%	0%	6	0%
Costa Rica			4			0%	0%	0%	0%	4	0%
Nicaragua	3		1			0%	0%	0%	0%	4	0%
Madagascar	3					0%	0%	0%	0%	3	0%
Dominican Republic	3					0%	0%	0%	0%	3	0%
New Zealand	1			1		0%	0%	0%	1%	3	0%
Kosovo	2					0%	0%	0%	0%	2	0%
Melilla			1		1	0%	0%	0%	0%	2	0%
Uruguay			2			0%	0%	0%	0%	2	0%
Surinam			2			0%	0%	0%	0%	2	0%
Macao					1	0%	0%	0%	0%	1	0%
Mauritius			1			0%	0%	0%	0%	1	0%
Georgia			1			0%	0%	0%	0%	1	0%
Not specified - Extra-EU		1				0%	0%	0%	0%	1	0%
Holy See						0%	0%	0%	0%		0%
Iceland						0%	0%	0%	0%		0%
Hong Kong						0%	0%	0%	0%		0%
Grand Total	9,084	1,018	14,069	159	7,795	100%	100%	100%	100%	32,125	100%



	Pure-bred breed-ing horses	Horses for slaughter	Live horses (excl. for slaughter, pure-bred for breeding)	Live asses	Live mules and hinnies	Total
Total share %	29.06%	28.64%	25.85%	2.26%	14.19%	100%
Total in head	25,523	25,149	22,699	1,989	12,457	87,817
Intra-EU %	29.52%	43.33%	15.50%	3.29%	8.37%	100%
Intra-EU in head	16,439	24,131	8,630	1,830	4,662	55,692
Extra-EU %	28.28%	3.17%	43.79%	0.49%	24.26%	100%
Extra-EU in head	9,084	1,018	14,069	159	7,795	32,125

#### IV. Methodology for the data extraction in Section I. 5

A fraction of the data presented in the first section (statistical data) related to non-human primates was extracted using the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) trade database. The categories chosen for the query were as follows:

- Year range: 2015-2020
- Exporting countries: all
- Importing countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom of Great Britain and Northern Ireland

- Source: all
- Purpose: educational; medical; scientific; commercial
- Trade Terms: live
- Search by taxon: primates

The selected output type was “semicolon separated” and the selected report type was “Comparative Tabulations”. Data extracted was organised in the following Excel sheet:

Year	Taxon	Importer	Exporter	Importer reported quantity	Exporter reported quantity	Purpose*	Source**
2015	Saguinus oedipus	DE	CH		2	T	C
2015	Daubentonia madagascariensis	GB	JP		1	S	C
2015	Lemur catta	DE	CH	3	3	T	C
2015	Chlorocebus sabaues	FR	KN	24	26	M	C
2015	Macaca fascicularis	DE	MU		200	M	C
2015	Macaca fascicularis	DE	MU	400	200	M	F
2015	Macaca fascicularis	DE	VN	200		M	C
2015	Macaca fascicularis	DE	VN		200	T	C
2015	Macaca fascicularis	ES	MU	940	1286	M	F
2015	Macaca fascicularis	ES	VN	100		M	C
2015	Macaca fascicularis	ES	VN		400	T	C

Year	Taxon	Importer	Exporter	Importer reported quantity	Exporter reported quantity	Purpose*	Source**
2015	Macaca fascicularis	FR	MU	1244	945	M	F
2015	Macaca fascicularis	FR	VN	502	502	T	C
2015	Macaca fascicularis	GB	MU	65	178	M	C
2015	Macaca fascicularis	GB	MU	760	1375	M	F
2015	Macaca fascicularis	GB	VN	392		M	C
2015	Macaca fascicularis	GB	VN	90	746	T	C
2015	Macaca fascicularis	NL	CN	518		M	C
2015	Macaca fascicularis	NL	CN		720	T	C
2015	Macaca fascicularis	NL	MU		240	M	C
2015	Macaca mulatta	FR	CN	69	69	T	C
2015	Macaca mulatta	NL	CN	13		M	C
2015	Macaca mulatta	NL	CN		40	T	C
2015	Macaca mulatta	SE	US	24		M	C
2015	Macaca mulatta	SE	US		24	T	C
2015	Galago senegalensis	NL	TG		5	T	W
2015	Chiropotes satanas	FR	ZA		1	T	F
2016	Saguinus oedipus	GR	CH		3	T	C
2016	Chlorocebus sabaues	FR	KN	19	25	M	C
2016	Macaca fascicularis	DE	MU	300	200	M	F
2016	Macaca fascicularis	DE	US	92	92	M	C
2016	Macaca fascicularis	ES	MU	2400	1017	M	F
2016	Macaca fascicularis	ES	VN	500	400	T	C
2016	Macaca fascicularis	FR	CH	16	17	M	C
2016	Macaca fascicularis	FR	MU	16	46	M	C
2016	Macaca fascicularis	FR	MU	1323	1359	M	F
2016	Macaca fascicularis	FR	VN	100		M	C
2016	Macaca fascicularis	FR	VN	360	560	T	C
2016	Macaca fascicularis	GB	MU	154	435	M	C
2016	Macaca fascicularis	GB	MU	256	763	M	F
2016	Macaca fascicularis	GB	VN	344		M	C
2016	Macaca fascicularis	GB	VN	90	744	T	C

Year	Taxon	Importer	Exporter	Importer reported quantity	Exporter reported quantity	Purpose*	Source**
2016	Macaca fascicularis	NL	MU	240		M	C
2016	Macaca mulatta	FR	CN		120	T	C
2016	Macaca mulatta	NL	CN	120		M	C
2016	Macaca nemestrina	FR	CN	7	7	S	C
2016	Galago demidoff	CZ	BJ		10	T	W
2016	Galago senegalensis	CZ	BJ		10	T	W
2016	Perodicticus potto	CZ	BJ		2	T	W
2017	Microcebus rufus	DE	CH	2		S	C
2017	Cercocebus atys	DE	GH		1	T	F
2017	Macaca fascicularis	DE	CN		132	S	C
2017	Macaca fascicularis	DE	MU	393	428	M	F
2017	Macaca fascicularis	DE	VN	50		M	C
2017	Macaca fascicularis	DE	VN	116	174	T	C
2017	Macaca fascicularis	ES	MU	1300	878	M	C
2017	Macaca fascicularis	ES	MU	1967	531	M	F
2017	Macaca fascicularis	ES	VN	630	1010	T	C
2017	Macaca fascicularis	FR	CN		198	T	C
2017	Macaca fascicularis	FR	MU	120	203	M	C
2017	Macaca fascicularis	FR	MU	1920	762	M	F
2017	Macaca fascicularis	FR	VN	528		M	C
2017	Macaca fascicularis	FR	VN	300	728	T	C
2017	Macaca fascicularis	GB	MU	245	365	M	C
2017	Macaca fascicularis	GB	MU	503	954	M	F
2017	Macaca fascicularis	GB	VN	212		M	C
2017	Macaca fascicularis	GB	VN	60	522	T	C
2017	Macaca fascicularis	NL	MU		270	M	C
2017	Macaca fascicularis	NL	MU		53	M	F
2017	Macaca nemestrina	FR	CN	12		M	C
2017	Macaca nemestrina	FR	CN		12	T	C
2017	Papio hamadryas	GB	KW		7	E	I
2018	Leontopithecus chrysomelas	DK	CH		1	T	C

Year	Taxon	Importer	Exporter	Importer reported quantity	Exporter reported quantity	Purpose*	Source**
2018	Pan troglodytes	GB	TR	1		E	I
2018	Saimiri sciureus	AT	GY	10	10	T	W
2018	Chlorocebus sabaues	FR	KN	24	14	M	C
2018	Chlorocebus sabaues	FR	KN		10	M	W
2018	Macaca fascicularis	DE	MU	149		M	C
2018	Macaca fascicularis	DE	MU	111		M	F
2018	Macaca fascicularis	DE	VN	294	309	T	C
2018	Macaca fascicularis	ES	MU	2150		M	C
2018	Macaca fascicularis	ES	MU	1950		M	F
2018	Macaca fascicularis	ES	VN	600	700	T	C
2018	Macaca fascicularis	FR	CH	7	7	M	C
2018	Macaca fascicularis	FR	CH	39	36	M	F
2018	Macaca fascicularis	FR	CH		1	M	R
2018	Macaca fascicularis	FR	CN		120	M	C
2018	Macaca fascicularis	FR	CN		240	T	C
2018	Macaca fascicularis	FR	MU	960		M	C
2018	Macaca fascicularis	FR	MU	1200		M	F
2018	Macaca fascicularis	FR	VN	902		M	C
2018	Macaca fascicularis	FR	VN		1047	T	C
2018	Macaca fascicularis	GB	MU	957		M	C
2018	Macaca fascicularis	GB	MU	1107		M	F
2018	Macaca fascicularis	GB	VN	542		M	C
2018	Macaca fascicularis	GB	VN	60	570	T	C
2018	Macaca fascicularis	NL	CN	420		M	C
2018	Macaca fascicularis	NL	CN		720	T	C
2018	Macaca fascicularis	NL	MU	107		M	F
2018	Macaca mulatta	FR	US	22		M	C
2018	Macaca mulatta	FR	US	22	22	M	F
2018	Macaca mulatta	NL	CN		120	S	C
2018	Papio hamadryas	GB	KW	7		E	I
2019	Lemur catta	CZ	CH	7		T	C



Year	Taxon	Importer	Exporter	Importer reported quantity	Exporter reported quantity	Purpose*	Source**
2019	Cebus albifrons	GB	US	1		T	F
2019	Chlorocebus sabaeus	FR	KN		9	M	C
2019	Macaca fascicularis	DE	MU	117		M	C
2019	Macaca fascicularis	DE	MU	73		M	F
2019	Macaca fascicularis	DE	VN	386		T	C
2019	Macaca fascicularis	ES	MU	1198		M	C
2019	Macaca fascicularis	ES	MU	465		M	F
2019	Macaca fascicularis	ES	VN	100		M	C
2019	Macaca fascicularis	ES	VN	500		T	C
2019	Macaca fascicularis	GB	MU	810		M	C
2019	Macaca fascicularis	GB	MU	488		M	F
2019	Macaca fascicularis	GB	VN	552		M	C
2019	Macaca fascicularis	GB	VN	90		T	C

\* T: Commercial; M: Medical; S: Scientific; E: Educational

\*\* C: Captive-bred animals; F: Born in captivity (F1 and subsequent); I: Confiscations/seizures; R: Ranched; W: Wild

The data presented in comparative tabulations are summed, rather than being provided on a shipment-by-shipment basis. This means that all quantities traded are added together for all records where the following details are the same: taxon, term, importer, exporter, country of origin, purpose of transaction, source of specimen and the year in which the trade occurred. If all these details are reported identically by both the exporter and importer, the transactions will appear on the same line of the tabulation. It should be noted that the details of a particular transaction reported by both the exporter and importer frequently fail to show perfect correlation, and therefore will not appear in the same line of the comparative tabulation. This is

often for one or more of the following reasons: the source of the items and purpose of the transaction are often reported differently, if at all; trade terms may also be reported differently for the same items in trade; one of the trading partners may not have submitted a report for the year in question, or may not be a CITES Party; specimens may be exported at the end of one year but not received by the importer until the following year; trade may be reported at species level by one country and at a higher taxonomic level by another. The quantity of specimens reported as imports by the importing country and the quantity of specimens reported as exports by the exporting country may also be reported differently.

## Sheep on a truck.

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