



Regulation (EC) No 1/2005 on the protection of animals during transport and related operations

European
Implementation
Assessment

STUDY

EPRS | European Parliamentary Research Service

Editor: Alina Dinu
Ex-Post Evaluation Unit
PE 621.853 – October 2018

EN

Regulation (EC) No 1/2005 on the protection of animals during transport and related operations

European Implementation Assessment

In March 2018, the Conference of Presidents (CoP) of the European Parliament tasked the Committee on Agriculture and Rural Development (AGRI) with preparing an implementation report on the implementation of Council Regulation (EC) No 1/2005 on the protection of animals during transport, appointing Jørn Dohrmann (ECR, Denmark) as rapporteur.

Implementation reports by European Parliament committees are routinely accompanied by European Implementation Assessments, drawn up by the Ex-Post Evaluation Unit of the Directorate for Impact Assessment and European Added Value, within the European Parliament's Directorate-General for Parliamentary Research Services.

Regulation (EC) 1/2005 came into force on 25 January 2005 and is aimed at protecting the welfare of animals during transportation. It lays down common rules for the transport of live vertebrate animals between EU countries in order to prevent injury or unnecessary suffering to the animals.

This European Implementation Assessment (EIA) looks, from a desk-research based perspective, at the general implementation of the regulation, with a focus on data recording, as well as at compliance with the technical rules as set out in Annex I on fitness for transport. This EIA does not therefore represent an overall and comprehensive evaluation of Regulation (EC) 1/2005.

Our findings, based on existing data, reveal a mixed picture of implementation, with progress but also problematic issues and areas where progress is needed in the future.

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LINGUISTIC VERSIONS

Original: EN

Manuscript completed in September 2018.

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PE: 621.853

ISBN: 978-92-846-3317-3

DOI: 10.2861/15227

CAT: QA-04-18-757-EN-N

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Executive summary

Regulation (EC) No 1/2005 aims basically to avoid injury or undue suffering to animals during transport. It applies to all live vertebrate animals transported in connection with an economic activity within the European Union, as well as to all consignments entering or leaving the customs territory of the Community. The regulation also defines the responsibilities of all actors involved in the transport of live animals across Member States, entering or leaving the EU.

The main points of the regulation cover:

- general conditions for the transport of animals – Chapter I (as regards, for instance, prior arrangements before transport and the means of transport);
- specific requirements for transporters, keepers and assembly centres – Chapter II (such as transport documentation, planning obligations, compliance with the rules set up by the regulation);
- obligations for competent authorities – Chapter III (such as inspections, issue of authorisations, checks, trainings for staff);
- enforcement measures and exchange of information – Chapter IV (inter alia, emergency measures in the event of non-compliance with the regulation by transporters, penalties, infringement procedures).

The results presented in this EIA are designed primarily to support the European Parliament Committee on Agriculture and Rural Development (AGRI) in the preparation of an implementation report on the implementation of Council Regulation (EC) No 1/2005.

The implementation of Regulation (EC) 1/2005 is assessed from a literature review perspective, as well as through the analysis of already existing data. The evaluation relied on two main sources of information, annexed to this European Implementation Assessment. The research was conducted between July and September 2018. The research papers published as Annexes I and II¹ in this EIA, were written at the request of the Ex-Post Evaluation Unit of the European Parliamentary Research Service, as follows:

- Annex I: Research Paper on Implementation of Regulation (EC) No 1/2005 (2009-2015), with a focus on data recording; and
- Annex II: Research Paper on Compliance with the technical rules on fitness for transport set out in Annex I of Regulation (EC) No 1/2005 on the protection of animals during transport.

A very limited number of interviews was also carried out (within the project presented in Annex I). The main findings and conclusions are not taken into account as evidence, but serve as examples of the various challenges faced by different actors or stakeholders regarding the implementation of Regulation (EC) 1/2005 or other animal transport related issues.

The assessment of Regulation (EC) 1/2005 carried out under the current research project does not represent a full evaluation of its implementation. Therefore, the five criteria for evaluation – effectiveness, efficiency, coherence, relevance and EU added value – have not been expressly examined in a systematic way, but certain elements have been deduced in general terms from the analysis of the available data, showing some progress as regards the *effectiveness* of the regulation or confirming its *added value*.

¹Baltussen and van Wagenberg 2018, Annex I; Spoolder and Ouweltjes 2018, Annex II.

As a general conclusion in relation to the elements evaluated in this project, it can be said that progress has been made since the adoption of the regulation, but problematic issues and areas where progress is needed in the future still exist. Both the general implementation of the regulation and the specific elements that this EIA looked at (the process of returning the journey logs and fitness for travel) have improved. However, number of issues remain to be solved, such as: the long-distance transport of unweaned calves, the need to ascertain the state of pregnancy of live animals, the extent to which the journey logs are checked, the infringement-enforcement-penalty relationship, the 'mixed' impact of training, education and certification, border controls, etc. Some of them will remain unresolved because of different legal systems in the EU Member States, different priorities, or different interpretations of the regulation.

It is also worthy of note that there is a lack of public data and good indicators for the development of animal welfare during transport of live animals. It is also difficult to appraise the real impact of alternative policy options (such as having fewer rules or limiting the journey time for animals to eight hours) or the recommendations of the European Food Security Agency (EFSA) on animal welfare during transport.

Finally, enforcement of the regulation seems to be the main concern of the actors involved in the implementation of Regulation (EC) 1/2005.

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Acknowledgments

EPRS would like to thank the colleagues from the European Commission for their much appreciated cooperation within this research project, in particular:

- the Unit F2 - 'Animals' in Grange, Ireland (Health and Food Safety Directorate-General – DG SANTE); and
- the TRACES team (Health and Food Safety Directorate-General – DG SANTE).

Abbreviations

ECA	European Court of Auditors
EFSA	European Food Safety Authority
EIA	European Implementation Assessment
FVO	Food and Veterinary Office
TRACES	Trade control and expert system

1. Protection of animals during transport – EU legal framework

1.1. Animal welfare policy in the EU – general and historical considerations

Animal welfare is the way 'an animal is coping with the conditions in which it lives (...) [it] is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress'.²

In the 1960s, a report by the UK Technical Committee to Enquire into the Welfare of Animals kept under Intensive Livestock Husbandry Systems³ led to the establishment of the 'Five Freedoms', describing the right to welfare of animals under human control:

- freedom from hunger and thirst;
- freedom from discomfort;
- freedom from pain, injury and disease;
- freedom to express normal behaviour; and
- freedom from fear and distress.

These freedoms are nowadays internationally recognised as guiding principles for rules and policies relating to animal welfare. Nevertheless, animal welfare is not limited to these freedoms, but considered from a broader perspective, which takes into account animals' needs.⁴ Moreover, from the 1980s onwards, scientists began more and more to connect welfare with animals' feelings.⁵

At European level, the first concrete legal step aimed at promoting animal welfare actually dates back to the seventies with the adoption in 1974 of Council Directive 74/577/EEC on stunning of animals before slaughter. Since then, several actions and measures have been taken, with both direct and indirect effects on animal welfare.

Animal welfare entered the Community Treaties with a Declaration on Animal Welfare included in the Maastricht Treaty (1993). A few years later, in 1997, that declaration became a protocol with legal status, and the Treaty of Amsterdam officially recognised animals as sentient beings, meaning that they are capable of feeling pleasure and pain and can no longer be treated as things, objects or goods. The Protocol on Animal Welfare annexed to the Treaty of Amsterdam imposed an obligation on EU institutions and Member States to take account of animal welfare considerations and was later integrated as Article 13 in the Treaty of Lisbon, which reads: 'In formulating and implementing the Union's agriculture, fisheries, transport, internal market, research and technological development and space policies, the Union and the Member States shall, since animals are sentient beings, pay full regard to the requirements of animal welfare, while respecting the legislative or

² World Organisation for Animal Health, [Terrestrial Animal Health Code](#).

³ For details on this topic, see the UK Farm Animal Welfare Council [website](#).

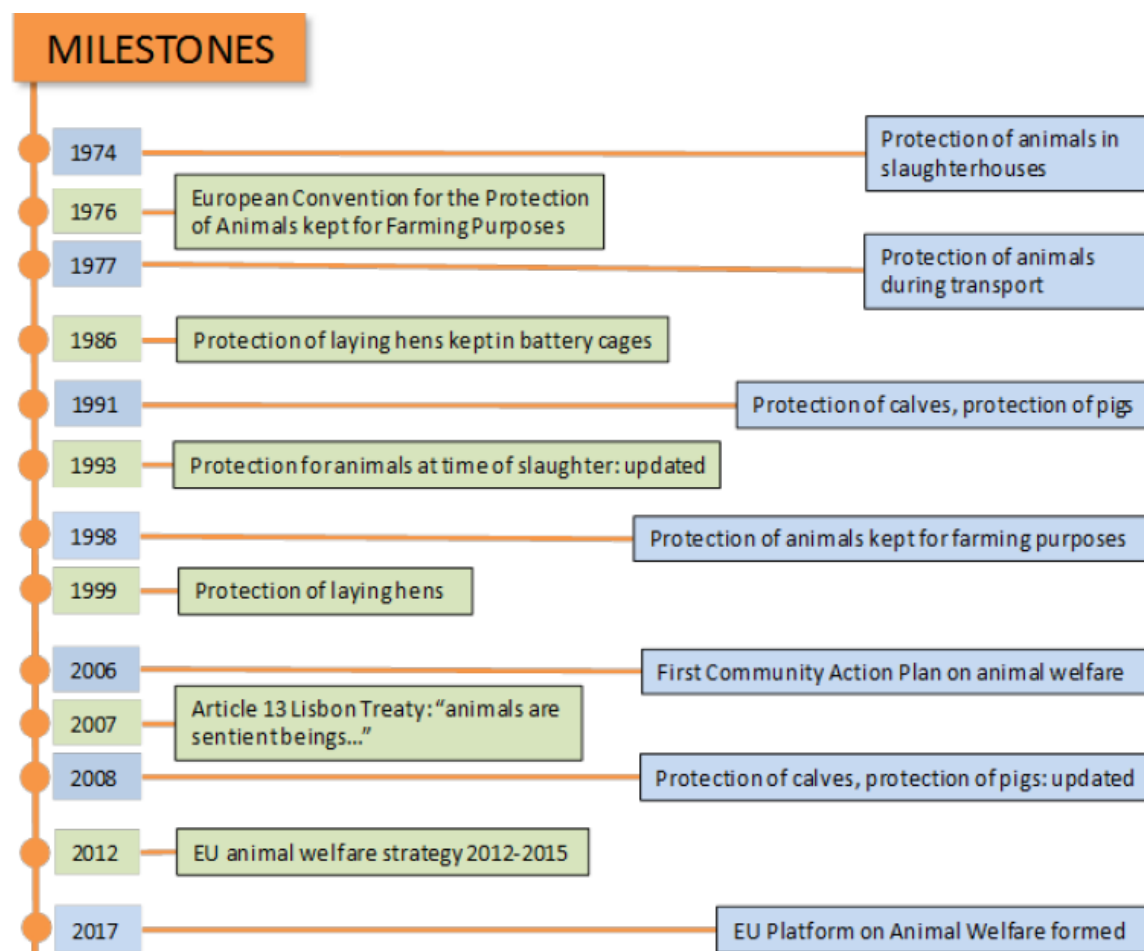
⁴ See [Animal Welfare in the European Union](#), Directorate-General For Internal Policies, European Parliament, 2017.

⁵ See, inter alia, M. Dawkins, *Animal Suffering*, Chapman and Hall, London, 1980; I. Duncan, 'Animal rights – animal welfare: a scientist's assessment', *Poultry Science*, Vol. 60 (3), 1981, pp. 489-499; I. Duncan, 'A concept of welfare based on feelings', in G. Benson and B. Rollin (Eds.), *The Well-Being of Farm Animals: Challenges and Solutions*, Blackwell, Ames, Iowa, 2004, pp. 85-101.

administrative provisions and customs of Member States relating in particular to religious rites, cultural traditions and regional heritage’.

The table below presents the main achievements relating to the protection of animals in the European Union:

Figure 1 – Key action on animal welfare at EU level



Source: European Court of Auditors (ECA), [Background paper: Animal welfare in the EU](#)

EU legislation on animal welfare covers all stages of a farm animal's life while on the farm, during transport and at the time of killing. This legislation relates mainly to animals that are considered in an economic context (subject to trade between Member States or with third countries). A key element of this policy is the enforcement of the legislation, leading over the years to certain improvements as regards animal welfare in the EU.⁶ Enforcement relies on both national and European action, in accordance with the principle of subsidiarity.

⁶[Animal Welfare in the European Union](#), Directorate-General for Internal Policies, European Parliament, 2017.

To improve welfare standards in the EU, an animal welfare strategy⁷ was adopted in 2012⁸, for the period 2012-2015. The main purposes of the strategy focused on implementation and enforcement of existing standards, information of all involved actors and coordination with the common agricultural policy. The strategy included a list of 20 actions to be taken, such as reports on implementation or policy alternatives, enforcement activities, studies on policy issues and a possible legislative proposal.

To ensure continuity of actions defined by the strategy, the European Parliament insisted on the need to draw up a new animal welfare strategy for the 2016 to 2020 period.⁹ The Parliament's intergroup on welfare and conservation of animals¹⁰ also called on the Commission to put forward a new animal welfare strategy and to deliver results on all planned initiatives.¹¹

At the Commission level, no intention was expressed 'to address the possible proposal for a simplified EU legislative framework for animal welfare'. In the same vein, the Council was not in favour of new legislation, focusing instead on a better application of existing legislation on animal welfare.¹²

At the time of writing of this EIA, the European Court of Auditors (ECA) is carrying out an evaluation to check 'whether action by the European Commission and the Member States has made an effective contribution to achieving the EU's animal welfare objectives'.¹³

1.2. Protection of animals during transport: Regulation (EC) No 1/2005

The protection of animals during transport is an important aspect of animal welfare. The European Union has a harmonised legal framework for animal transport, designed to provide a level playing field for operators and a sufficient level of protection for the transported animals. Animal transport within EU is currently regulated by Regulation (EC) No 1/2005,¹⁴ amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) No 1255/97.¹⁵

1.2.1. Scope of the regulation

According to Article 1, Regulation (EC) 1/2005 applies 'to the transport of live vertebrate animals carried out within the Community, including the specific checks to be carried out by officials on

⁷ Communication from the Commission to the European Parliament, the Council, and the European Economic and Social Committee the European Union Strategy for the Protection and Welfare of Animals 2012-2015, [COM\(2012\) 6 final/2](#).

⁸ This strategy was preceded by a Community action plan on the protection and welfare of animals, covering the 2006 to 2010 period (see the Commission's communication to the European Parliament and the Council of 23 January 2006 on a Community action plan on the protection and welfare of animals 2006-2010 [[COM\(2006\) 13](#)]).

⁹ European Parliament, [Resolution on a new animal welfare strategy for 2016-2020](#), 26 November 2015.

¹⁰ The [intergroup](#) brings together EP Members from different political parties aiming at organising informal exchange of views on animal welfare issues, as well as promoting contact between Members and civil society.

¹¹ B. Rojek-Podgórska, [EU animal welfare strategy, 2012-2015. State of play and possible next steps](#), EPRS, European Parliament, 2016.

¹² Idem.

¹³ [Animal welfare in the EU](#), Background paper, European Court of Auditors, January 2018.

¹⁴ Council [Regulation \(EC\) No 1/2005](#) of 22 December 2004 on the protection of animals during transport and related operations and amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) No 1255/97.

¹⁵ Council [Regulation \(EC\) No 1255/97](#) of 25 June 1997 concerning Community criteria for control posts and amending the route plan referred to in the Annex to Directive 91/628/EEC

consignments entering or leaving the customs territory of the Community'. The regulation therefore covers the transport of mammals, birds, reptiles, amphibians and fish.

Two types of exceptions are established as regards the scope of the regulation:

- certain animals¹⁶ are subject only to Articles 3 (General conditions for the transport of animals) and 27 (Inspections and annual reports by the competent authorities) of the regulation;
- the regulation does not apply to the transport of animals that does not take place in connection with an economic activity, nor to the transport of animals directly to or from veterinary practices or clinics, under the advice of a veterinarian.

In addition, the application of the regulation should not prejudice Community veterinary legislation¹⁷ and should not be an obstacle to stricter national measures in the field.

Regulation (EC) 1/2005 also applies to all the actors involved in the transport of live animals entering or leaving the EU: organisers, transporters, keepers, assembly centres, official veterinarians, as well as national competent authorities and Member States.

1.2.2. Goal, content and instruments

Regulation (EC) No 1/2005 aims to prevent injury or undue suffering to animals during transport. In this respect, Article 3 of the regulation sets up the general conditions for the transport of animals. In addition, the regulation puts in place instruments meant to:

- prevent animals from being transported in a way that does not comply with the conditions and requirements laid down by Regulation (EC) 1/2005, namely: prior inspection and approval of means of transport (Article 7), transport authorisations (Articles 10 and 11), checks by competent authorities before long journeys, checks by competent authorities at any stage of a long journey (Articles 14 and 15), training of staff and equipment for competent authorities (Article 16), training courses and certificates of competence for transporters and personnel of assembly centres (Article 17), certificates of approval for means of transport by road (Article 18), certificates of approval of livestock vessels (Article 19), inspection on loading and unloading of livestock vessels (Article 20), checks at exit points and border inspection posts (Article 21), inspections and annual reports by the competent authorities (Article 27), as well as any necessary action required to safeguard the welfare of the animals in the event of an emergency (Article 23).
- dissuade from practices that do not comply with the requirements of the regulation by means of infringement measures and penalties (Articles 25 and 26).

All technical and practical aspects to be complied with in relation to the application of Regulation (EC) 1/2005 are detailed in its annexes: Annex I refers to technical rules, Annex II to journey logs, Annex III lists the various types of forms and Annex IV deals with training courses. The two last annexes refer to international agreements and international standards for containers, pens and stalls appropriate for transporting live animals by air.

¹⁶ This refers to 'transport of animals carried out by farmers using agricultural vehicles or means of transport belonging to them in cases where the geographical circumstances call for transport for seasonal transhumance of certain types of animals' and, 'transport carried out by farmers, of their own animals, in their own means of transport for a distance of less than 50 km from their holding' (Article 3 of Regulation (EC) 1/2005).

¹⁷ Legislation listed in Chapter I of Annex A to Directive 90/425/EEC (3) and subsequent implementing rules.

1.2.3. Requirements

Regulation (EC) 1/2005 lays down different types of requirements to ensure the protection of all animals transported for economic purposes:

- general provisions/requirements for all animal species covered by the regulation: protection during transport; means of transport and transport practices; space allowances; duties of transporters; fitness to travel; feed, water and rest periods; competent and/or trained handlers; treatment of sick animals;
- specific (additional) requirements by animal species: provisions for cattle, sheep, pigs and goats; equids; poultry; cats and dogs; fur animals; rabbits; other mammals and birds;
- requirements related to journeys (long journeys): the regulation introduces specific requirements for long journeys (more than eight hours) between EU countries and destinations outside the EU;
- requirements by type of transport: by road, by sea, by air;
- requirements by type of actor: transporters, keepers, operators, assembly centres, official national competent authorities, etc.;

The regulation also establishes requirements for emergency situations or failure to apply the welfare rules, such as: changing the driver or attendant, making a temporary repair to the means of transport, moving the consignment into another vehicle, returning the animals to their point of departure, unloading the animals and keeping them in suitable temporary accommodation.

1.2.4. Actors and their specific duties

The provisions of Regulation (EC) 1/2005 include duties and obligations for all the actors involved in animal transport, with specific requirements for each category of actor.

Organiser. The organiser is defined by the regulation as being a transporter who has a subcontracting arrangement with at least one other transporter for a part of a journey; or a natural or legal person who has contracts with more than one transporter for a journey; or a person who has signed Section 1 of the journey log as set out in Annex II. Under the regulation, organisers have planning/and coordination obligations and obligations relating to transport documents (journey log).

Transporter. A transporter is, according to Regulation (EC) 1/2005, any natural or legal person transporting animals on his own account, or for the account of a third party. Under the regulation, the transporters are under general obligations relating to the transport of animals, transport documentation, planning, the use of required equipment, training courses and certificates of competences.

Keeper. In accordance with the regulation, a keeper is natural or legal person, except a transporter, in charge of or handling animals, whether on a permanent or temporary basis. Keepers must check and ensure that all requirements regarding animals being transported are met, and comply with the provisions on the journey log.

Assembly centre. These are places (such as holdings, collection centres and markets) where domestic equids or domestic animals of bovine, ovine, caprine or porcine species originating from different holdings are grouped together to form consignments. They must ensure that animals are treated in accordance with the provisions and requirements of Regulation (EC) 1/2005, which are also communicated to people admitted to the assembly centre, provide training courses for staff handling animals, put in place and enforce internal rules in order to ensure compliance with their obligations under the regulation, and also provide the necessary equipment (for tethering), when needed.

Veterinarians. Regulation (EC) 1/2005 defines 'official veterinarians' as veterinarians appointed by the competent authorities of Member States. The regulation states that they shall check whether the animals are transported in compliance with its provisions and shall, at the exit points and border inspection posts, perform and record the checks required in Annex II of the regulation.

Control posts. For long journey transport, an important role is played by control posts, which are 'places where animals are rested for at least 12 hours or more' (Article 36¹⁸ (2)). According to the regulation, the control posts must a) be located in an area that is not subject to prohibition or restrictions in accordance with relevant Community legislation; (b) be under the control of an official veterinarian (...); (c) operate in compliance with all the relevant Community rules regarding animal health, the movement of animals and the protection of animals at the time of slaughter; (d) undergo regular inspection, at least twice a year (...) and comply with all requirements described in Annex I of Regulation (EC) 1/2005.

Competent authority. The competent authority is the central authority of a Member State competent to carry out checks on animal welfare or any authority to which it has delegated the task. The duties and obligations of competent authorities refer to: prior inspection and approval of means of transport, the granting of authorisations to the transporters, the granting of certificates of approval of means of transport, trained and equipped staff, checks and other measures carried out before long journeys and at any stage of a long journey, inspection on loading and unloading of livestock vessels, checks at exit points and border inspection posts, measures to prevent or reduce to a minimum delays during transport, taking or requiring emergency measures, as well as enforcement work and specific measures regarding infringements.

Member States. According to the regulation, Member States must lay down the rules on penalties applicable to infringements of the provisions of the regulation and take all measures necessary to ensure that they are implemented, notify the rules on penalties and infringements, communicate and send notifications for the purposes of the regulation, submit to the Commission by 30 June each year an annual report on the inspections carried out in the previous year, and encourage the development of guides to good practice. The regulation also entitles Member States to grant derogations.

Finally, Regulation (EC) 1/2005 also describes (Annex I, Chapter III) the practices to be followed by the actors concerned when dealing with animal transport.

1.2.5. Enforcement

Enforcement is one of the key elements necessary to ensure compliance with the provisions, rules and standards laid down by the regulation.

Primary responsibility for enforcing Regulation (EC) 1/2005 lies with national competent authorities, which carry out routine and welfare checks on both animals and means of transport and take appropriate enforcement measures. These measures are intended to safeguard the welfare of the animals and must be proportionate to the seriousness of the risks involved (Article 23).

According to Article 25, 'Member States shall lay down the rules on penalties applicable to infringements of the provisions of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive'. Any infringement of the regulation implies 'appropriate measures' to be taken by Member States, such as notifications (requiring the transporter, for instance, to remedy the breaches

¹⁸ Article 36 refers to amendments to [Regulation \(EC\) No 1255/97](#) concerning Community criteria for staging points and amending the route plan referred to in the Annex to Directive 91/628/EEC.

observed; or making additional checks on the transporter concerned; or suspending or withdrawing the transporter's authorisation or the certificate of approval for the means of transport concerned) or, in the case of 'repeated or serious infringements', even the temporarily prohibition, for the transporter or means of transport concerned, from transporting animals on the territory, even if the transporter or the means of transport is authorised by another Member State (Article 26 (6)).

2. Implementation of Regulation (EC) 1/2005 – key findings¹⁹

2.1. Scope and methodology of the EIA

The following aspects relating to the implementation of Regulation (EC) 1/2005 were looked at under this research project:

- the general implementation of the regulation during the 2009 to 2015 period (Annex I of this EIA);
- the return of journey logs by transport companies to the competent authorities (Annex I of this EIA);
- certain elements relating to the enforcement of the regulation (Annex I of this EIA);
- compliance with the rules on fitness for transport (Annex II of this EIA).

Given the very tight deadline for the preparation of this EIA, only limited research tools could be used. Therefore, the findings are based exclusively on a literature review and analysis of existing data, as referred to in the two research papers annexed to this EIA.

The same time constraints and insufficient available data meant that the five standard criteria for evaluation, namely effectiveness, efficiency, coherence, relevance and EU added value, could not be checked in full; instead, certain elements could be deduced in general terms from the analysis of the data available. Nevertheless, the assessment carried out throughout this EIA can usefully help to identify some of the developments, benefits, shortcomings and challenges in the implementation of Regulation (EC) 1/2005, as well as provide input for future (and more comprehensive) evaluations.

2.2. Implementation of Regulation (EC) 1/2005 – general aspects

The literature on animal transport in general is extremely limited, while the academic sources on topics relating to the implementation of Regulation (EC) 1/2005 *stricto sensu* are almost non-existent.

Four main sources of information have been identified and used within this research project:

- academic literature;
- EU-level reports, evaluations and studies;
- an analysis of data registered in TRACES (the trade control and expert system managed by the European Commission);
- stakeholders' opinions.

Academic literature

Overall, it can be said that the academic literature focuses on the specific rather than general aspects of the impact of Regulation (EC) No 1/2005, such as: the impact of transport on the welfare of live animals; enforcement-related issues, the impact of training, education and certification on animal welfare during transport, and the impact on consumer attitudes. The conclusions, in relation to these issues, indicate that:²⁰

¹⁹ This section is based exclusively on the sources referred to in Baltussen and van Wagenberg 2018, Annex I and Spoolder and Ouweltjes 2018, Annex II.

²⁰ Please note that some of the articles/books included in this section date back as far as 2008; this means that some of their conclusions were pertinent at the time of publication, but might not be relevant or accurate anymore; for instance, as shown in Baltussen and van Wagenberg 2018, Annex I, the level of compliance has increased in the meantime.

- although certain conditions relating to animal welfare are getting better (for example, loading density and duration of the journey), there is still room for improvement. For instance, the welfare of horses being transported long distances to slaughter is considered by some authors as being poor and this includes a high level of non-compliance with Regulation (EC) 1/2005; other studies showed that pigs are more capable of adapting to long (550 km) transport conditions when loaded at a density below the current EU requirements;
- there is high variability in enforcement both within and between Member States of the EU, leading to persistent areas of non-compliance with legislation and diminished animal welfare – especially for those animals transported on long-distance journeys;
- training, education and certification on animal welfare during transport are necessary (a study published in 2017 concluded that 35 % of Danish livestock drivers have 'doubts regarding the fitness for transport of specific cows at least frequently' and that only half of them could answer legal questions about fitness for transport correctly) and may lead to positive changes (an example would be that certification of control posts could boost animal welfare at control posts during very long journeys), but does not guarantee a high level of animal welfare;
- informing the public about animal-transport related issues does not necessarily lead to a change of attitude (an information campaign on pig transport in Germany did not change the negative attitude of consumers).

In addition to the desk research, certain issues identified in the literature (enforcement, practices regarding returned journey logs, and export and import of live animals) were also touched upon/checked during four interviews organised with representatives of the European Commission (DG SANTE, Animal Health and Welfare Unit), a representative of the competent Dutch authority, a Dutch organisation for the trade and transport of live animals, and a transport company specialised in the export of breeding animals and production animals.²¹ The stakeholders interviewed generally agreed on the topics discussed.²² Based on their opinions, enforcement and the exchange of information are nowadays the main concerns among stakeholders. They also believe that, to a certain extent, harmonisation in this area can work to improve animal welfare. Nevertheless, the practical differences between Member States, generated by their different legal systems and policy priorities, remain, with unknown impact on animal welfare.

EU-level reports, evaluations and studies

Since its adoption at the end of 2004, no changes or adaptations have been made to Regulation (EC) 1/2005, although various stakeholders have made requests to this effect.²³ Nevertheless, Article 32 of the regulation requires that the European Commission present a report 'on the impact of this regulation on the welfare of animals being transported and on the trade flows of live animals within the enlarged Community'. This report should also 'take into account scientific evidence on welfare needs of animals, and the report on the implementation of the navigation system'. To this end, the Commission commissioned an external study to collect some of the necessary data.²⁴ The main conclusions of the study (published in 2011)²⁵ can be summarised as follows:

²¹ For details, see Baltussen and van Wagenberg 2018, Annex I.

²² A list of questions is provided in Baltussen and van Wagenberg 2018, Annex I.

²³ See Baltussen and van Wagenberg 2018, Annex I.

²⁴ Baltussen and al., Study on the impact of Regulation (EC) No 1/2005 on the protection of animals during transport, 2011.

²⁵ The European Commission based its [report](#) on the impact of the regulation (2011) on the findings of this study.

- the regulation led to a slight improvement in animal welfare;
- there are big differences between Member States as regards the progress made in implementation (enforcement and infringements); this has consequences both for animal welfare and regarding the level playing field for operators;
- costs for transport companies increased after the introduction of the regulation;
- the regulation had no impact on the trade flows of live animals.

For the evaluation carried out here, the main EU-level source is the audit reports of the Food and Veterinary Office (FVO) of the European Commission²⁶ and the inspection reports of the EU Member States. Some overview reports on study visits in Member States have also given certain indications on implementation issues.

The FVO conducted 40 audits in the 2009 to 2015 period, looking mainly at: the fitness for transport of animals; systems and procedures to licence companies, drivers and vehicles (equipment for unweaned calves, transport of laying hens); the enforcement of Regulation (EC) No 1/2005 (e.g. checks on journey logs, stock densities and journey duration; completeness of documentation); checks on journey logs after long-distance transport.

The focus of the audits and overview reports has varied over the years:

- from 2007 to 2012, special attention was paid to journey logs; several shortcomings were identified as regards the start of the journey, such as incomplete journey logs, no checks on realistic journey times, etc.;
- in 2017 and 2018, a series of FVO audits focused on the export of live animals to third countries and especially the Bulgaria-Turkey border crossing, given that almost 45 % of EU exports of live ruminants (cattle and sheep) by road exit the EU from Bulgaria to Turkey and bad conditions for live animals had been reported. These audits concluded that the risks of animal suffering can be minimised if all requirements regarding animal health are met, which is not the case for the time being;
- from 2014 to 2016, the focus of the overview reports was on sharing good practices among Member States.

From the data provided by the FVO reports (audits and overviews), it can be concluded that the main interest of the FVO controls is in moving from checks on the systems and procedures in place to sharing good practices among Member States; or from implementing Regulation (EC) No 1/2005 to harmonising its enforcement.

In addition, according to the inspection reports, it appears that the total number of checks carried out by the national competent authorities decreased in the 2009 to 2015 period, while the number of infringements and actions was more or less stable (which implies that there was a shift from a random approach towards inspections to a risk-based approach). The biggest number of infringements related to fitness for transport and documentation.

Analysis of data registered in TRACES

TRACES is the European Commission's electronic tool for all sanitary requirements on intra-EU trade and importation of animals, inter alia. The following data registered in TRACES were analysed as part of the current research project:

- the total number of consignments and animals per species in the 2005 to 2015 period;

²⁶ Now known as the 'Directorate for Audits and Analysis'; for more details see the dedicated [webpage](#) on the European Commission's website.

- the number of consignments with different travelling times;
- the number of consignments with long and very long transport per species (cattle, pigs, poultry, sheep and goats, and horses);
- the number of consignments for intra-EU movements and for movements for trade with third countries; and the
- total number of animals transported in the 2005 to 2015 period per species (cattle, pigs, poultry, sheep and goats, and horses).

An analysis of these data showed that the total number of animals transported within the EU increased by 19 % between 2009 and 2015, with differences between animal species (the number of heads of cattle, sheep and goats decreased, while the number of heads of horses, pigs, and heads of poultry increased). The same upward trend was followed by the number of consignments (in the 2005 to 2015 period), also with some differences between species (the number of consignments for cattle decreased, while it increased for poultry and for horses and remained quite stable for pigs, sheep and goats).

As for travelling times, the absolute number of short journeys (lasting less than 8 hours) increased in the 2009 to 2015 period, as well as the number of long and very long journeys. The percentages of short, long and very long journeys in the total number of journeys did not change in the 2009-2015 period (approximately 4 % of all consignments being very long journeys).

Trade in live animals with third countries represents a small part of all intra-EU trade (less than 10 %). Most consignments are for horses, cattle being the next largest group of animals traded with third countries (mainly export). Trade in these two species is the main reason for the increase in the number of consignments of exported live animals to third countries.

Stakeholders' opinions

Some stakeholders' opinions also gave indications of the current state of implementation of Regulation (EC) No 1/2005. Certain of the issues touched upon in this EIA were also looked at in papers drafted by non-governmental organisations or referred to during the interviews carried out within this research project. The main topics covered were: enforcement, practices regarding returned journey logs, extra-EU export and import of live animals, and the potential of alternative policies. It seems that stakeholders' concerns have shifted over the years from general conditions for transport and the obligations of actors involved to enforcement and the exchange of information.

Relevance, effectiveness, efficiency, coherence, and EU added value of Regulation (EC) 1/2005

Overall, it can be considered that Regulation (EC) No 1/2005 is still *relevant*, given that it promotes a level playing field for the transport of live animals within the EU and also for the export of live animals, and the number of consignments is still increasing, meaning that the regulation does not hinder the transport of live animals.

At the same time, its *effectiveness* seems to be progressing, but the lack of reliable indicators does not allow for any assessment of achievements regarding minimum animal welfare requirements. It is also hard to assess whether the existence of a wider system of infringements and penalties could guarantee more effectiveness *per se*.

As regards the *consistency* of Regulation (EC) 1/2005 with related EU legislation, progress has also been made. For example, in the case of consistency problems with Regulation (EC) No 561/2006²⁷ on driving time and rest periods of drivers the EU Court of Justice ruled ([C-469/14](#) – Masterrind) that the two regulations could coexist. This means that drivers can take their rest although the journey for animals will be extended). The *EU added value* of the regulation is somehow implicit, given that the trade with live animals within and outside the EU would be difficult in the absence of common rules and standards as regards animal transport.

Finally, *efficiency* has not been checked at all within this research project.

2.3. Checks on automatically recorded information on conditions during long journeys involving live animals

According to Article 5(4), Article 8(2)(a) and (c), Article 14 and Article 21(2) of Regulation (EC) 1/2005, the planning of a long journey (more than 8 hours) must include a journey log that provides information on planning; the point of departure; the destination; a transporter declaration, and a specimen anomaly report. All the requirements relating to the journey logs are detailed in Annex II of the regulation. These logs, including information on the journey completed, must be returned to the competent authority that authorised the transport. Since 2009 it has been mandatory for trucks transporting animals to be equipped with data recording tools.

In practice, these requirements do not necessarily lead to improved animal welfare, because the journey will be complete before the information is shared with the competent authorities. However, indirectly organisers will plan journeys better and have contingency plans in place should they have to deviate from the plan, simply to avoid fines. This will improve animal welfare during transport.

The FVO reports show that the practice of returning journey logs is progressing, but that most of them are returned without details of the tachograph and temperature monitoring. Detailed information is sent to the competent authorities only on request. Equipment is checked regularly and increasingly drivers are trained for animal transport.

A number of concerns remain and will persist because of the Member States' differing legal systems. The main uncertainties relate proper checks of journey logs, whether enforcement really takes place if infringements are detected, and whether penalties are really imposed. The uncertainties increase when infringements are found in relation to journeys made by foreign transport companies.

2.4. Enforcement

According to the regulation, enforcement falls mainly under the responsibility of the Member States. For the time being, public data or good indicators for the development of animal welfare during the transport of live animals, are lacking. Information on checks, infringements and actions taken by the national competent authorities (as reported in the Member States' inspection reports), together with the FVO's audit reports, give some indications on how enforcement is carried out. The academic literature (though very poor as regards this issue) and some stakeholders' reports may also contribute to a broader picture.

Overall, it can be said that:

²⁷ [Regulation \(EC\) No 561/2006](#) of the European Parliament and of the Council of 15 March 2006 on the harmonisation of certain social legislation relating to road transport and amending Council Regulations (EEC) No 3821/85 and (EC) No 2135/98 and repealing Council Regulation (EEC) No 3820/85.

- differences remain and will persist between Member States, for several reasons: differing legal systems, differing rules on when veterinarians can act, differing interpretation of the regulation and differing priorities;
- progress has been made (for instance: equipment is checked regularly; drivers are trained in transporting animals; enforcement is increasingly risk based);
- there are (and will continue to be) major differences in the penalty levels in the Member States;
- it is difficult to assess whether implementation of EFSA's recommendations could increase animal welfare during transport;
- enforcing the regulation is one of the main concerns at European level, and sharing good practices between Member States is a central element of the European approach to animal transport.

2.5. Compliance with the rules on fitness for transport

One of the key elements of animal welfare during transport is fitness for transport. In this respect, Regulation (EC) 1/2005 states in its Annex I (Chapter 1, point 1), that 'no animal shall be transported unless it is fit for the intended journey, and all animals shall be transported in conditions guaranteed not to cause them injury or unnecessary suffering'. The regulation establishes two types of requirement as regard fitness for transport:

1. the animals must be fit for the journey (Article 3);
2. in the case of long journeys, the competent authorities and official veterinarians must perform checks for fitness at the place of departure (Article 15(2)) and on loading and unloading (for livestock vessels) (Article 20 (a)). At exit points and border inspection posts, they must check whether the animals are fit to continue their journeys (Article 21 (1c), otherwise they must be unloaded, watered, fed and rested (Article 21 (3)).

Based on existing data on fitness for transport (some academic literature, 'grey' literature,²⁸ European Commission audits, reports delivered by Member States and other EU-level documents), the evaluation of compliance with these rules highlights several issues relating to legal requirements. It is important to mention that usable data only began to be made public or to be centralised in 2014, since when Member States have had to report explicitly on compliance with fitness for transport rules.

(1.) As regards the obligation to ensure that animals to be transported are fit for the journey, it appears that the understanding of the term 'fitness' itself seems to be problematic (with differing interpretations), and that the people concerned (farmers, drivers and inspectors) are inadequately trained. At the same time, despite a large number of guidelines on how to confirm fitness during loading and maintain it during the journey, problems still remain (one example is the difficulty in determining the stage of pregnancy). Other knowledge gaps regarding animal welfare have also been identified (not relating to the assessment of fitness for transport), such the provision of water for animals transported in cages or conditions for transporting chicks.

In some cases, a misinterpretation of fitness can also arise from an inappropriate context for transport: for instance, inadequate lighting during loading may hamper the identification of unfit animals, or poor information transfer to the driver may result in vulnerable animals being missed.

²⁸ Materials and research produced by organisations outside the academic context.

Another problematic element is the link between practical and economic considerations and fitness for transport; in this regard, the Commission audits concluded that practical and economic considerations regularly lead to situations where animals are declared fit when they are not.

(2.) According to Regulation (EC) 1/2005 (Article 27), the national competent authorities carry out non-discriminatory inspections in order to check compliance with the provisions of the regulation. In the case of fitness for transport, the checks have to be performed before authorisation for the journey is granted, as well as at the slaughterhouse (fitness following travel as part of the *ante mortem* inspections for food safety purposes).

Based on the inspection reports (data available for 2014 and 2015 only), it appeared that fitness for transport is responsible for the largest percentage of infringements (28 % and 43 % respectively), with very big differences between Member States, which could be explained by both erroneous reporting and different inspection strategies (random vs risk-based).

The inspection reports also reveal that the majority of inspections take place on arrival, and that the majority of infringements related to fitness are also detected then. Since the detection of an infringement at the start of the journey would have meant that the animal would not have been loaded, the reasons must be that either an inappropriate check for fitness at departure took place, or that fitness problems arose during transport.

The Commission's audit reports (2007 to 2017) also showed that in the Member States audited there were problems relating to fitness for transport, because unfit animals were allowed to travel (they had certificates of compliance from the veterinarians). Furthermore, in some EU countries official veterinarians, private veterinarians, farmers and transporters considered fit for transport animals that were unfit according to the regulation. There are several explanations for this: educational and cultural background (standards are not harmonised across Member States and people may lack training); an insufficiently clear and narrow legislative context (for instance, sometimes there is a long period between the establishment of the certificate and the actual transport and slaughter of the animal because the period during which certificates are legally binding is not restricted; the issue of certificates owing to a lack of good alternatives; the fact that in some countries veterinarians are not legally responsible for issuing certificates for animals unfit for travel; or inordinate pressure placed on veterinarians to sign certificates).

A 2012 European Parliament report²⁹ suggested that the costs incurred by transport companies make compliance with the provisions of Regulation (EC) 1/2005 economically unattractive.

One specific case is that of young animals (such as calves, lambs or piglets). According to the regulation, there are two requirements as regards their fitness for transport: age and healing of the navel. It is difficult in practice to assess compliance with these provisions, given that the competent authorities rely largely on farmers (it is up to them to declare the age or state of pregnancy of animals; cross checking with other data is not possible).

In addition to all this, compliance with the rules on fitness for transport is difficult to put into practice because no good alternatives exist. For instance, in some cases killing the animal on the farm would be the best option for animal welfare, but this does not happen for both economic and sanitary reasons (it costs more and generates less income as the carcass is no longer valued, and on-farm slaughter is complicated by EU hygiene legislation). This leads in practice to situations where animals are loaded even though they are unfit for travel.

²⁹ European Parliament, Report on the protection of animals during transport ([2012/2031\(INI\)](#)), 16 October 2012, quoted by Spoolder and Ouweltjes 2018, Annex I.

2.6. Conclusions

The various analyses carried out throughout this study gave some indications (despite the limited data) of the effectiveness, relevance, coherence and EU added value. In this respect, it appears that Regulation (EC) 1/2005 is still relevant, its effectiveness is progressing, some coherence issues have been overcome, and its EU added value is obvious.

The purpose of this EIA was to look in more detail at some specific aspects from an implementation perspective, namely: the general implementation of Regulation (EC) 1/2005, data recording, enforcement and compliance with the rules on fitness for transport. All of them were analysed on the basis of existing data.

The evaluation revealed a mixed picture of implementation, with some progress but also problematic issues and areas where progress is needed in the future. Overall, it can be concluded that both the general implementation of the regulation, as well as the specific aspects assessed in this EIA (return of journey log and fitness for transport) have improved. Nevertheless, fitness for travel remains an element of concern, given that it has the highest level of non-compliance, as shown in the Member State inspection reports. At the same time, there are other elements that can still be considered problematic, such as the long-distance transport of unweaned calves, ascertaining the state of pregnancy of live animals, the extent to which the journey logs are checked, the relation between infringements and enforcement-penalties, the 'mixed' impact of training, education and certification, and border controls, etc.

It is worth mentioning the lack of public data and good indicators for the development of animal welfare during transport of live animals. Also, it is difficult to appraise the real impact on animal welfare during transport of alternative policy options (such as having fewer rules or limiting the journey time for animals to 8 hours) or European Food Security Agency (EFSA) recommendations on the better safeguarding of animal welfare during transport.

It also appeared that, currently, enforcement of the regulation is one of the main concerns of the various categories of stakeholders, as well as the focus of the European Commission's approach to animal transport. However, for the time being there is no intention to modify the existing legislation.

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ANNEX I

Implementation of Regulation (EC) No 1/2005 (2009-2015), with a focus on data recording

Research Paper

A desk study and data analysis have been conducted regarding the implementation of Regulation (EC) NO 1/2005 with special attention for the returning of journey logs by transport companies to competent authorities and the export of live animals to third countries. Overall, the implementation is progressing. The majority of journey logs are returned to competent authorities and the Commission, the competent authorities, branch organisations and transport companies try to minimise animals suffering in case of exports of live animals to third countries.

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ADMINISTRATOR RESPONSIBLE

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LINGUISTIC VERSIONS

Original: EN

Manuscript completed in September 2018.

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PE: 621.853

ISBN: 978-92-846-3317-3

DOI: 10.2861/15227

CAT: QA-04-18-757-EN-N

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Executive summary

Introduction

Regulation (EC) No 1/2005 came into force in January 2007. This regulation covers the transport of live animals in the EU with regard to animal welfare. The Regulation has been evaluated in 2011 in accordance with Article 32 of the Regulation. Several stakeholders have asked the Commission to change the Regulation, mainly to increase animal welfare and to harmonise the enforcement. However, until 2018 the Regulation has not been changed and changes are not foreseen. Nevertheless, the Commission did execute projects to support better systems and procedures for safeguarding animal welfare during transport. Examples are 'high quality control posts' and 'guides to good practice' projects. The present strategic plan¹ of the Commission is focused on enforcement of existing rules in Member States.

Objective and methodological approach

The objective of the research paper is to provide an overview of process of implementation of Council Regulation (EC) No 1/2005 in the period 2009-2015. For this period public information is available. Specific attention is paid to the processes regarding the checks on the automatically recorded information on conditions during long journeys of live animals and the trade of live animals with third countries (import to and export from the EU). The scope is limited to the EU, the period 2009-2015 and only farmed animals are investigated. The research paper is mainly based on desk research. Scientific literature and audit reports of the FVO combined with data analysis of TRACES data¹² and the data in the inspection reports of Member States have been analysed. Four interviews with DG SANTE, a competent authority, a branch organisation and a transport company were held. During these interviews, some of our main findings have also been discussed with the interviewees.

Trade flows of live animals

In the period 2009-2015, the number of consignments with live animals in the EU increased from 400,000 to 430,000 per year. A similar increase was observed for the number of animals moved. The number of consignments with poultry is increased, and those of cattle is decreased. For the other animal species it remained quite stable. The number of consignments of all durations (less than 8 hours, over 8 hours) increased. Almost all transport with live animals is intra-EU trade. The trade of live animals with third countries is limited to 35,000 consignments in 2015.

Checks and audits

Official veterinarians check the transport of live animals at arrival at slaughterhouses, at departure in case of intra-EU trade or export and during road controls. Each Member State reports about the checks, the number of infringements and actions undertaken. The total checks by national competent authorities related to Regulation (EC) No. 1/2005 went down from 2.3 million in 2007 to 1.3 million in 2015. The number of infringements (14,000 to 20,000 per year) and number of actions (10,000 per year) more or less stable from 2007-2015. The majority of the infringements are related to fitness for transport and documentation.

DG SANTE, Directorate for Audits and Analysis (the former FVO) preforms audits in Member States to check whether the Regulation is well implemented. The focus of these audits changed from

¹ https://ec.europa.eu/info/publications/strategic-plan-2016-2020-health-and-food-safety_en

² Database of the European Commission in which the operators must enter data about the animals, transport itinerary, and transport vehicle to get permission for the transport of live animals intra-EU and to third countries.

checks on systems and procedures in place to implement Regulation (EC) No 1/2005 in the first year after the implementation in 2007 to sharing good practices between Member States to harmonise enforcement of Regulation (EC) No 1/2005 in recent years. Also special issues like fitness for transport, export of live animals and educating professionals on animal welfare were audited.

Literature

There is only a limited amount of scientific literature about transport of live animals in the EU. Most of the literature deals with alternative policy options, the impact of transport on animal welfare and the impact of training, education and certification on animal welfare. Most findings related to technical conditions are assessed by the European Food and Safety Authority (EFSA) and translated into recommendations for the Commission. This was last done in 2011. Findings shows that training, education or certification is not a guarantee for good animal welfare. On the other hand, all stakeholders need to be trained and need to work with good equipment for a better animal welfare.

The interviews held with DG SANTE, Unit F2 and with the Dutch competent authority, a Dutch branch organisation of trade and transport and an international Dutch transport company gave indications of the current state of implementation of Regulation (EC) No 1/2005. On the topics discussed they more or less agreed with each other. The general conditions and the obligations for competent authorities, transporters, keepers and assembly centres, have been discussed shortly after the implementation but are not discussed anymore between these stakeholders. This is also the picture of the FVO audits in other countries. The current discussion focuses on enforcement and exchange of information. To a certain extent, harmonisation in this area can improve animal welfare. However, all Member States have their own legal system and priorities which are very hard to change. So, in the future differences will remain. The impact of these differences on animal welfare is difficult to determine.

The next steps made by DG SANTE in the harmonisation of implementation of Regulation (EC) NO 1/2005 and in improving animal welfare are:

- The introduction of good practices on transport of live animals where governments, scientists and business work together and
- the introduction of good practices on official controls where national competent authorities work together

DG SANTE and national competent authorities also pay attention to situations where animal suffering can be expected such as fitness for travel, long-distance transport of unweaned calves and border controls.

It is expected that all these activities will positively influence animal welfare. The exact impact of such policy measures on animal welfare during transport remains unknown.

Answer to the basic questions

Overview of the implementation of Council Regulation (EC) No 1/2005

Regulation (EC) No 1/2005 is still very relevant and helps to harmonise animal welfare rules during transport within the EU. It creates a level playing field for transport of live animals throughout the EU and also for the export of live animals. Since transport is still increasing, this shows that this Regulation does not hinder the transport of live animals. The effectiveness of Regulation (EC) No 1/2005 has increased since 2009 since progress has been made on animal welfare during transport. To what extent the effectiveness could be improved if an EU-wide system of enforcement and penalties would exist is unknown. However, 95% or more of the animals raised in a Member State are slaughtered in the same Member State (IBF, 2017) and for all these transports there is a level playing field, also regarding enforcement and penalties. Efficiency has not been researched and

cannot be scored. The EU added value of Regulation (EC) No 1/2005 is clear. Intra-EU trade and trade with third countries of live animals would be fairly impossible if all 28 Member States would have their own rules regarding the transport of live animals. Regulation (EC) No 1/2005 (rules about driving and rest times of animals) raised some coherence problems with Regulation (EC) No 561/2006 (rules about driving and rest times of drivers). According to the Masterrind Ruling of 28 July 2016 the two Regulations coexists (Court of Justice of the EU and general Court, 2016). This means that drivers can take their rest although the journey for animals will be extended.

Checks on the automatically recorded information on conditions during long journeys of live animals

The returning of journey logs from transport companies to competent authorities that authorised the journey is developing well. The audit reports from FVO show that by far most of the journey logs are returned, with some differences between Member States. This was also confirmed in our discussions with the representatives of the European Commission (Animal health and welfare Unit). About the extent to which the journey logs are checked much less is known, as well as whether infringements are detected and actions/penalties are imposed. On all these aspects, differences between Member States exists.

Export of live animals

Trade of live animals with third countries takes place. In recent years, this concerned around 35.000 consignments (about 9% of all consignments of live animals in the EU) with about one third being imports and two thirds being exports. Most of the export consignments are with cattle mainly in the form of export. Import is limited to 11,000 consignments of live animals per year. The export consists of 25,000 consignments per year. Most of the consignments transport cattle and horses. Given the procedures at the border, waiting times for drivers and animals are high (at the Bulgarian and Turkish border at least 6 hours). Often the facilities to take care of the animals are bad or completely lacking. In case not all documents are complete, the waiting times will further increase and the circumstances for the animals will become increasingly worse. Recently, a lot attention was paid at the border crossing between Bulgaria and Turkey and the FVO audits showed that transport companies, competent authorities and foreign governments can work on improvements for this trade to reduce waiting time and implicitly the suffering of the animals. It can be expected that this will result in increased animal welfare during these transports.

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Abbreviations

AGRI	The European Parliament's Committee on Agriculture and Rural Development
DG EPRS	Directorate-General for Parliamentary Research Services of the European Parliament
DG SANTE / SANCO	Directorate-General for Health and Food Safety
EFSA	European Food and Safety Authority
EU	European Union (till 2007 EU25; 2007-2013: EU27; 2013 onwards: EU28)
EVAL	Ex-Post Evaluation Unit of the Directorate for Impact Assessment and European Added Value
FVE	Federation of Veterinarians of Europe
FVO	Food and Veterinary Office presently: DG SANTE, Directorate for Audits and Analysis
IRU	International Road Transport Union
MSs	EU Member States
TRACES	Trade Control and Expert System
WSPA	World Society for the Protection of Animals

1. Introduction

Regulation (EC) No 1/2005 came into force in 2007. Despite requests from different stakeholders, this Regulation has not been changed since its introduction. In the first years after the implementation, the policy focus of the Commission was on the general conditions for the transport of live animals. In recent years, the focus changed to enforcement of existing rules in Member States, implementation of good practices and to projects to support better systems and procedures for safeguarding animal welfare during transport.

The first evaluation of Regulation (EC) 1/2005 was carried out in 2010-2011, in the study of Baltussen et al. (2011). This assessment was performed in accordance with Article 32 of Regulation (EC) No 1/2005 to evaluate the impact of Regulation (EC) No 1/2005 on the protection of animals during transport in the first two years after implementation, i.e. 2007 and 2008. The study concluded that the Regulation led to a slight improvement of animal welfare. It also identified big differences between individual Member States in the progress made in the implementation of the Regulation (enforcement and penalties for infringements), with consequences for both animal welfare and the level playing field for operators. At the same time, the Regulation increased the costs for transport companies and had no impact on trade flows of live animals. In 2012, the European Parliament published a resolution on the Protection of animals during transport, following the Commission's report on the implementation of the Regulation. There are two main 'complaints' in the resolution of the European Parliament about the evaluation of Regulation (EC) No. 1/2005: the scientific basis and data for the evaluation are weak and not a full evaluation has been executed.

Regulation (EC) No 1/2005 has not been adapted since its introduction but the attention paid to the Regulation by the Commission can vary in time. Adaptation is also not expected for the next years. The strategic plan 2016-2020 of DG SANTE (2016)³ regarding improvement of the welfare of animal's stated that "Activities will largely focus on enforcement of existing rules in Member States". This strategy is in line with the former strategic plan (2012-2015), which aimed for improving welfare standards and ensuring that these standards are implemented and enforced in EU Member States, underpinned by the principle 'Everyone is responsible'.

Since 2009, i.e. after the period covered by the impact evaluation study of Baltussen et al. (2011), multiple stakeholders have published opinions on the functioning of this Regulation (see Table 1.1). Comments were made on the effectiveness of monitoring and enforcement, and the level of harmonisation across the EU. Also, groups of Member States and the European Parliament have requested changes to Regulation (EC) No 1/2005, for example a request on implementing maximum driving times for animals for slaughter (European Parliament, 2011⁴). Despite such opinions and requests, Regulation (EC) No 1/2005 has not been adapted since its introduction. Nevertheless, it is unclear if the impact of Regulation (EC) No 1/2005 on the protection of animals during transport has improved in the years since 2009.

³ Every department of the European Commission publishes a strategic plan that sets out the department's vision for a five-year period. More details are available on the European Commission's dedicated [webpage](#).

⁴European Parliament, [Written Declaration](#) on the establishment of a maximum 8-hour journey limit for animals transported in the European Union for the purpose of being slaughtered, 30.11.2011.

Table 1: Published opinions about Regulation (EC) No 1/2005 per stakeholder and year of publishing.

Stakeholder	Year	Opinion about Regulation (EC) No 1/2005	Source
IRU	2010	Request for harmonisation of animal travel times and driving times and rest periods for drivers; Responsibilities regarding 'fitness for transport'; A definition of specific minimum functional requirements of the navigation systems; Harmonisation of surface areas for animals; A standardisation of systems to measure temperature in vehicles; Harmonisation of the rules relating to training; Harmonisation of enforcement practices.	https://www.iru.org/sites/default/files/2016-02/en-010-transport-live-animals-eu.pdf
Eurogroup for animals	2016	"Since the Regulation (EC) No 1/2005 is not effective in reaching the scope for which was created, a revision of the Regulation itself as well as a socio economic impact assessment of the negative consequences of long-distance transport is needed."	http://www.eurogroupforanimals.org/wp-content/uploads/Live-transport-Eurogroup-for-Animals-BriefingOK.pdf
	2016	Phase out long-distance live animal transportation; Revise Regulation (EC) No 1/2005 to align it with current scientific knowledge; Ensure that Member States increase and tighten official checks of live transports and report the findings in a detailed and transparent way.	
WSPA	2011	Harmonisation of checks, infringements and penalties is needed; On-the-spot tickets must be expensive enough to be effective and dissuasive.	Weakness in monetary sanctions of animal transport. https://www.eyesonanimals.com/resources/special-reports/
Animals' Angels	2014	The Myth of Enforcement of Regulation (EC) No 1/2005 on the protection of animals during transport. http://www.animals-angels.com/fileadmin/user_upload/1_DATEN_AB_2014/4_AA_PRESS/Animals_Angels_Myth_of_Enforcement.pdf	Animals angels (2014) see reference list
EFSA	2011	Recommendations were made on technical indicators for fitness for transport, means of transport, watering and feeding intervals, journey times and resting periods, space allowance and for further research.	https://www.efsa.europa.eu/en/press/news/110112
European Parliament	2017	The enforcement of Regulation (EC) No 1/2005 is more likely to be effective than in other situations, the actual effectiveness of transport legislation depends on whether checks are carried out and whether penalties for transgression of the rules are dissuasive enough.	Broom (2017) see reference list
FVE	2008	.."current Regulation is already too complicated and that this inhibits its effective monitoring and enforcement."	http://www.fve.org/news/newsletters/2008_5_newsletter.pdf http://www.fve.org/uploads/publications/docs/065_long_distance_transport_of_livestock_160927_.pdf
	2016	To end suffering of animals during long-distance transports; 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.	
MSs	2014	Joint Declaration on Animal Welfare -hold the view that the current animal welfare legislation of the European Union, as it applies to the	German Federal Ministry of Food and Agriculture

	<p>husbandry, transport and slaughter of animals, must be enforced in a stricter and more harmonised manner;</p> <p>-underline that some of the current provisions of the European Union need to be adjusted to the latest scientific findings, technical innovations and socio-economic trends; meaning, among other things, that... animal based welfare indicators should be anchored more firmly</p> <p>certain restrictions placed on, the transport of animals, with regard to e.g. the stipulation of space allowances and journey times</p>	
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However, The Commission executed some projects to support better systems and procedures for safeguarding animal welfare during transport:

a. Between 2010 and 2013 the project '[High quality control post](#)' was executed. Eight control posts invested and renovated their equipment, with financial support of the EU. One of the renovated control posts was in France near the port where ferries arrive from Ireland (Qualivia in Buigny St Maclou), offering an opportunity to rest, feed and water animals after the sea trip (mostly cattle from Ireland). Also a handbook, a booking system, a certification system and e-learning courses have been developed. Gebresenbet et al. (2010) concluded that there is more capacity available at control posts than demanded by transport companies. This holds true for all main routes (flows of animals) and all species during the whole year. The number of journeys (excluding poultry; because no control posts for poultry exists) (see Table 4.2) is more or less stable at 300,000 while the number of listed control posts went down from 157 in 2008 to 139 in July 2018. This decrease was almost completely realised in the UK where the number of control posts decreased from 23 in 2008 to 9 in July 2018 (DG SANTE, 2018). Despite this decrease, it can be concluded that control posts still have enough capacity to host all animals during very long transports.

b. In 2015, the [project](#) on guides to good practice started running. The guides and factsheets for five different species have been developed, translated in 8 languages and have been disseminated to at least 100 stakeholders in 8 EU countries. The guides and factsheets have been or will be published in 2018. These guides promote a better animal welfare above minimum requirement, support a level playing field within the EU and support the dialogue between drivers and transport companies on the one hand and the competent authorities on the other hand. The project financed by the European Commission (DG SANTE) is a cooperation between researchers, NGOs and the branch organisation for transport companies. The impact of these guides on animal welfare can be expected in the coming years.

2. Objective and scope

This research paper focuses on the implementation of Regulation (EC) No 1/2005 and on the processes regarding the automatically recorded information on conditions during long journeys of live animals and the trade of live animals with third countries. Given the time and budget constraints, only available data was used and no complete comprehensive evaluation study was conducted.

2.1. Objectives

The objective of this research paper is to give an overview of the implementation of Council Regulation (EC) No 1/2005 in the period 2009-2015. Specific attention will be paid to the processes regarding the checks on the automatically recorded information on conditions during long journeys of live animals and the trade of live animals with third countries (import to and export from the EU).

2.2. Scope

The scope of the research paper is the EU. During the period between 2007 (when Regulation (EC) No 1/2005 came into force) and 2015 the EU extended with three countries: Bulgaria, Romania (both in 2007) and Croatia (in 2013). For the EU, the trade with these countries changed from trade with third countries into intra-EU trade when these countries entered the EU.

Only farmed animals (cattle, pigs, sheep and goats, poultry and horses) were investigated within this research paper. No information was gathered about pets and fish.

The information gathered focused on the period 2009-2015. Statistics from 2005-2015 were used to analyse trends. Reports from the former Food and Veterinary Office (FVO) of DG SANTE (European Commission) about audits regarding Regulation (EC) No 1/2005 were analysed until 2017 (including the audits regarding the export to Turkey).

2.3. Limitations

Time and budget constraints did not allow conducting a complete comprehensive evaluation study according to the guidelines for better regulation⁵. The results of this research paper are based on a literature search, data from the Trade Control and Expert System (TRACES) database of the European Commission, FVO audit reports related to Regulation (EC) No 1/2005, and inspection reports from EU Member States (2007-2015). In addition, four interviews with DG SANTE, the Dutch Competent Authority, a Dutch branch organisation for trade and transport of live animals and a transport company were organised. Even though not representative in the sense that they cannot express a majority of opinions, they can serve as examples of different issues and challenges faced by certain categories of stakeholders affected by Regulation (EC) No 1/2005, as well as of their way of relating to some conclusions of this research paper.

⁵ [Better regulation: guidelines and toolbox, European Commission](#) .

3. Methodological approach

The research was based on four pillars:

- Desk research of the literature, projects financed by the Commission (DG SANTE) and other relevant documents from stakeholders related to transport of live animals
- Desk research of the audit reports of FVO and the annual inspection reports of the Member States
- Statistical analyses of the data from TRACES database
- Interview with four stakeholders: DG SANTE Directorate for Audits and Analysis, Unit F2; The Dutch Competent Authority, The Dutch branch organisation for trade and transport of live animals and an international transport company exporting live animals.

In this study, four data sources were analysed, each with its own approach, which are described in section 3.1 to 3.4:

- Analysis of scientific literature and projects mainly financed by the European Commission (DG SANTE) related to transport of live animals;
- Statistical analysis of data from the TRACES database⁶ (number of consignments per species and duration of journeys);
- Analysis of audit reports of the FVO and annual inspection reports of MSs (number of checks, infringements and penalties); and
- Interviews with stakeholders like European Commission (DG SANTE); National Competent Authority, Branch organisation for trade of live animals and a Transport Company exporting live animals.

The European Commission is responsible for ensuring that Community legislation on food safety, animal health, plant health and animal welfare is implemented and enforced by Member States. These tasks are carried out by its different directions and services, such as DG SANTE and the FVO. Member States are responsible for the implementation and enforcement of Regulation (EC) No 1/2005. Branch organisations have a general overview on how Regulation (EC) No 1/2005 is working for transport companies. Since a lot of the discussions are related to long and very long transports and to trade of live animals with third countries, a Dutch transport company exporting live animals was also interviewed. Given the very tight schedule of this research project, the Netherlands was chosen for practical reasons concerning the organisation of interviews.

For the interpretation of information regarding transport of live animals, it is important to distinguish the following kind of transports:

- 1 Domestic transport. For example young animals transported from one farm to another farm for fattening or fattened animals transported from a farm to a slaughterhouse for slaughter. It should be realised that almost all of the produced animals are transported domestically. Baltussen et al. (2009) estimated for 2007 that only 4 to 5% of the total production of animals and 15 to 18% of total intra EU-trade of live animals and animal products consisted of trade of live animals. Council Regulation (EC) No 1/2005 is not applicable for this trade. Thus, checks on animals,

⁶ Database of the European Commission in which the operators must enter data about the animals, transport itinerary, and transport vehicle to get permission for the transport of live animals intra-EU and to third countries.

equipment and documents at final destination and road checks will mostly consists of domestic transports.

- 2 Intra-EU trade of live animals. In Council Regulation (EC) No 1/2005 a distinction is made between short and long transport of live animals. Short transport is defined as a transport lasting less than eight hours including the time needed for loading and unloading the animals. For long transports special equipment (vehicles) is needed and the journey logs need to be returned after the journey to the competent authority who authorised the transport company. For very long transports (more than 24 hours for pigs, poultry and horses and more than 29 hours for cattle, sheep and goats) a stop at a so called control post is mandatory.
- 3 Trade with third countries. For trade with third countries Council Regulation (EC) No 1/2005 is fully applicable. In addition to that there will be (physical) checks at the border. These checks take time and will extend the journey time. Because these border offices are not open 24 hours a day and 7 days a week, additional waiting time is possible if the journey is not well planned or if incidents take place. Additional waiting times could harm animal welfare.

TRACES data are only available for intra-EU trade and trade with third countries, while in the inspection reports of EU MSs no distinction can be made between the kind of transport in checks during transport and in checks at final destination. The reports of audits of the FVO deal with Regulation (EC) No 1/2005 but also with special issues like the fitness for transport. Fitness for transport is often more a problem in domestic transport of production animals for slaughter at the end of their productive live such as sows, milking cows and laying hens. The majority of these animals are transported within a Member State for less than 8 hours. These transports are not registered in TRACES. However these transports are checked by official veterinarians at the moment they arrive at the slaughterhouse. Offences on these transports are registered in the inspection reports of Member States.

Table 2: Confrontation of information sources and type of transport of live animals

Type of information	Kind of transports involved
Literature	Domestic trade (e.g. fitness for transport) Intra EU Trade Trade with third countries
Interviews	Domestic trade (e.g. fitness for transport) Intra EU Trade Trade with third countries
TRACES	Intra EU Trade Trade with third countries
Inspection reports of Member States	Domestic trade (e.g. fitness for transport) Intra EU Trade Trade with third countries
Audit reports of FVO	Domestic trade (e.g. fitness for transport) Intra EU Trade

3.1. Literature search

A review of the scientific literature was executed using the search strategy “transport”, “animal” and “EU” in the databases ‘Agricola’, ‘CAB Abstracts’, ‘Econlit’, ‘Scopus’ and ‘Web of Science’ for articles published in 2009 and onwards. Only peer-reviewed articles, books, book sections, and conference proceedings were selected. Articles were excluded that did not comply with the search strategy, did not address animal transport or the EU, or were mentioned in more than one database. Finally, 16 articles were found with relevance to the objectives of this research paper. The list of articles from the literature search is added to the references.

Also projects initiated and financed by DG SANTE in the area of transport of live animals are included in the analysis such as control posts⁷; guides to good practices⁸ and health certification (IBF, 2017).

3.2. Analysis of TRACES data

A descriptive trend analysis of the annual averages was performed in the following data received from the TRACES Team:

- Total number of consignments and animals per species in the period 2005-2015;
- Number of consignments with different travelling times. The following travelling times distinctions have been made: short transport (less than 8 hours), long transport (more than 8 hours and less than 24 or 29 hours), and very long transport (more than 24 or 29 hours) where a rest at a control post for 24 hours is mandatory. For pigs, poultry and horses after 24 hours a stop at a control post is required while cattle, sheep and goats can drive for 29 hours before a stop is required.
- Number of consignments with long and very long transport per species (cattle, pigs, poultry, sheep & goats, and horses).
- Number of consignments for intra-EU movements and for movements for trade with third countries.
- Total number of animals transported in the period 2005-2015 per species (cattle, pigs, poultry, sheep & goats, and horses).

3.3. Analysis of FVO audit and MS’s inspection reports

FVO audit reports related to Regulation (EC) No. 1/2005, for the period 2009-2017, were retrieved from the website and analysed.⁹ The inspection reports of the MSs for the period 2009-2015 were retrieved from the website¹⁰ and analysed on:

- The number of inspections including the type of inspections;
- The non-compliance including the type of non-compliance;
- The actions taken (penalties imposed and enforcement and exchanges of information).

⁷ www.controlpost.eu

⁸ www.animaltransportguides.eu

⁹ The reports are available on the European Commission’s [website](#).

¹⁰ https://ec.europa.eu/food/animals/welfare/practice/transport/inspection-reports_en

3.4. Interviews

Semi-structured interviews were held with:

- DG SANTE - Health and food audits and analysis Directorate, Unit F2 - 'Animals' (in the text referred to as 'Unit F2');
- A representative of the Dutch Competent Authority on transport of live animals (in the text referred to as Dutch Competent Authority)
- Vee&Logistiek Nederland, Dutch organisation for trade and transport of live animals (in the text referred to as Dutch transport branch organisation).
- Hunland, an international transport company specialised in export of breeding animals and production animals with companies in the Netherlands and Hungary (in the text referred to as Transport company).

During the interviews, the results of the desk research and data analysis were also checked. To this end, a list of issues was made that was discussed during the interviews (see Appendix 1).

4. Trends in trade flows of live animals

Key findings

- Since the introduction of Regulation (EC) No 1/2005, the trade of live animals in the EU increased from 300,000 consignments in 2005 to 440,000 consignments in 2015;
- Some differences are found between species. The number of consignments of poultry and horses showed a steady increase in these years whereas those of cattle and sheep & goats showed an increase until 2009 and a decrease since then;
- The number of long-distance transports (over 8 hours) also increased, in an absolute and a relative sense although the very long-distance transports (over 24 /29 hours) remained stable.
- Less than 10% of total number of consignments with live animals are extra-EU imports or exports of live animals. The number of extra-EU consignments increased from a level of 25,500 consignments in 2005 to 35,600 consignments in 2015. In 2015, about one third of these consignments concerned imports and two thirds exports. The majority of these consignments are for cattle and horses.

4.1. Developments in transport of live animals in EU

4.1.1. Number of animals transported

In Table 4.1 animals transported for all purposes within the EU are listed. The total number of animals transported within the EU increased by 19% from 2009 to 2015. However, the trend differed between animal species. The number of heads of cattle, sheep and goats decreased, while the number of heads of horses, pigs, and heads of poultry increased. A similar trend was observed in the period 2005-2009 (Baltussen et al., 2011).

Table 3: Total number of animals transported (in millions) within the EU per species from 2009 to 2015.

	Years (see legend)			Developments	
	2005	2009	2015	2005-2009	2009-2015
Cattle	4.1	4.5	4.4	110%	98%
Pigs	16.8	29.6	33.7	176%	114%
Poultry (including day old chicks)	848.5	1213.4	1451.2	143%	120%
Sheep & goats	4.5	4.5	3.3	100%	73%
Horses	0.2	0.1	0.2	50%	200%
Total	874.1	1252.1	1492.8	143%	119%

Legend: 2005-2006: EU 25; 2007-2012: EU 27 (including Bulgaria and Romania) 2013-2015: EU 28 (including Croatia); Source: Traces

4.1.2. Number of consignments

Table 4.2 shows the number of consignments per species in the years 2005, 2009 and 2015 and the trend in the period 2005-20015. In Appendix 2, the figures of all the years are presented. The total number of consignments increased from 2005 to 2015. However, the trend differed between animal species. The number of consignments for cattle decreased (from 128,000 to 117,000 in the period 2009-2015), while it increased for poultry from 92,000 to 121,000 and for horses from 31,000 to 63,000. For the other species (pigs, sheep and goats), the number of consignments was quite stable. The increase in the number of consignments for horses occurred mainly in 2014 and 2015. Interestingly, the number of consignments increased by almost 50% in 2015 while the number of horse transported only increased with 15%. Trends from 2005 to 2009 more or less continued in the period 2009-2015, except for pigs and cattle where an increase in consignments in the period 2005-2009 changed in a decrease in number of consignments.

Table 4: Total number of consignments of intra-EU trade per species for 2005, 2009 and 2015 inclusive the developments between those years

Species	Number of consignments			Development in number of consignments	
	2005	2009	2015	2005-2009	2009-2015
Cattle	115632	127710	117095	12078	-10615
Sheep & goats	11824	14878	13293	3054	-1585
Pigs	85092	125850	123136	40758	-2714
Poultry (including day-old chicks)	67285	92489	120745	25204	28256
Horses	20349	30930	62844	10581	31914
Total	300182	391857	437113	91675	45256

Legend: 2005-2006: EU 25; 2007-2012: EU 27 (including Bulgaria and Romania) 2013-2015: EU 28 (including Croatia)

Source: Traces

In the period 2005-2009, the absolute number of short journeys (lasting less than 8 hours) increased from 227 thousand to 260 thousand (Table 4.3). Appendix 2 provides the numbers per year. However, the percentage of these short journeys in the total number of journeys decreased from 76% to 66%, indicating an even higher increase in number of long and very long journeys. The number of long and very long journeys almost doubled in this period from 72 thousand to 125 thousand. The percentages of short, long and very long journeys in the total number of journeys did not change in the period 2009-2015 (see Table 4.3). About 4% of all consignments were very long journeys, which need a stop at a so called control post to unload the animals for rest, feeding and watering. For around 1% of the consignments, no journey time was available. The number of such consignments has been decreasing since 2011. In the period 2009-2015, 84 to 97 % of these journeys were consignments with cattle. This is 3 to 7% of all cattle transports.

Table 5: Duration of the consignments in 2005, 2009 and 2015 and the developments in the duration of the consignments.

	Years (see legend)			Developments	
	2005	2009	2015	2005-2009	2009-2105
total	300182	391857	437113	91675	45256
travelling time (see legend)					
<=8 hours	226720	260124	289132	33404	29008
>8 and <=24/29 hours	61574	111270	127585	49696	16315
>24/29 hours	10718	13301	16155	2583	2854
no time available	1170	7162	4241	5992	-2921
% < 8 hours	76%	66%	66%	-9%	0%
% >24/29 hours	4%	3%	4%	0%	0%

Legend: legend: 24/29 hour: a stop at a control post is needed for pigs/poultry and horses after a journey of 24 hours; for cattle, sheep and goats a stop is needed if the journey last more than 29 hours.

2005-2006: EU 25

2007-2012: EU 27 (including Bulgaria and Romania)

2013-2015: EU 28 (including Croatia)

Source: Traces

4.2. Developments in extra-EU trade of live animals

The import and export of live animals is a small fraction of the total transport of live animals. In Table 4.4, all consignments for trade with third countries are described. The trade with third countries is less than 10 % of all intra-EU trade. More than half of the consignments are for horses. Per consignment, fewer than 2 horses are transported (horses are imported and exported). Cattle is the next important group of animals traded with third countries. Most cattle is exported: in 2015 the export amounted to more than 450,000 animals while fewer than 8,000 animals were imported. Also poultry is exported to third countries. The trade of pigs and sheep & goats with third countries is low and strongly fluctuates per year. Table 4.4 shows that the import of animals in number of consignments is more or less stable at a level of about 10,000 per year. In 2015, 90% of these consignments transported horses and fewer than 1,200 consignments were for the other species, all together. The export of live animals in number of consignments is increasing. Most of the increase in export of live animals with third countries is related to export of cattle and horses.

Table 6: Import and export of live animals (in number of consignments)

	Years (see legend)			Developments	
	2005	2009	2015	2005-2009	2009-2015
Trade with third countries					
Cattle	5776	5493	12120	95%	221%
Sheep&goat	2598	347	379	13%	109%

Pigs	1192	6804	762	571%	11%
Poultry (including day old chicks)	2720	3323	3858	122%	116%
Horses	13223	13168	18475	100%	140%
Total	25509	29135	35594	114%	122%
Total import	14473	10544	10638	73%	101%
Total export	11036	18591	24956	168%	134%

Legend: 2005-2006: EU 25; 2007-2012: EU 27 (including Bulgaria and Romania) 2013-2015: EU 28 (including Croatia)

Source: Traces

4.3. Conclusions

In the period 2009-2015, trade flows of live animals in the EU increased from 400,000 to 430,000 consignments per year. A similar increase was observed for the number of animals transported. Trade flows of poultry and horses increased, whereas those of cattle is decreased. The number of short, long and very long distance transports increased. But, the number of long distance transports increased relatively more than the number of short distance transports. Almost all transport is intra-EU trade. The trade of live animals with third countries was limited to 36,000 consignments in 2015 or about 9% of all consignments. Two thirds of the trade with third countries is export and most consignments are for cattle and horses.

5. Audits and checks on transports of animals

Key findings

- There is a lack of public data and good indicators for the development of animal welfare during transport of live animals;
- Inspection reports of Member States show a decreasing number of checks, a more or less stable level of infringements and a stable number of actions;
- Two types of infringements are frequently found: fitness for transport and documentation (in 2014: respectively 28 and 24% and in 2015 43 and 25%);
- The level of infringements found in transports with destinations outside the EU is low (normally less than 4%);
- The FVO audits are changing from checks on systems and procedures in place to sharing good practices between Member States, to harmonise enforcement of Regulation (EC) No 1/2005.

5.1. Data recording: returning of journey logs

Organisers of transport of live animals have to return the information about the realised journey in case of a long journey back to the competent authority that authorised the journey. In this way competent authority can compare the planned journey with the realised journey, check for infringements and take actions. For short distance transports such obligation does not exist.

Most of the information is automatically recorded by equipment in the truck that is mandatory since 2009. The information that has to be returned resembles the information in the journey log (Annex II of Regulation (EC) No 1/2005) such as place of departure, place of destination, type of animals, number of animals, driving and resting times. Next to that also information about death on arrival, opening of the backdoors of the truck, temperature in the animal compartments is registered.

By returning the journey logs with this information the competent authorities get insight in the realisation of plans and possible suffering of animals. The impact on animal welfare will be indirect because the journey will be finalised before the information is shared with the competent authorities. Indirect organisers will plan the journeys better and have contingency plans in place in case they have to deviate from the plan, simply to avoid fines.

Within this research only the process of returning the journey logs has been researched and the findings in the inspection reports and the interviews have been reported in respectively the sections 5.2 and 6.2. In section 7.2 the main findings about the returning of journey logs are summarized.

5.2. Checks, infringements and actions

In this section, we will evaluate the checks, infringements and actions taken by the national competent authorities as reported in inspection reports of EU MSs, and as reported in the audit reports of the FVO. These figures provide an indication of animal welfare status during transport.

There are no public data nor good indicators available for the development of animal welfare during transport of live animals (see [Guide to good practices for the transport of poultry](#)). It would be optimal if animal based measures could be used (see Messori et al., 2016 for a tool for evaluating

horse transports). The lack of indicators and data to value the indicators make it very hard to conclude about the animal welfare during transport.

There are arguments put forward in interviews that animal welfare increases because transporters are better equipped and trained and Regulation No 1/2005 is better enforced. However, incidents remain (see Eurogroup for animals (2016); Marlin et al., (2011), inspection reports of MSs and the FVO reports). Based on the inspection reports of the Member States, the number of checks on the transport of live animals decreased from more than 2.5 million checks in 2009 to 1.3 million checks in 2015 (see Table 5.1). Checks take place at the place of departure (intra-EU trade and trade with third countries); during transport (road checks; all types of transport) and at final destination (e.g. slaughterhouses; all type of transports). The number of infringements varies between years between 14 and 37 thousand, with the lower numbers in the most recent years. The decreasing number of checks does not necessarily have direct relation with the detected infringements. If the checks were done risk based, the number of infringements can increase with decreasing number of checks. From the inspection reports there is some proof that more MSs do the checks risk based e.g. in the reports of 2015 [Bulgaria](#), [Finland](#), [Spain](#), [Italy](#) and [Sweden](#) announced a more risk-based checking of transport of live animals. The number of infringements is only partially related to animal welfare because not all non-compliance (infringements) have an impact on animal welfare. From the inspection reports it can be calculated that most of the non-compliance deals with fitness for transport and documentation (in 2014 28% and 24 % of all infringements and in 2015, 43% respectively 25 % of all infringements; see Table 5.2).

Table 7: Total checks, infringements and actions (in 1000) undertaken related to animal transport in all MSs

Indicator	Year									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	
Number of checks	2,279	2,222	2,544	2,494	1,983	2,089	2,059	1,560	1,331	
Number of infringements	37	15	28	16	20	17	14	17	18	
Number of actions undertaken	na	na	na	na	na	na	na	10	10	

Source: inspection reports of MMs. Not all countries submit an inspection report every year. Actions undertaken is recorded since 2014.

Also the attention of enforcement changed from systems and procedures in place to enforce Council Regulation (EC) No 1/2005 to specific themes. Specific themes are practical implementation of controls on animal welfare during transport (FVO audits in 2013 and 2014), fitness for transport (FVO audits in 2013, 2014 and 2015), trade with third countries (2017-2018) and unweaned calves and vehicles (audit in 2010 and 2011). Several inspection reports of one Member State show that enforcement changed from "How to check a journey log at departure" to "How to check journey logs after the journey has ended". More attention to a certain topic will in the short run increase the number of infringements on that topic, hopefully with the long-term impact that these infringements will lower.

Table 8: Type of infringements related to Regulation (EC) No. 1/2005 in 2014 and 2015

Type of infringement	Number of infringements		Percentage of total number of infringements	
	2014	2015	2014	2015
1. Fitness of animals for transport	4385	7849	28%	43%
2. Transport practices, space allowances, height	3440	2422	22%	13%
3. Means of transport and additional provisions for livestock vessels or vessels transporting sea containers, and for long journeys	1174	1290	8%	7%
4. Watering and feeding, journey times and resting periods	542	641	3%	4%
5. Documentation	3802	4528	24%	25%
6. Other cases of non-compliance	2279	1489	15%	8%
Total number of infringements	156221	18219	100%	100%

¹Number of infringement differs from Table 5.1 because not all countries listed the type of infringements.

Source: inspection reports of MMs. Not all countries submit an inspection report every year.

For the trade with third countries all consignments are checked at the border. Table 5.3 gives an overview of the infringements found per species in the period 2015-2017. Table 5.3 shows that in most years and for most animal species the number of infringements is between 1 and 4%. Exceptions are the high numbers of infringements found in consignments with goats in 2015, in consignments with cattle in 2016 and in consignments with sheep in 2017. The high numbers of consignments with non-compliance in 2016 was related to an epidemic of Lumpy Skin Disease¹¹ in the EU. Turkey refused consignments stopping at control posts in Bulgaria because of this outbreak. Transporters therefore stopped in Romania, but the journey plan was not in accordance with the 'Zuchtvie' Ruling¹² (journey plan should be in accordance with Regulation (EC) No 1/2005, also for the part of the journey plan outside the EU). Bulgarian competent authorities checked the journey logs during the border control and reported non-compliance. In 2017, most non-compliances of sheep consignments were detected at the Bulgarian exit point with Turkey. The export of sheep from EU to Turkey strongly increased in 2017 compared to the years before (see Table 5.3).

Table 9: Infringements per consignments with a destination outside the EU in the period 2015-2017.

	Number of export consignments			Number of infringements related to welfare regulation			% infringements per consignment		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Cattle	10139	12248	13173	378	1267	408	4%	10%	3%

¹¹ More details on Lumpy Skin Disease can be found on the European Food and Safety Authority's [website](#).

¹² <http://curia.europa.eu/juris/liste.jsf?language=en&num=C-424/13&td=ALL>

Pigs	602	529	551	6	6	3	1%	1%	1%
Sheep	210	270	648	6	8	51	3%	3%	8%
Goats	67	33	51	6	0	1	9%	0%	2%
Total	11018	13080	14423	396	1281	463	4%	10%	3%

Source: TRACES; data from Unit F2 Grange

5.3. FVO audit reports

In the period 2009-2015, there have been 40 audits of the FVO regarding Regulation (EC) No. 1/2005. Different issues of Regulation (EC) No. 1/2005 have been audited:

- Fitness for transport of animals;
- Systems and procedures to licence companies, drivers and vehicles (equipment for unweaned calves, transport of laying hens);
- Enforcement of Regulation (EC) No. 1/2005 (e.g. checks on journey logs, on stock densities and duration of the journey; completeness of documentation);
- Checks on journey logs after a long-distance transport.

Follow-up audits also took place, to check how MSs dealt with the recommendations. In addition to the audits per Member State, three special issues were researched by the FVO involving several Member States:

- Study visits to improve Member State controls on animal welfare during transport (overview report 2014-7350) and
- Systems to prevent the transport of unfit animals in the EU (overview report 2015-8721).
- Educating professionals on animal welfare (overview report 2016-6001).

In 2017-2018, a series of audits of the EU export to Turkey by road via Bulgaria took place. At least 7 Member States audits took place to evaluate animal welfare during transport to non-EU countries. They cover [Netherlands](#); [Turkey](#); [France](#); [Czech Republic](#); [Romania](#); [Hungary](#) and [Bulgaria](#).

After the first years of implementation of Regulation (EC) No 1/2005 (2007-2012), the main shortcomings regarding journey logs were related to the start of the journey (incomplete journey logs, no checks on realistic journey times etc.) (See FVO [reports 2009-8263](#); [2009-8245](#); [2010-8388](#); [2011-6048](#); [2012-6374](#); [2012-6525](#); [2012-6375](#)). More recently the audit in Czech Republic, Netherlands and France showed that almost all journeys of long-distance transports had been returned to the competent authorities (audits [2017-6106](#), [2017-6108](#) and [2017-6217](#)).

The main goal of the [overview reports](#) for the period 2014-2016 is to share good practices among MSs. This supports the practical implementation of Regulation (EC) No 1/2005, as it emerges from the overview reports:

- “The study visits help with practical implementation and with some of the difficult requirements from the Regulation and the experience allows better subsequent exchange of information between Member States. All of this should bring about improvements in enforcement in particular for long-distance transport of animals” (Audit report 2014-7350).
- “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. The report evaluates private

veterinarians' role in the transport of unfit animals through certification of their fitness and offers measures that have been effectively used to tackle this issue. Cross-border movements and use of foreign hauliers are challenges for enforcement" (Audit report 2015-8721).

- Overall, successful transfer of knowledge and its implementation needs considerable co-ordination efforts, both at official and private levels. This remains a challenge for authorities in Member States (Audit report 2016-6001).

In 2017-2018, a series of FVO audits took place regarding the export of live animals to third countries. The background of these audits were the high risk of animal suffering in case of export of live animals. Border control and, waiting times for drivers are considerable. For instance, a waiting time at the Bulgarian Turkish border of 6 hours is 'normal'. There is no high priority line for trucks with live animals. Also facilities to unload, feed and water the animals are lacking. This can be especially problematic in summertime, when the outside temperature can be high. In the case of incomplete documentation, the waiting time will increase further. NGOs complained about these bad conditions for animals (see e.g. *Compassion in World Farming* [2012](#)). FVO checked the border crossing Bulgaria- Turkey for several reasons: almost 45% of EU exports of live ruminants (cattle and sheep) by road exit the EU from Bulgaria to Turkey; long waiting periods; and bad conditions for live animals were reported.

The audits of the FVO showed that the risks of animal suffering can be minimised if all requirements regarding animal health, identification and technical requirements are met by the transporters, which is not always the case:

- Lack of contingency plans in which the risks of unexpected long delays are taken into account (feed, water and bedding);
- Proper planning of long-distance journeys; in many cases the opening hours of the border between Bulgaria and Turkey between 8.30 and 17.30 is not taken into account in the planning of the journey and in some cases even the 'normal' waiting time was not completely taken into account.

Based on all the findings, we consider that, to mitigate the higher risk for animal welfare for extra-EU trade consignments, several strategies should be used. Competent authorities of countries with many consignments going to Turkey should check the journey plans on the aspects mentioned above. The Bulgarian competent authorities should take steps to reduce the unnecessary delays at the approach to the exit point ([2017-6109](#)). Member States should make gentlemen's agreement with the private sector not to export animals in periods with extreme temperatures. An example is the gentlemen's agreement in the Netherlands not to export breeding animals to Turkey in the months July and August (interviews).

5.4. Conclusions

The total checks by national competent authorities related to Regulation (EC) No 1/2005 decreased in the period 2009-2015. The number of infringements and number of actions is more or less stable. The majority of infringements are related to fitness for transport and documentation. The audits of the FVO are changing from checks on systems and procedures in place to implement Regulation (EC) No 1/2005 to sharing good practices among MSs, to harmonise enforcement of Regulation (EC) No 1/2005.

6. Literature and interviews

Key findings

- There is a limited amount of literature related to welfare conditions during the transport of live animals in the EU.
- Many of these papers from the literature search deal with increasing animals welfare by e.g. changing management and loading densities.
- EFSA (2011) made recommendations to safeguard animal welfare during transport based on scientific information.
- The impact of training, education and certification is analysed in the literature with mixed findings.
- Regarding the enforcement of Regulation (EC) No 1/2005 there is and will be variation between Member States because they have their own legal systems. This Regulation can be enforced and this enforcement is more harmonised than it was before 2009. According to the interviews penalties and administrative actions will also differ in the future between Member States because legal systems will be different and priorities within the system will differ;
- The returning of journey logs to Competent Authorities is increasing according to the FVO audits and the interviews.
- Trade with third countries has special attentions of the audits of FVO and of competent authorities in Member States. Stakeholders are becoming aware of the animal suffering during these long journeys including a long stop at the border for checking documents, vehicles and animals according to the people interviewed.
- A policy to restrict the journey times for animal to maximum 8 hours can solve some problems with animal welfare. However, this does not resolve the underlying reasons for transporting animals longer than 8 hours. In the end it is often about economics according to DG SANTE Unit F2.

6.1. Literature

In the literature, several issues regarding the transport of live animals in the EU are covered:

- Impact of Regulation (EC) No 1/2005;
- Impact of transport on welfare of live animals;
- Impact of training, education and certification on animal welfare during transport;
- Consumer attitude.

Impact of Regulation (EC) No 1/2005

At least at the beginning of the implementation of Regulation (EC) No 1/2005, a lot of questions were raised by German district authorities (Miebach, 2009). These questions were related to the authorisation of transport companies and authorisation of vehicles for long distance and the water supply systems especially for young calves. The checks at place of departure, at place of arrival and at control posts are also discussed. Cussen et al. (2008) concluded that “a large degree of variability in enforcement exists both within and between member states of the EU, leading to persistent areas of non-compliance with legislation and diminished animal welfare - especially for those animals transported on long-distance journeys. Standards of enforcement activity have not improved

dramatically over the last 8 years, as assessed by Food and Veterinary Office missions to member states. Because of the difficulties in assuring the welfare of slaughter animals while in transit, it is more logical to slaughter them as close to the farm of origin as possible". Hop et al. (2013) concluded that costs of cross-border livestock transport between the Netherlands and the western part of Germany can be reduced if veterinarian checks are relaxed. In their opinion, four measures can be relaxed and can save 8.2 million euro per year. IBF (2017) also concluded that derogation from health certificates for slaughter animals would save 22 million euro per year in the EU28.

Impact of transport of live animals

Averos et al. (2008) found that the number of weaned pigs found dead on arrival was 0.07%. This death rate increased with increasing duration of the journey and increasing outside temperatures. Providing the piglets with water and mechanically assisted ventilation in the vehicle will decrease the dead rate as well as did fasting of the piglets before transport. Jacobs et al. (2017) showed for broilers that high and low stocking density proved a stressor for all, and especially for unfit chickens, with detrimental implications for their welfare. Marlin et al. (2011) concluded that welfare in horses being transported long distances to slaughter, is poor. This includes severe lameness and injuries, and a high level of non-compliance with Regulation (EC) No 1/2005 on the Protection of Animals during Transport. Gerritzen et al. (2013) concluded that "... pigs are more capable of adapting to long (550 km) transport conditions when loaded at a density below the present EU requirement".

EFSA (2011) made recommendations to better safeguard animal welfare during transport based on the available scientific information. The following issues were mentioned in the recommendations:

- On fitness for transport, recommendations for cattle and poultry were focused on repeated humane handling and careful inspection prior to transport.
- On the means of transport, use of partitions in horse transport, compulsory fasting of pigs with provision of water at stops, and temperature limits for poultry were major recommendations. Maintaining stability of animal groups was recommended as good practice, with special emphasis on the need to avoid mixing unfamiliar pigs or goats.
- On watering and feeding intervals, journey times and resting periods, journey duration should not exceed 12 hours for horses and 29 hours for cattle. Horses should be supplied with water one hour before and one hour after transport, and for cattle there should be a 24 hour recovery period with access to food and water. For rabbits, time spent inside the containers during lairage should be considered journey time.
- Space allowance for horses should be given in terms of kg/m² instead of m²/animal. For cattle and sheep, it is recommended that space allowances should be calculated according to an allometric equation relating size to body weight. Limits for stocking densities of broilers in containers should be related to thermal conditions.
- On the navigation systems, temperature monitoring systems should be incorporated. Minimum standards should be established regarding data type to be recorded, the system and the on-board architecture.
- Recommendations for further research focused on the thermal limits and regulation for poultry and rabbits, the effects of ventilation on pigs, space allowance for rabbits, newly hatched chicks and pigs, optimal journey times for horses, pigs and calves.

Blaabjerg and Aaslyng (2016) found for pigs in Denmark that good animal welfare during fattening, transport and slaughter resulted in better meat quality and less variation in quality. They concluded that better welfare pays off.

Impact of training, education and certification on animal welfare during transport

Andronie et al. (2013) showed that certain conditions related to animal welfare have improved, such as loading density and duration of the journey. Training drivers and attendants and good equipment

are necessary in ensuring animal welfare during transport. Herskin et al. (2017) concluded that 35% of the Danish livestock drivers have 'doubts regarding the fitness for transport of specific cows at least frequently' and that about half of them could answer legal questions about fitness for transport correctly. Anon (2013) describes a system of certification of control posts. The main conclusion is that certification may support the animal welfare at control posts during very long journeys. Moen et al. (2009) concluded that applying modern logistics can reduce animal suffering during transport for example by reducing waiting times at slaughterhouses. Messori et al. (2016) developed a tool to evaluate the welfare of slaughter horses during unloading. They state that 'careful and constant application of this protocol would provide stakeholders with the opportunity to track and monitor changes in the industry over time, as well as to identify high risk areas in transport routines'. Grandin (2017) concluded that "Most guidelines typically do not allow transport of non-ambulatory, severely injured animals or sows likely to give birth. The guidelines were less likely to agree on transport of extremely thin sows".

Consumer attitude

Wille et al. (2017) concluded that informing the public about pig transport in Germany did not have a positive impact on the consumers' attitude, this remained rather negative.

6.2. Interviews

The main focus in the interviews was related to enforcement, the practices regarding returned journey logs, the extra-EU export and import of live animals and on potential alternative policies.

Enforcement

According to all interviewees, the enforcement of Regulation (EC) No 1/2005 varies among MSs and will also vary in the future. The main reason is that all MSs have their own legal system with different penalties and different options to act for official veterinarians. Also the economic circumstances differ (income, salary) and the interpretation of Regulation (EC) No 1/2005 differ (e.g. is attending a show with an animal an economic activity or not?). The impression given by the publication of *Animals' Angels* in 2016 entitled "the myth of enforcement" that Regulation (EC) No 1/2005 cannot be enforced is not shared by Unit F2 nor by the Dutch competent authority. Unit F2 agrees that problems still exist but the main problem is that information about the total context is lacking (there is an absence of data). The Dutch Competent Authority argues that many issues related to transport of live animals can be checked and enforced (for example drinking facilities on trucks, catching injuries of poultry). The main topics to deal with, according to Unit F2 and the Dutch Competent Authority are:

- Journey times for animals not aligned with driving times for drivers;
- Loading densities or space allowance. This is not so much a problem for compliance but present rules don't guarantee an absence of animal suffering. E.g. 75 cm is not enough space for all horses, as many horses are wider than this.
- Penalties for foreign companies. A driver working for a foreign transport company cannot be fined in all MSs because of the legal system. E.g. in the Netherlands the official way is: inform foreign Competent Authority and the foreign transport company that an infringement took place, after which the foreign Competent Authority has to penalise the transport company according to their own national intervention policy. The main problem is that the foreign Competent Authority does not always intervene and if intervention take place the penalty can be quite different (=lower) from the Dutch penalty. In general, not the driver but the company gets penalised. The driver only gets a fine if he/she is abusive to the animals, for example. New experiments will take place in the Netherlands such as a portable ATM machine for all road inspectors to make it feasible for drivers to pay the fine on the spot.

Penalties and administrative actions differ a lot among MSs. In the Republic of Ireland, administrative actions such as withdrawal of licences took place while this is practically impossible in the Netherlands because this action is regarded disproportionate by national court system (source; interviews with Unit F2 and Dutch Competent Authority). Nevertheless, the Dutch penalties for offences of animal welfare during transport are dissuasive. For example, problems with the transport of unfit animals are 'solved' according to Dutch Competent Authority and Branch organisation of transport companies. All stakeholders know when animals are fit for transport. If they do not act in the right way they get penalised. In the Netherlands, there is a so called intervention policy for transport of animals that describes all the actions of the Competent Authority and follow ups (actions) per infringement. According to the Dutch Competent Authority, its intervention policy of 2012 will be updated soon and will become even more stringent (less warnings and more fines). DG SANTE concluded in a report (DG SANTE, 2015) about unfit animals for transport that "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". WPSA and Eyes on Animals (2011) show that there exist huge differences in level of penalties among MSs. For the same offence, the penalty in one Member State can be more than 10 times higher than in another Member State. Also the fact that some offences will not be fined at all because of other priorities in the national legal system makes the penalty system ineffective.

Part of the 'gaps' in Regulation (EC) No 1/2005 can be filled by introducing good practices like do not give permission to drive if the outside temperature will be above 30 or 35°C. According to Chapter VI (3.1) in Regulation (EC) No 1/2005, temperature within the means of transport should be maintained in a range from 5 to 30°C with a tolerance of 5°C. Even with a ventilation system, it is hard to maintain a temperature inside the means of transport that is lower than the outside temperature in case of high outside temperature and if transport is stationary. The Dutch Competent Authority states that "To implement such good practice, the competent authorities need to have the guts to refuse to sign transport certificates if such conditions occur. Competent Authorities also need to enforce such practices if temperature is going to rise above the agreed level". An example in this sense is the gentlemen's agreement between the Dutch Competent Authority and the Dutch branch organisation of trade and transport companies not to transport breeding animals to Turkey in July and August. Other good practices, like adapting the loading densities to the outside temperature are far less practical because a solution should also be found for the animals that stay behind, because of changing weather conditions between the planning and execution of the transport. Also Unit F2 believes that good practices can increase animal welfare, because a lot of practical problems can be solved by introducing good practices. Unit F2 focuses on two kinds of good practices:

- 1 EU Animal Welfare Platform¹³ () where government, scientists and businesses work together to exchange good practices for animal welfare issues; and
- 2 The national contact points (national governments) to exchange good practices with the focus on official controls.

As for the transport company interviewed, they work together with a NGO to increase the knowledge about animal welfare during transport.

Practices regarding returning of journey logs

After long-distance transports (journeys lasting more than 8 hours) the transport company has to return the completed journey log with details about animals transported, driving times, resting

¹³ https://ec.europa.eu/food/animals/welfare/eu-platform-animal-welfare_en

times and dead on arrival to the competent authorities of the place of departure. The ratio of journey logs handed in differs per MSs (see the FVO audit reports [2017-6108](#), [2017-6217](#) and [2017-6106](#)) but in total the availability of completed journey logs is increasing, according to Unit F2. Every MS has its own strategy for checking the returned journey logs. For example in France in every district a minimum of 5% should be checked at random (see audit report [2017-6108](#)). In the Netherland (see audit report [2017-6106](#)), with a more risk-based approach, all returned journeys are quickly checked for parts not filled in or if something is suspicious. If so, additional information is asked and checked, according to the Dutch Competent Authority. In addition, for 10% of all consignments of long-distance transport GPS and temperature data are requested and checked at random. At least in the Netherlands, the transport companies are penalised in the same way as offences found during other checks; it is part of the total intervention policy (interview with the Dutch Competent Authority).

Trade with third countries

There are very little imports of live animals (except consignments with horses) and no animal welfare problems related to them. As described in chapter 4, there is a substantial export of live animals from the EU to third countries (about 10 % of all consignments). Recent information about the most important exit point of the EU (border between Bulgaria and Turkey) is available (see chapter 5.2). About other exports by road and vessels far less is known because for example many animals travel domestically to a port. In a port a few official veterinarians have to deal with a lot of drivers if not everything is according to Regulation (EC) No 1/2005 (ship in bad condition, delays...). Often there are two options for them 'look away' or 'stop the transport'. Drivers on the other hand often have strict orders from the organisers of the journey. If one consignment will be delayed all the other consignments also have to wait. Unit F2 feels that the organisers of journeys are key actors in the transport of live animals for the correct implementation of the law, but are not that often mentioned in Regulation (EC) No 1/2005.

Animal welfare infringements at the borders are almost always a secondary effect of administrative problems (visa, health certificates, licences, etc.) and because of long waiting times and a lack of facilities animal welfare problems appear. A few years ago, there were problems with exports from the EU via Poland to Russia (cattle and pigs) and presently problems focus on the exports from EU to Turkey via Bulgaria border (see chapter 5.2).

Enforcement outside the EU is not possible¹⁴. What can be done by the competent authorities to decrease the suffering of the animals are:

- Checking the planning and the documents. In case these are not okay the journey should not start.
- Comparing the planning with the returned journey logs (e.g. are all stamps present). A penalty should be given in case of an offence.

According to the Dutch Competent Authority, the main issues are driving and resting times; stops at 'control posts' (outside the EU little is known about the facilities present at stops); and temperature (heat stress).

¹⁴ <http://curia.europa.eu/juris/liste.jsf?language=en&num=C-424/13&td=ALL>

Alternative policy: maximum 8 hours journey for animals

The policy option to limit the journey time for animals to 8 hours is proposed by several NGOs and national governments of the EU¹⁵. They expect that a lot of present and maybe future problems can be solved by the introduction of journey time limited to 8 hours:

- a. For poultry, the numbers dead on arrival will decrease if journey time decreases;
- b. For young animals like unweaned calves, piglets and lambs the number of welfare issues like fitness for transport, dehydration and exhaustion will decrease;
- c. For end of cycle production animals like laying hens, milking cows and sows the number of welfare issues like fitness for transport, dehydration, exhaustion will decrease.
- d. Driving times and journey times are more aligned (interview with Unit F2).

According to Unit F2, a main argument against this solution is that the underlying problems are not tackled. For example, Baltussen et al. (2017) showed that it is economically feasible to slaughter Dutch spent hens in Poland, because of lower labour costs. These spent hens are transported for more than 12 hours. In theory, for other kind of end of cycle production animals this can also become reality.

6.3. Conclusions

The scientific literature about transport of live animals in the EU is limited. There are a few articles about policy options, a few articles about impact of management and loading density on animal welfare and impact of training, education and certification on animal welfare. Policy options with fewer rules will save money for the supply chain and in many cases also for national governments (paying for the checking and enforcement). The impact of better management and loading density on animal welfare can become part of the EFSA advice to adapt the present Regulation according to new scientific information. Until 2018, Regulation (EC) No 1/2005 has not been adapted. The literature shows that a training, education or certification is not a guarantee for good animal welfare. On the other hand, all stakeholders need to be trained and need to work with good equipment for a better animal welfare.

The interviews held with Unit F2 (Animal health and welfare) and in the Netherlands gave some indications of the current state of implementation of Regulation (EC) No 1/2005. The general conditions and the obligations for competent authorities, transporters, keepers and assembly centres are not discussed anymore between these stakeholders. This also appears from the FVO audits in other countries. The current discussion between stakeholders focuses on enforcement and exchange of information. To a certain extent, harmonisation in this area can work to improve animal welfare. However, all Member States have their own legal system and priorities which are very hard to change. So, in the future differences will exist. The exact impact of these differences on animal welfare is difficult to determine.

The introduction of good practices on transport of live animals where governments, scientists and business work together as well as on official controls where national competent authorities work together is the next step in the harmonisation of implementation of Regulation (EC) No 1/2005 and in improving animal welfare. [Animal transport guides](#) is an example of this. FVO and national competent authorities also pay attention to the situations where animal suffering can be expected, such as fitness for travel, long-distance transport of unweaned calves and border controls. It is

¹⁵ See: [Request for revision of Council Regulation \(EC\) No 1/2005](#) on the protection of animals during transport and related operations and amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) No 1255/97.

expected that this will positively influence animal welfare, but the exact relation between such policy measures and animal welfare remains unknown.

7. Conclusions

7.1. Implementation of Regulation (EC) No 1/2005

After more than 10 years the implementation of Regulation (EC) No 1/2005 is, still evolving. The basics like general conditions and obligations for competent authorities, transporters, keepers and assembly centres are more or less clear. The huge differences between Member States at the introduction of Regulation (EC) No 1/2005 are diminishing.

The current discussion between stakeholders and between Member States is more about enforcement and the associated penalties. In this area, differences between Member States still exists and given their autonomy in the legal system it is not expected that these differences will reduce in the future. See for example the questions whether the withdrawal of a licence is a disproportionate measure or not. The networks of national contact persons and the EU Animal Welfare Platform will bring some harmonisation in discussions about enforcement. Also the strategic focus of the Commission on enforcement of existing rules in Member States will also stimulate harmonisation.

It is more difficult to answer the question to what extent animal welfare is improved by the implementation of Regulation (EC) No 1/2005. Since there are no good indicators, this question cannot be answered in a clear way. There are positive elements, such as: equipment is checked regularly and all drivers are trained in transporting animals. More and more enforcement is done risk based and in some countries the level of the penalties also depends on the history of offences of a transport company. At the same time, there are also negative elements: NGOs still find examples of bad transports, solutions for transporting unweaned calves over long distances are not implemented, transport of poultry in cages (e.g. spent hens from the Netherlands to Poland) takes place. It is also unclear to what extent animal welfare will increase if the recommendations described by EFSA (2011) would be implemented. The Commission has at this moment not the intention to change the content of the Regulation.

Regulation (EC) No 1/2005 is still very *relevant*. It promotes a level playing field for transport of live animals throughout the EU and also for the export of live animals. Given the fact the number of transports still increases shows that the Regulation does not hinder the transport of live animals. The *effectiveness* of Regulation (EC) No 1/2005 is progressing. However, since no good indicator about animal welfare during transport exists, it is impossible to judge if the minimum requirements regarding animal welfare have been reached. It is also unknown to what extent the effectiveness could be improved if an EU wide system of enforcement and penalties would exist. However, 95% or more of the animals raised in a Member State are slaughtered in the same Member State (IBF, 2017) and for all these transports there is a level playing field also regarding enforcement and penalties. *Efficiency* has not been researched and cannot be scored. The *EU added value* of Regulation (EC) No 1/2005 is clear. Intra-EU trade and trade with third countries of live animals would be fairly impossible if all 28 Member States would have their own rules regarding the transport of live animals. Regulation (EC) No 1/2005 (rules about driving and rest times of animals) raised some coherence problems with Regulation (EC) No 561/2006 (rules about driving and rest times of drivers). According to Masterrind ruling of 28 July 2016, the two Regulations coexists (Court of Justice of the EU and general Court, 2016). This means that drivers can take their rest although the journey for animals will be extended.

7.2. Returned journey logs

The returning of journey logs from transport companies to competent authorities that authorised the journey is developing well. Audit reports, as well as our discussions with Unit F2, show that by far most of the journey logs are returned without details of the tachograph and temperature monitoring with differences between Member States. Detailed information is only sent to the competent authorities on request. Far less is known about:

- to what extent the journey logs are checked;
- will enforcement take place if infringements are detected;
- What actions / penalties are imposed.

On all these aspects there will be differences between Member States. For the Netherlands, almost all journey logs were returned, all journey logs are checked and if infringements are found transport companies are penalised (see section 6.2). The Dutch branch organisation and transport company did not complain about the existence of these procedures, but about the level of the penalties. The penalties are regarded too high for certain offences.

7.3. Trade with third countries

Trade of live animals with third countries takes place. In 2015, the import is limited to 11,000 consignments of live animals and the export to 25,000 consignments. Most consignments were for cattle and horses. Given the procedures at the border, waiting times for drivers and animals are high (at the Bulgarian and Turkish border at least 6 hours). Often the facilities to take care of the animals are poor or completely lacking. In case not all documents are complete, the waiting times will further increase and the circumstances for the animals will become worse. In the recent period, a lot attention is paid at the border crossing between Bulgaria and Turkey and the FVO audits showed that stakeholders (transport companies, competent authorities and foreign governments) can work on improvements for this trade. It can be expected that this will result in increased animal welfare during these transports.

7.4. General conclusions

Trade flows of live animals are increasing in the EU from 300,000 to 430,000 consignments in the period 2005-2015. More or less the same increase is seen for the number of animals transported. Trade flows of poultry increased and trade flows of cattle decreased since 2009. The number of consignments for all travelling times increased, but long-distance transport increased more than short transport of less than 8 hours. Almost all transport is intra-EU trade. The trade of live animals with third countries is limited to 36,000 consignments in 2015.

The total number of checks by national competent authorities related to Regulation (EC) No 1/2005 is going down in the period 2009-2015. The number of infringements and number of actions is more or less stable. The majority of infringements are related to fitness for transport and documentation. The audits of the FVO are changing from checks on systems and procedures in place to implement Regulation (EC) No 1/2005 to sharing good practices among MSs to harmonise enforcement of Regulation (EC) No 1/2005.

The scientific literature about transport of live animals in the EU is limited. There are a few articles about policy options, about impact of management and loading density on animal welfare and about impact of training, education and certification on animal welfare. Policy options with fewer rules or restrictions will save money for the supply chain and in many cases also for national governments (paying for the checking and enforcement). The impact of better management and

loading density on animal welfare can become part of the EFSA advice to adapt the present regulation according to new scientific information. Until 2018, Regulation (EC) No 1/2005 has not been adapted. The literature shows that training, education or certification is not a guarantee for good animal welfare. On the other hand, all stakeholders need to be trained and need to work with good equipment for a better animal welfare.

The interviews held with Animal health and welfare (Unit F2) and in the Netherlands gave some indications of the current state of implementation of Regulation (EC) No 1/2005. The general conditions and the obligations for competent authorities, transporters, keepers and assembly centres are not discussed anymore between these stakeholders. This is also the picture of the FVO audits in other countries. The current discussion between stakeholders focuses on enforcement and exchange of information. To a certain extent harmonisation in this area can work to improve animal welfare. However, all Member States have their own legal system and priorities which is very hard to change. So, in the future differences will remain. The exact impact of these differences on animal welfare is difficult to estimate.

The introduction of good practices on transport of live animals where governments, scientists and business work together as well as on official controls where national competent authorities work together is the next step in the harmonisation of implementation of Regulation (EC) NO 1/2005 and in improving animal welfare. FVO and national competent authorities pay also attention to the situations where animal suffering can be expected, such as fitness for travel, long-distance transport of unweaned calves and border controls. It is expected that this will positively influence animal welfare, but the exact relation between such policy measures and animal welfare remains unknown.

7.5. Recommendations

Commission

- Proceed on gathering good practices and distribute these among the relevant stakeholders.

Competent authorities

- Exchange information about official controls in such way that a level playing field for transport companies is supported. This of course within the own legal system.
- Develop gentlemen's agreements with transport companies not to transport under certain conditions as a way to implement good practices.

Transport companies

- Gentlemen's agreements with NGOs about improvement of equipment, training, planning to decrease the risk of animal suffering. This is also a good practice to exchange information between these stakeholders.

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Appendix 1: Interview questions

- 1 Request received from NGOs and transport companies to change the present regulation or “what are the main topics in the regulation that are constricting?”
- 2 How is Regulation (EC) No 1/2005 enforced by the MSs? What progress is made and what are the main issues for the near future?
 - a. according to NGOs Regulation (EC) No 1/2005 is unenforceable. (Vague wording; no checks, huge differences among countries in % of infringements; level of penalties) What do you think?
 - b. not enough Vets are trained/ they don't have enough knowledge; they are willing to give penalties.
 - c. level of the penalties
 - d. why can foreign drivers not be penalised in MSs??
- 3 In the inspection reports two kind of actions are explained: Penalties versus enforcement and exchange of information? The penalties provided for must be effective, proportionate and dissuasive. How is this implemented in different MSs?
- 4 What is your experience with the check on the data recorded during the journeys by MSs?
 - a. Are the records made available by transport companies to the competent authorities?
 - b. Are the records checked by the competent authorities?
 - c. What are the penalties if records show that rules are not followed?
- 5 What are the main issues regarding trade of live animals (import/ export to/from EU)?
 - a. Differences per species/ purpose of export (slaughter / breeding/).
 - b. Checks on journey logs (inside / outside the EU).
 - c. Border controls.
 - d. Animal welfare aspects
- 6 There is still a wish of NGOs and some MSs to limit the duration of a journey to 8 hours. Do you think this will solve a lot of the present problems with 1/2005?
- 7 How can good practices like ‘adapting the space allowance to external circumstances’ or ‘no driving during day time if temperatures go above 30 degrees’ be implemented?
- 8 DG SANTE/ national competent authorities: Have licences (transport company, driver, assembly centre/ control posts) been withdrawn as a penalty?
Cross-border movements and use of foreign hauliers are challenges for enforcement. Why is this? All Member States audited have the possibility to impose fines and sanctions and most use this option. Administrative processes for this and the quantities fined vary enormously between countries. In many cases, the procedure is too long and fines imposed at the end are low in comparison with the value obtained for the animal. Many authorities consulted agreed that sanctions are often ineffective and too low to be dissuasive. (From: Overview report on systems to

prevent the transport of unfit animals in the European Union; DG Health and Food Safety 2015)

Transport of unfit animals: it is not uncommon to find resistance in the official veterinary sector to admit and act on cases of certification malpractice involving other veterinarians!

- 9 Member States Animal Welfare Network (MSAWN). How does it function?
- 10 Are ante and post mortem checks performed on unfit animals? How big/ small are the problems in MSs regarding unfit animals?

Appendix 2 TRACES data

A2.1 Annual number of consignments in period 2005-2015 per species (EU-intra trade)

Species	Years (see legend)										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Cattle	115632	126096	122177	118036	127710	128946	124813	120562	119775	120032	117095
Sheep& goats	11824	12309	14717	13863	14878	15186	14950	13243	13335	13188	13293
Pigs	85092	96793	106380	113752	125850	128000	123026	126821	129180	125108	123136
Poultry	67285	71843	79914	82678	92489	100631	102832	109055	107260	112433	120745
Horses	20349	27246	31878	31660	30930	31956	32378	34125	36625	44449	62844
Total	300182	334287	355066	359989	391857	404719	397999	403806	406175	415210	437113

Legend: 2005-2006: EU 25

2007-2012: EU 27 (including Bulgaria and Romania)

2013-2015: EU 28 (including Croatia)

A2.2 Annual number of consignments per duration of the journey in the period 2005-2015 (EU-intra trade)

	Years (see legend)										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
total	300182	334287	355066	359989	391857	404719	397999	403806	406175	415210	437113
travelling time (see legend)											
<=8 hours	226720	232892	248121	243405	260124	268790	269096	276115	275087	276756	289132
>8 and <=24/29 hours	61574	85230	88567	98759	111270	110963	106013	106791	111090	117287	127585
>24/29 hours	10718	15550	18029	16540	13301	17222	14193	12852	13116	15164	16155
no time available	1170	615	349	1285	7162	7744	8697	8048	6882	6003	4241
% < 8 hours	76%	70%	70%	68%	66%	66%	68%	68%	68%	67%	66%
% >24/29 hours	4%	5%	5%	5%	3%	4%	4%	3%	3%	4%	4%

Legend: 24/29 hour: a stop at a control is needed for pigs/poultry and horses after a journey of 24 hours; for cattle, sheep and goats a stop is needed if the journey last more than 29 hours.

2005-2006: EU 25

2007-2012: EU 27 (including Bulgaria and Romania)

2013-2015: EU 28 (including Croatia)

A2.3 Annual number of consignments for export and import of live animals with third countries per species and year (see legend)

Export to 3rd countries	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Cattle	3963	3501	3943	3787	4379	7745	11296	8978	6044	7650	11578
Sheep & goat	129	98	91	143	162	187	324	320	312	365	348
Pigs	1145	2155	2120	4555	6719	4152	3176	2241	1190	630	630
Poultry (including day-old chicks)	2430	2271	2560	2727	3147	3233	3103	3710	3700	3454	3381
Horses	3369	4026	4128	4195	4184	4496	4959	5718	7952	7326	9019
Total	11036	12051	12842	15407	18591	19813	22858	20967	19198	19425	24956
Import from 3rd countries	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Cattle	1813	2674	1295	1157	1114	625	590	596	679	563	542
Sheep & goat	2469	1905	141	146	185	138	122	121	115	225	31
Pigs	47	158	65	82	85	99	81	58	76	65	132
Poultry (including day-old chicks)	290	218	248	235	176	266	478	630	536	510	477
Horses	9854	10194	10803	11085	8984	8271	8827	8620	9049	9423	9456
Total	14473	15149	12552	12705	10544	9399	10098	10025	10455	10786	10638

Legend: 2005-2006: EU 25

2007-2012: EU 27 (including Bulgaria and Romania)

2013-2015: EU 28 (including Croatia)

ANNEX II

Compliance with the technical rules on fitness for transport set out in Annex I of Regulation (EC) No 1/2005 on the protection of animals during transport

Research Paper

According to Regulation (EC) No 1/2005 all livestock that need to be transported should be fit to travel, to protect their welfare. This research paper provides an analysis of the available data on how fitness should be defined, what the current level of infringements is and which best practices are available to improve compliance with the regulation.

AUTHORS

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ADMINISTRATOR RESPONSIBLE

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LINGUISTIC VERSIONS

Original: EN

Manuscript completed in September 2018.

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PE: 621.853
ISBN: 978-92-846-3317-3
DOI: 10.2861/15227
CAT: QA-04-18-757-EN-N

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Executive summary

Background

Every year many millions of animals are transported across Member States or to third countries over long distances to be bred or slaughtered elsewhere. Transport is stressful for animals as it exposes them to a range of challenges, often for several hours. Animals have to be physically fit and healthy when loaded on the vehicle, to maintain an adequate level of welfare during transport. It is therefore essential that all animals are checked before loading to determine fitness for transportation, and that unfit animals are cared for at the place of origin or euthanized if required. Using fitness at loading as a selection criterion is a major factor in assuring animal welfare during transport.

Regulation (EC) no 1/2005

To protect animal health, animal welfare and public health, European and national legislation lays down conditions under which animals are considered as not fit for transport. The legislation makes clear that: “No animal shall be transported unless it is fit for the intended journey, and all animals shall be transported in conditions guaranteed not to cause them injury or unnecessary suffering.” (Regulation (EC) No 1/2005, Annex I Chapter I point 1). To support this, Regulation (EC) No 1/2005 sets out common rules as regards the transport of live animals between EU countries.

As part of the general conditions for animal transportation, the Regulation requires any person transporting animals to check that animals are fit for the journey (Article 3). In the case of long journeys between Member States and with third countries, checks at the place of departure for fitness for transport shall be performed by competent authorities before loading. This should be done as part of the animal health checks as set out in the corresponding veterinary Community legislation (Article 15 (2)). The same applies to livestock vessel inspection on loading and unloading (Article 20 (2a)). Finally, where animals are presented at exit points or border inspection posts, official veterinarians of the Member States shall check that the animals are fit to continue their journey (Article 21 (1c)). Where the competent authority considers that animals are not fit to complete their journey, they shall be unloaded, watered, fed and rested (Article 21 (3)).

Annex 1 of Regulation (EC) No 1/2005 lists the criteria for qualifying animals fit or unfit to travel (Chapter 1). Broadly speaking, there are two categories of unfit animals presented in Chapter 1 (2): those that are injured and those that are vulnerable. Vulnerable animals as those “that present physiological weaknesses or pathological processes” that prevent them from being transported without undue suffering. They include e.g. animals in late pregnancy and recently born mammals. Animals that are injured are those that e.g. are unable to move independently without pain or to walk unassisted, or present a severe open wound, or prolapse.

Approach

This research paper presents a desk research of available data on technical aspects of Regulation (EC) No 1/2005 regarding the fitness for transport, as established by Annex 1 (Chapter 1) of the Regulation. The objectives of the paper are two-fold. Firstly, the research paper provides an overall picture of the aspects to be considered as regards the technical rules on fitness for transport. Secondly, based on the key findings, the research paper makes relevant recommendations for action towards improvements as regards the fitness for transport, if needed.

Given the available resources in terms of time and budget it has not been possible to produce a complete evaluation study according to the guidelines for better regulation. The results of this research paper are based on audit reports and reports delivered by Member States following their ‘reporting’ obligations), academic literature, and documents produced by stakeholders interested

in the fulfilment of the objectives of the Regulation (provided they satisfy relevant quality standards).

Key results

The literature review has resulted in several interesting findings. The issue of fitness is responsible for the largest percentage of infringements (28% in 2014 and 43% in 2015), but there are huge differences between countries in terms of the numbers of inspection ranging from zero to several million per annum), and the incidence of infringements (from zero to 16,6%). This suggests that Member States take different approaches to these inspections, e.g. random vs risk based strategies. Of the 5 main livestock species it appears poultry are checked most often, and it is also clear that most infringements are detected on arrival at the abattoir.

The audits by the Commission between 2007-2017 in several Member States almost always refer to non-compliances with the rules on fitness. Other issues that become apparent are problems to ascertain the state of pregnancy (animals in the last 10% of gestation should not be transported) and differences of opinion on what constitutes 'fitness': e.g. how serious an injury needs to be before an animal is refused at loading. The main on-farm hazards affecting the transport of unfit animals include poor record keeping (to avoid late pregnant animals and births on the vehicle) and housing and management practices that cause injuries.

The literature search also reveals that many guidelines exist on how to confirm fitness during loading and maintain it during the journey. The Animal Transport Guides project reviewed and presented good and better practices to mitigate fitness hazards and comply with Regulation (EC) no 1/2005, for each of the 5 main livestock species. Despite these and other guidelines, several issues remain to be resolved. Among them are the determination of pregnancy stage, the provision of water to animals transported in cages, and the conditions for transporting chicks.

According to the audits by the Commission of the inspection activities of the national Competent Authorities, practical and economic considerations regularly result in animals being declared fit, when they are not. A key question repeated several times is what has to be done with animals that are not fit to be loaded.

Recommendations

On the basis of this study, several recommendations can be made. It is clear that Member States should continue their effort to provide harmonised data on transport inspection and infringements levels to the Commission, at the same time reducing the level of non-compliances. Given the many shortcomings detected on arrival of animals, it is recommended that checking for fitness during loading by transporters, farmers and veterinarians (where appropriate) should be improved substantially. This includes issues such as the on farm record keeping of service and birth dates, and the provision of adequate circumstances for inspections to take place during loading.

As it appears that the question of 'what constitutes fitness and what not' still causes disagreements, more training to recognise unfitness should be provided to farmers, drivers and others who are responsible for the welfare of animals that are transported.

It is important that veterinarians are held accountable by the competent authorities for any transport approval certificates they issue. Furthermore: repeated infringements detected at the abattoir should lead to prosecution and compulsory retraining of those responsible for the fitness check during loading of animals. To take away some of the (economic) pressure on farmers and transporters to transport animals which are unfit, legislative opportunities in each Member State should be investigated to facilitate on farm killing, and preferably on farm slaughter, of animals not fit to be transported. For the same reason, commercial opportunities should be sought and

supported by the livestock industry to reduce the economic incentive to transport animals at a very young age. Finally, the licence to transport animals on long journeys should be revoked if repeated infringements regarding fitness are detected at unloading or at border crossings.

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1. Introduction

1.1. Fitness for transport

Every year many millions of animals are transported across Member States or to third countries over long distances to be bred or slaughtered elsewhere. Transport is stressful for animals as it exposes them to a range of challenges, often for several hours. These may include temporary regrouping, reduced space allowances, temperature changes, limitations to food and water and vehicle motion. Welfare risks during transport are greater for animals which are injured or sick. Weak animals have less chance to move away from aggression, and are more likely to lose balance due to sudden stop or acceleration or change of direction of the vehicle.

Animals have to be physically fit and healthy when loaded on the vehicle, to maintain an adequate level of welfare during transport. It is therefore essential that all animals are checked before loading to determine fitness for transportation, and that unfit animals are cared for at the place of origin or euthanized if required. This will reduce the risk that animals may not survive the trip, or suffer serious welfare problems. Using fitness at loading as a selection criterion is a major factor in assuring animal welfare during transport.

1.2. Policy objective

The European Union considers animals not just as goods, or products, or possessions, but as sentient beings, meaning that they are capable of feeling pleasure and pain. The Treaty of Amsterdam (1997) provides the first reference to sentience: "Desiring to ensure improved protection and respect for the welfare of animals as sentient beings, have agreed...". This position was reiterated in Article 6b of the Treaty of Lisbon (2007): "since animals are sentient beings...". Treating animals according to the notion that they are sentient and thus have 'feelings' is an important step towards offering good welfare. European Union legislation has translated this notion into measures which ensure that animals are kept and transported under conditions that do not subject them to maltreatment, abuse, pain or suffering. The legislation protects mammals and birds, and the other vertebrates to a lesser extent: the slaughter Regulation¹ even excludes detailed aspects on the protection of farmed fish, since "there is a need for further scientific opinion and economic evaluation".

To protect animal health, animal welfare and public health, European and national legislation lays down conditions under which animals are considered as not fit for transport. The legislation makes clear that:

"No person shall transport animals or cause animals to be transported in a way likely to cause injury or undue suffering to them." (Regulation (EC) No 1/2005, Article 3).

"No animal shall be transported unless it is fit for the intended journey, and all animals shall be transported in conditions guaranteed not to cause them injury or unnecessary suffering." (Regulation (EC) No 1/2005, Annex I Chapter I point 1)

To support this, Regulation (EC) No 1/2005 sets out common rules as regards the transport of live animals between EU countries and provides for checks on consignments entering or leaving the customs territory of the Community. The regulation defines the responsibilities of all actors involved in the transport of live animals entering or leaving the EU.

¹ Council [Regulation \(EC\) No 1099/2009](#) of 24 September 2009 on the protection of animals at the time of killing.

1.3. References to Fitness in Regulation (EC) No 1/2005

Regulation (EC) No 1/2005 aims to protect the welfare of animals during transport, and refers several times to animal fitness for transportation.

Timing of checks

As part of the general conditions for animal transportation, the Regulation requires any person transporting animals to check that animals are fit for the journey (Article 3). In the case of long journeys² between Member States and with third countries, checks at the place of departure for fitness for transport shall be performed by competent authorities before loading. This should be done as part of the animal health checks as set out in the corresponding veterinary Community legislation (Article 15 (2)). The same applies to livestock vessel³ inspection on loading and unloading (Article 20 (2a)). Finally, where animals are presented at exit points or border inspection posts, official veterinarians of the Member States shall check that the animals are fit to continue their journey (Article 21 (1c)). Where the competent authority considers that animals are not fit to complete their journey, they shall be unloaded, watered, fed and rested (Article 21 (3)).

Technical rules

Annex 1 of Regulation (EC) No 1/2005 lists the criteria for qualifying animals fit or unfit to travel in Chapter 1. Broadly speaking, there are two categories of unfit animals presented in Chapter 1 (2): those that are injured and those that are vulnerable.

The regulation regards **vulnerable animals** as those “that present physiological weaknesses or pathological processes” that prevent them from being transported without undue suffering. They are:

- a. pregnant females for whom 90 % or more of the expected gestation period has already passed, or females who have given birth in the previous week;
- b. new-born mammals in which the navel has not completely healed;
- c. pigs of less than three weeks, lambs of less than one week and calves of less than ten days of age, unless they are transported less than 100 km;
- d. dogs and cats of less than eight weeks of age, unless they are accompanied by their mother;
- e. cervine animals in velvet.

An exception is made in Chapter 1 (7) for registered Equidae beyond 90 % of pregnancy “if the purpose of the journeys is to improve the health and welfare conditions of birth, or for newly born foals with their registered mares, provided that in both cases the animals are permanently accompanied by an attendant, dedicated to them during the journey”.

Lactating females of bovine, ovine and caprine species not accompanied by their offspring also represent a vulnerable category with an increased risk of suffering related to transport. The Regulation states that they shall be milked at intervals of not more than 12 hours.

² A ‘long journey’ means a journey that exceeds 8 hours, starting from when the first animal of the consignment is moved (Art 2 (m)).

³ A ‘livestock vessel’ means a vessel which is used or intended to be used for the carriage of domestic Equidae or domestic animals of bovine, ovine, caprine or porcine species other than a roll-on-roll-off vessel, and other than a vessel carrying animals in moveable containers (Art 2(l)).

Animals that are injured are those that:

- f. are unable to move independently without pain or to walk unassisted;
- g. present a severe open wound, or prolapse ;

In exception to these rules, Chapter 1 (3) also considers sick or injured animals that may be considered fit for transport. Transport is allowed if they are:

- h. slightly injured or ill and transport would not cause additional suffering;
- i. transported for the purposes of Council Directive 86/609/EEC (1) if the illness or injury is part of a research programme;
- j. transported under veterinary supervision for or following veterinary treatment or diagnosis;
- k. animals that have been submitted to veterinary procedures in relation to farming practices such as dehorning or castration, provided that wounds have completely healed;

Remedial actions during transport

It is possible that animals which have been certified fit for transport at the place of departure, fall ill or are injured during transportation. The Regulation states that in those cases “they shall be separated from the others and receive first-aid treatment as soon as possible. They shall be given appropriate veterinary treatment and if necessary undergo emergency slaughter or killing in a way which does not cause them any unnecessary suffering” (Chapter 1 (4)).

1.4. Problem description

In 2011, the European Commission, according to Article 32 of the Regulation, made a first evaluation of impact of Regulation (EC) No 1/2005 on the protection of animals during transport. The evaluation concluded that, overall, the Regulation led to a slight improvement of animal welfare. Nevertheless, several problems were identified as regards its implementation, with consequences on both animal welfare and the level playing field for operators. Nowadays, even though the overall quality of animal transport has been improved, several issues remains problematic or raise concerns, such as live transport over long distances, feeding during transport, lack of space and rest during transit, logs, inspections and controls, etc. An important aspect that can mitigate – or worsen – the animal welfare situation with respect to these issues is the level of fitness of animals at departure.

2. Objective and scope of the research paper

2.1. Objectives

This research paper presents a **desk research of available data on technical aspects of Regulation (EC) No 1/2005 regarding the fitness for transport, as established by Annex 1 (Chapter 1) of the Regulation**. The objectives of the paper are two-fold.

Firstly, the research paper will provide an overall picture of the aspects to be considered as regards the technical rules on fitness for transport set out by Regulation (EC) No 1/2005, by taking into consideration the different types of animals to which the Regulation applies.

It will refer, *inter alia*, to the main aspects of animal condition (allowing for or prohibiting transport), the provisions of the Regulation as regards long journeys, the emergency situations foreseen in the legislation, all in relation with the different types of animals.

Secondly, based on the key findings, the research paper will make relevant recommendations for action towards improvements as regards the fitness for transport, if needed.

2.2. Scope

The research paper focusses on EU legislation regarding animal fitness for transportation, and its implications for animal welfare in the member states. Technical information regarding practices related to the implementation of Regulation (EC) No 1/2005 is derived from international literature, including those from third countries.

The species of farmed animals that are included are cattle, pigs, sheep, poultry and horses. No information was gathered about pets and fish.

2.3. Limitations

The legislation has come into force in 2007, but central collection of infringement data regarding fitness from each of the member states did not start until 2014, and only data on 2014 and 2015 are present on the Commissions website⁴. Furthermore, these data do not provide indications of the type of fitness related infringement, nor the location where the infringement was observed (e.g. before, during or after transportation).

Given the available resources in terms of time and budget it has not been possible to produce a complete evaluation study according to the guidelines for better regulation⁵. The results of this research paper are based on audit reports and reports delivered by Member States following their 'reporting' obligations), academic literature, and documents produced by stakeholders interested in the fulfilment of the objectives of the Regulation (provided they satisfy relevant quality standards).

⁴ The audit figures for 2016 were published on the website of the Commission just before the deadline of this report, and could not be included in the analyses.

⁵ https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how/better-regulation-guidelines-and-toolbox_en

3. Methodological approach

3.1. Literature search

To obtain the publications referred to in this report different search engines, search terms and sources of publication were used.

Search Engines employed

As much of the literature is published outside the scientific domain, the authors employed a wide range of search engines in order to identify existing recommendations for good or best practice or to identify possible secondary sources of this information. Thus searches were undertaken using Google, Google Alerts, Google Scholar, Scopus and Web of Science.

Search Terms for published information

An initial quick scientific literature review was executed with the words “fitness for transport” and “animal” in Google Scholar and with the words (“fitness to travel” or “fitness for transport”) and “animal” in Scopus, both limited to publications from 2009 onwards. This gave a relatively small number of useful references.

The search was then extended by including outcomes of a literature search carried out as part of the Animal Transport Guides project⁶, in which the authors of this report were also involved. This expanded the search to Google, Google Alerts and Web of Science. It included the following additional key words: “pig transport”, “cattle transport”, “horse transport”, “sheep transport”, “poultry transport”, “good practices”, “best practices”, “codes of practice”, “recommended practice”, “animal transport”, “livestock transport”, “animal welfare”, “guides”, “guidelines”, “advice”, “transport regulation”, “transport legislation”, “loading”, “unloading”, “fitness”, “navigation”, “welfare codes”, “welfare indicators”, “transport stress”, “animal handling”, “poultry welfare”, “best practices in animal transport”, “guides for animal transport”, “space allowance”, “stocking density”, “journey times”. This resulted in a far greater number of documents, from which only those that referred to aspects of fitness were selected.

The authors also included documents from the ‘grey literature’, which were suggested to the Animal Transport Guides project by competent authorities, veterinarians, Non-Governmental Organisations (NGOs) animal transporters, slaughterhouse operators, processors and other industry bodies in the European countries of the consortium: France, the UK, the Netherlands, Romania, Greece, Poland, Spain, Germany and Italy.

Well over 50 documents were obtained through these combined search activities, most of which are used in this report to illustrate good practices.

3.2. Inspection reports

The Ex-Post Evaluation Unit of the European Parliament Research Service has also provided a list of publically available publications that mainly contains references to documents from the European Commission, European Parliament, Court of Justice, EFSA, European Economic and Social Committee and European Parliament - DG IPOL. It includes references to Audit reports on animal transport in EU Member States (2007 - 2017), on audits carried out by the European Commission in

⁶ www.animaltransportguides.eu: a European Commission (DG SANTE) funded project developing Guides to Good Practice for the transportation of livestock (2015-2018).

EU Member States. The briefing also includes a link to annual reports⁷ of Member States to the Commission on their own inspections of the transport of live animals. They provide an analysis of the major deficiencies detected and an action plan to address them. The audit reports of 2014 and 2015 were analysed for this report, as they include specific reference to Fitness.

The second part presents nearly a dozen documents produced by stakeholders or found in the scientific literature.

⁷ Please see: https://ec.europa.eu/food/animals/welfare/practice/transport/inspection-reports_en

4. Main findings on fitness to transport livestock

Key findings

- Since 2014, compliance with the rules on fitness is one of the 6 categories that the Member States have to report on explicitly. Fitness is responsible for the largest percentage of infringements (28% in 2014 and 43% in 2015).
- There are huge differences between countries in terms of the numbers of inspection ranging from zero to several million per annum), and the incidence of infringements (from zero to 16,6%). This suggests that Member States take different approaches to these inspections, e.g. random vs risk based strategies.
- Of the 5 main livestock species it appears poultry are checked most often, and that most infringements are detected on arrival at the abattoir.
- Audits by the Commission between 2007-2017 in several Member States almost always refer to non-compliances with the rules on fitness. Other issues that become apparent are problems to ascertain the state of pregnancy (animals in the last 10% of gestation should not be transported) and differences of opinion on what constitutes 'fitness': e.g. how serious an injury needs to be before an animal is refused at loading.
- The main on-farm hazards affecting the transport of unfit animals include poor record keeping (to avoid late pregnant animals and births on the vehicle) and housing and management practices that cause injuries.
- During loading inadequate lighting may hamper the identification of unfit animals, and poor information transfer to the driver may result in vulnerable animals being missed (e.g. cows to be milked during long journeys).
- Hazards during transportation include a range of issues such as quality of driving, presence of adequate equipment for e.g. milking and feeding and unexpected changes in road or weather conditions.
- A search of the available scientific and grey literature reveals that many guidelines exist on how to confirm fitness during loading and maintain it during the journey. The Animal Transport Guides project reviewed and presented good and better practices to mitigate fitness hazards and comply with Regulation (EC) no 1/2005, for each of the 5 main livestock species.
- Despite these guidelines, several issues remain to be resolved. Among them are the determination of pregnancy stage, the provision of water to animals transported in cages, and the conditions for transporting chicks.
- According to the audits by the Commission of the inspection activities of the national Competent Authorities, practical and economic considerations regularly result in animals being declared fit, when they are not. A key question repeated several times is what has to be done with animals that are not fit to be loaded.

4.1. Level of compliance

Annual inspection reports by EU member states

As requested by article 27 of the Regulation, competent authorities check compliance with legislation through non-discriminatory inspections. The findings are [reported annually](#) to the Commission, including an analysis of the major deficiencies and action plans to address them. The proportion of inspections should be increased where it is established that the provisions of the Regulation have been disregarded. This implies that the inspections in principle are not carried out

on a representative sample: there will be more inspections when the risk of finding infringements is greater. Therefore, the outcomes might overestimate the proportion of infringements in the member states.

All international transports are checked prior to departure regarding documentation, condition of the equipment and the fitness for transport of animals. These checks are executed before final approval will be given for the journey. Moreover, at the slaughterhouse all animals are checked for their fitness following travel as part of the *ante mortem* inspections for food safety purposes, according to Regulation (EC) No 854/2004 (chapter II inspection tasks). The findings of the official veterinarians are recorded according to Regulation (EC) No 854/2004 (Article 4). The way of documenting the findings is not harmonised within the EU, although the Competent Authorities deliver the above mentioned annual reports to DG SANTE on the checks, the infringements and actions taken. A smaller portion of the consignments arriving at slaughterhouses are checked on technical aspects of the means of transport as required by the legislation. In addition, a limited amount of inspections are carried out during the journey and at other points of destination.

Before 2014 member state reports did not specify the background of infringements. Since 2014 the reports are more harmonised and provide insight in areas of non-compliance. Currently six categories of non-compliance are distinguished: 1- fitness of animals, 2- transport practices, space allowances, height, 3- means of transport, 4- watering, feeding, journey times and resting, 5- documentation and 6- other. The inspection reports suggest that fitness of animals for transport is responsible for the largest percentage of infringement (Table 1).

Table 1: Number and percentage of infringements reported by competent authorities of 27 Member States in 2014 and 2015

CATEGORY	Numbers		Percentage of all infringement	
	2014	2015	2014	2015
1. Fitness of animals for transport	4,385	7,849	28%	43%
2. Transport practices, space allowances, height	3,440	2,422	22%	13%
3. Means of transport and additional provisions for livestock vessels or vessels transporting sea containers, and for long journeys	1,174	1,290	8%	7%
4. Watering and feeding, journey times and resting periods	542	641	3%	4%
5. Documentation	3,802	4,528	24%	25%
6. Other cases of non-compliance	2,279	1,489	15%	8%
Total	15,622	18,219	100%	100%

Source: Annual inspection reports by member states 2014 and 2015

A closer look at the inspection reports and the analyses that accompanies them reveals that there are huge differences between Member States. Table 2 presents the number of inspections in 2014 and 2015, the number of infringements related to fitness of animals and the calculated % of infringements for each of 27 Member States. The number of inspections reported by Member States range from zero (France and Lithuania in 2014; Slovenia in 2015), to over 10 million (for the Hungary in 2014). It is highly likely that these values are incorrect, since every country is obliged to carry out inspections (so zero is not possible) and 10 million in Hungary in one year seems physically impossible. But even after taken out these 'outliers' the differences in the number of inspections

remain enormous, and so does the percentage of infringements related to animal fitness: it ranges from 0% (Bulgaria, Croatia, Cyprus, Greece, Malta, Slovakia in 2014 and 2015; and Sweden in 2014) to 16.64% (Ireland in 2015; so one in every 6 inspections). The data for the UK was left out as they indicate in their report that they could not provide data on the number of inspections (and instead reported the number of animals).

Table 2. No of inspections, number of infringements related to fitness of animals and the % of infringements, per Member State for 2014 and 2015.

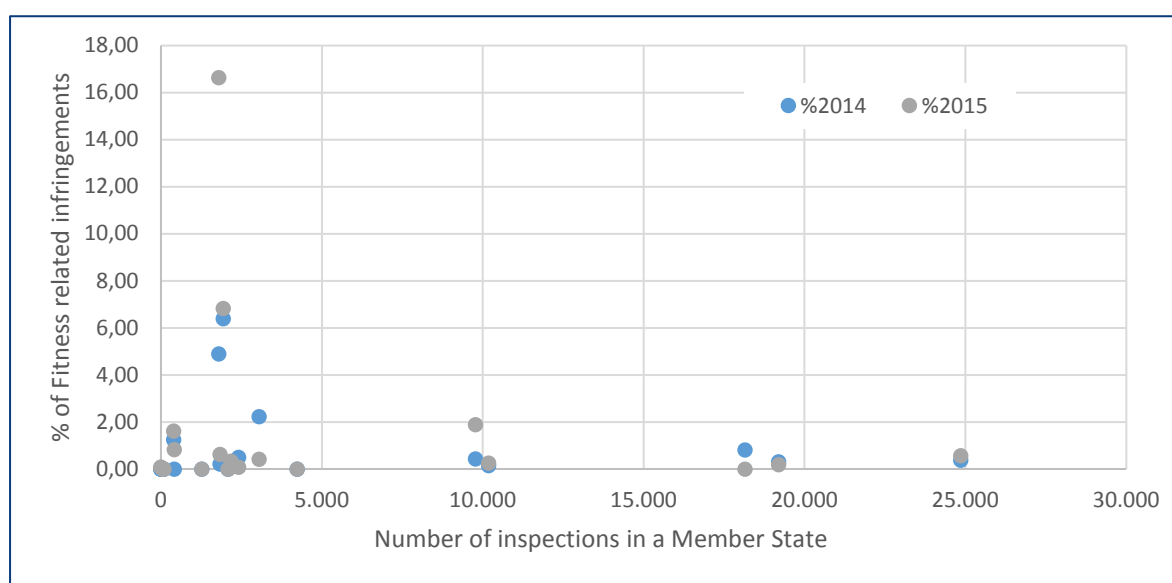
	2014			2015		
	Inspections	Infringemnts	%	Inspections	Infringmnts	%
Austria	139,197	238	0.17	157,986	421	0.27
Belgium	19,195	60	0.31	41,614	74	0.18
Bulgaria	4,282,772	0	0.00	13,395	0	0.00
Croatia	2,089	0	0.00	2,808	0	0.00
Cyprus	101	0	0.00	111	0	0.00
Czech Republic	166,928	264	0.16	170,704	269	0.16
Denmark	1,941	124	6.39	1,685	115	6.82
Estonia	1,844	4	0.22	6,783	42	0.62
Finland	402	5	1.24	371	6	1.62
France	0	0	0.00	28,711	20	0.07
Germany	2,039,354	1,563	0.08	303,052	2,439	0.80
Greece	1,272	0	0.00	1,958	0	0.00
Hungary	10,259,719	24	0.00	504,831	7	0.00
Ireland	1,798	88	4.89	1,418	236	16.64
Italy	24,859	93	0.37	17,728	100	0.56
Latvia	2,415	12	0.50	2,642	2	0.08
Lithuania	0	0	0.00	3,889	3	0.08
Malta	60	0	0.00	31	0	0.00
Netherlands	10,192	15	0.15	62,534	157	0.25
Poland	496,731	420	0.08	353,870	487	0.14
Portugal	2,182	2	0.09	2,649	9	0.34

Romania	3,060	68	2.22	4,328	18	0.42
Slovakia	4,243	0	0.00	3,403	0	0.00
Slovenia	18,158	148	0.82	0	0	0.00
Spain	9,776	42	0.43	4,665	88	1.89
Sweden	424	0	0.00	244	2	0.82
UK	Not reported ^a	1363	N/A	Not reported ^a	3206	N/A

UK data are left out, as they appeared to pertain to the number of animals, not inspections. Source: Annual inspection reports by Member States 2014 and 2015.

The wide range in the percentage of infringements may also be due (at least in part) to erroneous reporting, but it could also be the result of differences in inspection strategy. Although Section A of the inspection report asks for the “Number of non-discriminatory inspection activities”, it is probable that the **inspections activities in several member states are not random but ‘risk based’**. A risk based strategy involves targeting transports that are likely (for whatever reason) to break the law, and/or to target specific companies with a poor track record. A risk based strategy makes economic sense: it increases the chance of finding infringements with a lower number of inspections (and thus a lower resource input by the Competent Authorities). Tentative support for this hypothesis can be found when the percentage of infringements is compared to the number of inspections carried out in 2014 and 2015: lower numbers of inspections are associated with higher percentages of infringements. This relationship is graphically represented in Figure 1 (Please note that in this graph the data related to more than 100,000 inspections per year in a country is excluded, to facilitate interpretation). If Member States apply different sampling strategies, meaningful comparison of the data becomes impossible.

Figure 1. Scatter plot of the percentage of infringement related to animal fitness for transport and the number of inspections in EU Member States in 2014 and 2015. For presentation reasons the input data was truncated at 100,000 inspections in a given year.



Source: Annual inspection reports by Member States 2014 and 2015

All countries report figures for the main farm animal species, but only a few report figures for aquatic species. Table 3 presents the number of inspections that were carried out in 2014 and 2015 for each of the five major livestock species: cattle, pigs, sheep, horses and poultry. It is clear that inspections of animals take place mainly during loading and unloading, and that this greatly outnumbers inspections during travel. Administrative checks are reported even less frequently. The number of inspections on poultry seems to be the greatest by far, mainly due to a reported 10 million inspections by Hungary in 2014.

Table 3. Number of inspections in 26 Member States^a, per species for 2014 and 2015 combined

	Bovines	Porcine	Ovine	Equidae	Poultry
Checks pre + post transport	725,037	1,417,306	110,939	43,508	16,028,237
Checks during transport	138,285	258,254	9,345	11,103	110,429
Administrative checks	5,394	117,074	5,449	719	199,043

^aUK data are left out, as they appeared to pertain to the number of animals, not inspections Source: Annual inspection reports by Member States 2014 and 2015

Most infringements were detected on arrival at slaughterhouses or other destinations (see Table 4). Although to some extent the fitness problems may have occurred during transport, other cases clearly point out that fitness checks before departure were not adequate. An example is the transport of females that are too far in gestation. The inspection reports do not provide information regarding differences between short and long journeys for infringements, and particularly not regarding fitness after travel. However, loading of unfit animals is probably less likely for long transports, given the requirement of certification by an official veterinarian before departure, but reduction of fitness during transport is less likely during short journeys. Moreover, the inspection reports do not indicate clear species specific problems regarding fitness to travel, these seem to occur for all species. A report from EFSA argued for special provisions for poultry and for horses transported to slaughter (EFSA, 2011).

Table 4. Percentage infringements of Animal Fitness legislation for all inspections in 26 Member States^a, per species for 2014 and 2015 combined

	Bovines	Porcine	Ovine	Equidae	Poultry
Checks pre + post transport	0.42	0.14	0.09	0.07	0.00
Checks during transport	0.47	0.35	1.18	0.83	0.33
Administrative checks	0.65	0.02	0.00	0.56	0.00

^aUK data are left out, as they appeared to pertain to the number of animals, not inspections. Source: Annual inspection reports by Member States 2014 and 2015

Audits by the Commission of Member State to evaluate animal welfare during transport

Between 2007 and 2017 the Food and Veterinary Office and later on DG SANTE of the Commission carried out numerous audits that have addressed live animal transport. Several reports from these audits mention fitness for transport related issues in their recommendations. Although part of the

reports also indicated good practices regarding implementation of the Regulation, the main shortcomings regarding fitness for transport are outlined below.

Audits in Italy (2008, 2010, 2011)

In 2008 in Italy there were regions where substantial numbers of sick and injured dairy cows were transported to a slaughterhouse, sometimes only to be euthanized. Part of these animals were transported with certificates from the local vet, despite the fact they were not fit for transport according to the Regulation. The 2010 audit in Italy showed improvements in the checks on fitness of animals upon arrival in slaughterhouses. A remaining issue was how to handle in case private vets provided certificates for unfit animals, which was also indicated in the audit report of 2011. According to the Italian law only farmers and drivers were responsible for transporting unfit animals. The following factors were mentioned for problems with transport of unfit cull cows to slaughter: lack of training of vets and farmers, cultural attitudes of stakeholders, reluctance of slaughterhouses to accept carcasses of animals emergency slaughtered on farm, legal responsibilities according to the Italian law such that private vets cannot be prosecuted. The audit report of Italy in 2011 also mentions that checks during transport in Emilia Romagna showed non-compliances with fitness requirements in 25% of consignments of bovines inspected and 33% of consignments of pigs and equines. High prevalence of animal welfare offences were also detected in Veneto (30% in 2010 and 53% in 2011), without mentioning the species involved.

Audits in Portugal (2009, 2011)

This audit of 2009 revealed that seriously injured cows continued to be transported alive to slaughterhouses, usually with a certificate from a local vet. At the time of the audit, private vets were not trained to assess fitness for transport, and the national Competent Authority considered nearly all animals that could be loaded as fit for transport. The sanctions applied for very extreme cases were not effective to stop operators transporting unfit animals. The audit report from 2011 reported similar findings.

Audit in Lithuania (2009)

This revealed that transport of unfit animals was not effectively prevented. Reports from *ante mortem* inspections (showing no abnormalities) were not in line with emergency slaughter certificates. These made clear that animals were transported for emergency slaughter that were not fit to travel according to the Regulation.

Audits in Cyprus (2009, 2012)

Similar findings to those in Lithuania (2009) were reported for Cyprus in 2009. Private practitioners were not adequately trained regarding fitness to travel. The audit report of 2012 stated that there was no more evidence of cull cows unfit for transport being transported to slaughterhouses, but also that there was no satisfactory explanation what currently happened with these animals. Only few animals had been emergency killed on farm and also only few animals were slaughtered on farm for home consumption. The number of fallen stock, only including animals found dead at the farm, was also relatively small.

Audits in France (2009, 2012)

The 2009 audit revealed that unfit animals were transported to slaughterhouses. Local vets had potential conflicts of interest when deciding on fitness for transport. Checks on long journeys in control posts were hampered by the fact that arrivals were unannounced. A guide used to assess fitness to travel was not in line with the Regulation, because it indicated that animals with one fractured limb but able to walk could be transported. Moreover, animals arrived at abattoirs with a

veterinary certificate despite they were unfit for travel even according to this guide. Occasionally, cows were transported to slaughter at the end of the gestation period. Similarly, several cases of unfit sows were detected at arrival in slaughterhouses but these were not accompanied by a certificate and thus deemed fit for transport by the farmer and transporter. The audit report of 2012 does not mention issues related to fitness to travel.

Audit in Spain (2009)

This audit report mentions that the inspection team detected that cows with serious injuries were transported for slaughter, sometimes long distance, but had been unfit for transport. Discrepancies were detected between the *ante mortem* records and emergency slaughter records. A check at an assembly centre for sheep showed that unfit animals were present, whereas the official records declared that the Competent Authority did not detect animals unfit for transport in the preceding four months. Moreover, sheep that were considered unfit for human consumption were transported to a slaughterhouse and killed in the lairage. The official policy (to slaughter animals unfit for transport on farm) was not implemented.

Audit in Malta (2009)

The audit of Malta in 2009 also showed that dairy cows unfit for transport were transported to a slaughterhouse for emergency slaughter with certificates, and unfit pigs were transported to slaughter by producers. Transport of injured animals for emergency slaughter to a slaughterhouse was still ongoing in 2010, which was allowed by the national Competent Authority.

Audit of The Netherlands (2010)

The audit report states that checks on pregnancy status of heifers were not adequate in one assembly centre, and that some exported animals had given birth a few days after arrival. In case *ante mortem* inspections revealed that unfit animals were transported, effective action was taken. It is reported that on farm slaughter of bovines unfit for transport is relatively common. Checks of animals at farm of destination are recommended, particularly for unweaned calves transported long distance.

Audits in Bulgaria (2010, 2012)

The 2010 audit in Bulgaria revealed gaps in Competent Authority staff awareness concerning fitness requirements as laid down in the Regulation. The audit in 2012 revealed that Official Veterinarians have issued certificates for continuation of journeys for transports where animals had died during transport and were sent to a rendering plant and for transports where animals gave birth during transport.

Audits in Poland (2010, 2011)

The audit in Poland in 2010 revealed that checks of feeding and drinking as well as resting intervals of transports of unweaned calves at assembly centres were not adequate. The audit in Poland in 2011 revealed that the Competent Authority allows transport of unfit cows (downers) from a market, which does not comply with the Regulation.

Audit in Greece (2010)

The audit in Greece in 2010 revealed that an Official Veterinarian in a slaughterhouse considered transport for slaughter of a cow with a broken leg as normal, despite this is not in line with the Regulation. In general the Competent Authority checks of animal welfare during transport were classified as unsatisfactory.

Audit in Slovakia (2011)

This audit report revealed that fitness of unweaned calves before long transport was insufficiently checked.

Audit in Czech Republic (2017)

The audit report from Czech Republic in 2017 mentions that inspections of most of the consignments destined for Turkey contribute to reduced likelihood of welfare problems during transport.

Audit in Hungary (2017)

This audit was also focussing on transports to non-EU countries, and it was reported that there has been a successful cooperation between a large exporter/transporter and an animal welfare NGO that has resulted in the development of innovations that should lead to better conditions for animals transported.

Fact finding mission to Turkey (2017)

The mission revealed that transports to Turkey via the Kapitan Andreevo-Kapikule border have a high risk of causing unnecessary pain and distress to animals on hot days. The report of the fact finding mission to Bulgaria in 2017 states that the Bulgarian authorities are dealing with significant challenges since the cattle trade to Turkey has come up. According to the report, the number of consignments with unfit or dead animals was minimal. The fact that consignments experiencing temperatures above 35 °C are not recorded is called a missed opportunity.

Animals' Angels report

The report of Animals' Angels on long journeys observed in 2016 (Animals Angels, 2016) was mainly focussing on cattle transports from the EU to Turkey, and indicated numerous transports for which the welfare of the animals was seriously impaired. These problems are not reflected in the annual inspection reports from Bulgaria, where most of the observations were done. The report does not indicate to what extent the problems resulted from insufficient checks on fitness for transport, but it is more likely that the main factors were the duration of the journey and poor watering, feeding and resting as well as high loading densities and too low compartments. On top of that, poor planning and administrative preparation often contributed to prolonged waiting times before border crossing.

4.2. Hazards related to fitness

Welfare risks during transport are greater for animals which are injured or sick. Weak animals have less chance to move away from aggression, and are more likely to lose balance due to sudden stop or acceleration or change of direction of the vehicle. It is essential that all animals are checked before loading to determine fitness for transportation. The check should include a thorough evaluation of animal based measures related to health and welfare status of the animals. This will reduce the risk that animals sent for transport may not survive the trip, or suffer serious welfare problems.

The risk that an animal is unfit for transportation is affected by several hazards. These include hazards that affect the animal's actual fitness to be transported, hazards regarding the decision making process of whether an animal can travel, and transport circumstances that affect fitness during transportation. An overview is presented in Table 5.

Table 5: Hazards threatening compliance with the technical rules for fitness to travel in Annex I of Regulation (EC) No 1/2005.

EC (No) 1/2005 ANNEX 1: TECHNICAL RULES Chapter 1: Fitness for Transport	Pre-transport hazard	Loading hazards	Transport hazards
2. Animals that are injured or that present physiological weaknesses or pathological processes shall not be considered fit for transport	<ul style="list-style-type: none"> • Lack of pre-transport handling 	<ul style="list-style-type: none"> • Low light levels affecting observation by inspector 	<ul style="list-style-type: none"> • Unexpected changes in weather conditions • Poor driving quality • Unexpected journey extensions • Accidents
and in particular if: (a) they are unable to move independently without pain or to walk unassisted;	<ul style="list-style-type: none"> • Housing and management practices that may cause lameness 	<ul style="list-style-type: none"> • Low light levels affecting observation by inspector 	<ul style="list-style-type: none"> • Poor driving quality • Poor floor conditions • Lack of bedding in the truck
(b) they present a severe open wound, or prolapse;	<ul style="list-style-type: none"> • Housing and management practices that may cause lameness 	<ul style="list-style-type: none"> • Low light levels affecting observation by inspector 	<ul style="list-style-type: none"> • Poor quality driving • Lack of checks by driver during journey • Protruding elements in animal compartment
(c) they are pregnant females for whom 90 % or more of the expected gestation period has already passed, or females who have given birth in the previous week;	<ul style="list-style-type: none"> • Poor record insemination keeping on farm 	<ul style="list-style-type: none"> • Low light levels affecting observation by inspector 	<ul style="list-style-type: none"> • Females giving birth during the journey
(d) they are new-born mammals in which the navel has not completely healed;	<ul style="list-style-type: none"> • Poor birth record keeping on farm 	<ul style="list-style-type: none"> • Low light levels affecting observation by inspector 	
(e) they are pigs of less than three weeks, lambs of less than one week and calves of less than ten days of age, unless they are transported less than 100 km;	<ul style="list-style-type: none"> • Poor birth record keeping on farm 		<ul style="list-style-type: none"> • Detours or other reasons for journeys to go over 100km
(f) they are dogs and cats of less than eight weeks of age, unless they are accompanied by their mother;	<ul style="list-style-type: none"> • Poor birth record keeping on farm 	<ul style="list-style-type: none"> • Low light levels affecting observation by inspector 	

EC (No) 1/2005 ANNEX 1: TECHNICAL RULES Chapter 1: Fitness for Transport	Pre-transport hazard	Loading hazards	Transport hazards
(g) they are cervine animals in velvet.		<ul style="list-style-type: none"> • Low light levels affecting observation by inspector 	
4. When animals fall ill or are injured during transport, they shall be separated from the others and receive first-aid treatment as soon as possible. They shall be given appropriate veterinary treatment and if necessary undergo emergency slaughter or killing in a way which does not cause them any unnecessary suffering.	N/A	N/A	<ul style="list-style-type: none"> • Poor quality driving • Lack of checks by driver during journey • Poor quality observations by driver, due to e.g. mechanical issues or incompetency
6. Lactating females of bovine, ovine and caprine species not accompanied by their offspring shall be milked at intervals of not more than 12 hours.	<ul style="list-style-type: none"> • Poor birth record keeping on the farm 	<ul style="list-style-type: none"> • Inadequate transfer of data from farmer to driver 	<ul style="list-style-type: none"> • Inadequate milking facilities • Lack of stops • Incompetent handler skills

Source: the authors

4.3. Guidelines for the assessment of fitness

Even though there is hardly any scientific literature on fitness for transportation, there are quite a number of documents in the 'grey literature' that provide guidelines and advice on the assessment of fitness. The next paragraphs provide an overview of this literature for the 5 main livestock species that are transported: cattle, horses, pigs, sheep and poultry. The detailed comments related to the legislative text that these documents refer to is presented in tabled form in Annex 1 of this report.

Cattle

A set of guidelines on fitness for transport of cattle were developed in the UK, and presented in Quality Assurance schemes which have clear recommendations to ensure compliance with Regulation EC No 1/2005 and emphasise avoiding pressure to load unfit stock (Red Tractor Assurance, 2011; QMS, 2014). These guidelines also recommend additional training of drivers to ensure good practice. Fitness to travel is also addressed in a French Vademecum of the Regulation (Interbev, 2007b). This document provides specific reminders that only animals with complete identification and transport documentation can be transported. Finally, fitness for transport is also addressed in one Canadian document and definitions are provided to help transporters (Canadian Food Inspection Agency, 2010).

The main practical European source of guidelines for cattle fitness to travel was published in 2012 after reaching consensus among many stakeholders (Eurogroup for Animals et al., 2012). This document covers all aspects of fitness for transport with a distinction between animals unfit for transport, questionable animals where veterinary advice is needed and animals considered to be fit for. The EU document was developed from an earlier French publication (Interbev, 2007a). However, it does not propose any practical solution to the situation when animals are unfit for transport. Furthermore, there is no indication on how to identify pregnant cows which would have exceeded 90% of the gestation period.

Horses

There are a large number of documents in the grey literature that relate to horse fitness for transport, addressing several different aspects.

'Body condition score'⁸ (BCS) is a topic that is widely published on in relation to fitness. BCS should score 2 or higher over a 0-5 scale to allow the transportation of a horse (Animal Health Australia, 2012). Others refer to the same scale, but additionally recommend to do further assessments for very fat animals (score 5) before deciding on transportability (World Horse Welfare et al., 2016). In Horse Welfare Alliance of Canada (2010), on the other hand, a wider scale is proposed to assess BCS (1-9), and it is advised to avoid transportation of emaciated horses (score 1) and to take special provisions for very thin animals (score 2). Despite the different scale adopted in the documents, no major differences are present in the description of unfit horses.

Lameness is also taken into account in some references. It is stated that the lameness score⁹ should be less than 4 in horses fit to travel (World Horse Welfare et al., 2016). Others do not recommend a scoring scale, but lists the criteria to take into account while assessing locomotion and ability to keep balance (World Horse Welfare et al., 2016). Although there are somewhat different methods to account for locomotion, there is good agreement between the different approaches, which stated that clearly lame animals are unfit for transport.

⁸ A five point scale commonly used in the livestock industry to indicate body condition: 1 = very thin, 5 = too fat.

⁹ A five point scale commonly used in the livestock industry to score ease of walking

World Horse Welfare et al. (2016) provides information about how to check for dehydration (which would be a condition of non-transportability). In addition, another source suggests additional criteria to be used, such as the examination of mouth mucosa and the use of skin pinch test (IFAP, 2013).

All the sources consulted indicate that to ensure that horses are fit to travel, good preparation is required. Items that are considered are the amount of grains in the ration (which should be halved compared to normal) and the animals should be well rested prior to departure (IFAP, 2013). Hooves should be trimmed one week in advance, when needed (World Horse Welfare et al., 2016), and water and feed provided up to loading (IFAP, 2013).

Foals of 10 days or more are old enough to be transported, assuming the navel has healed (Ministero della Salute, 2008). Mares reach 90% of pregnancy 311 days after conception (Ministero della Salute, 2008). The recommendation that animals with a pregnancy duration of >300 days as unfit to travel (given a gestation length of 340 days) can be regarded as a best practice (World Horse Welfare et al., 2016).

World Horse Welfare et al. (2016) suggests that different conditions (e.g. different journey length, weather and ambient temperature in the vehicle, previous experiences of the animal) are taken into account when assessing fitness to travel.

The main European source of guidelines for horse fitness to travel was published after reaching consensus among many stakeholders (World Horse Welfare et al., 2016). This document covers all aspects of fitness for transport, with a distinction among animals unfit for transport, questionable animals where veterinary advice is needed and animals considered fit for transport.

It appears that the current guidelines cover this topic quite well, but there are no clear recommendations on how to take different conditions (e.g. different journey length, weather and ambient temperature in the vehicle, previous experiences of the animal) into account when determining fitness to travel.

Pigs

The main criteria to assess fitness to travel are related to the ability to move or to keep balance, signs of circulatory weakness, prolapses, hernias and swelling, skin lesions and bleeding, late pregnancy and visual impairment. A number of sources (COOP de France et al., 2009; CAFRC, 2001; FPPC, 2008; LivestockWelfare.com; Pig Veterinary Society, 2013) cover different aspects of the fitness of pigs to travel: they focus on the distinction between animals unfit for transport, questionable animals where veterinary advice is needed and animals considered fit for transport. Detailed information is provided by these sources about conditions, lesions and signs of diseases to support harmonised assessment of pig fitness to travel. Another source (Putzer et al., 2015) contains recommendations for the transport of pigs with hernias, if assessed as fit to transport (e.g. isolation, more space, extra litter). Good practice guidance is also available (National Pork Board, 2014) about how to handle pigs temporarily unfit to travel because they are ill, injured, or fatigued (i.e. feeding and segregation to avoid feed and water competition).

Good practices are also available about handling pigs found ill, injured or unable to walk during transportation and according to predetermined contingency plan (National Animal Welfare Advisory Committee, 2011). These guidelines indicate that as a best practice “pregnant sows or gilts should not be transported in the last third of duration of the pregnancy period (National Animal Welfare Advisory Committee, 2011) instead of the last 10% as prescribed in current legislation”.

A number of sources of information include useful figures, pictures and a decision tree to support harmonised assessment of pig fitness (COOP de France et al., 2009; FPPC, 2008; and the website LivestockWelfare).

In 2015, a large group of stakeholders of the pig supply chain developed the “Practical Guidelines to Assess Fitness for Transport of Pigs”. They were: European Livestock and Meat Trades Union (UECBV)¹⁰, Eurogroup for Animals¹¹, COPA-COGECA¹², Animals’ Angels¹³, INAPORC¹⁴, COOPERL Arc Atlantique¹⁵, Federation of Veterinarians of Europe (FVE)¹⁶, European Livestock Transporters (ELT¹⁷) and International Road Transport Union (IRU)¹⁸ (Eurogroup for Animals et al, 2015). Their guidance document was built on previously released French guidelines (COOP de France et al., 2009). In Europe, a broad consensus exists on these guidelines among relevant stakeholders and authorities.

There is not much information on how to keep pigs which are assessed as unfit to travel because they are slightly ill, injured or fatigued and how to handle those pigs found unfit to travel during their transportation.

Sheep

General recommendations about what makes an animal fit to travel are given in different documents (PMAF, 2015; Interbev, 2007b; and Idele, 2011). For instance, it is suggested that animals with severe open wounds or with presence of a prolapse must not be loaded. For transport to the slaughterhouse, specific advice is also provided on line, through a Canadian farm animal welfare resource centre (Livestock Welfare)¹⁹. Fitness conditions which require the delay of animal transportation or euthanasia of animals are provided in an Australian guide (Australian Animal Welfare Standards and Guidelines, 2012). In addition, information can be found on how to define ‘90% of gestation’ in each species, including ewes (Ministero della Salute, 2016).

Other recommendations include advice on moving animals which need help, how to deal with open wounds or prolapses, females in late pregnancy, females who have given birth in the previous week, new-born lambs/kids with their umbilical cord still present, lambs less than 1 week of age are considered with general recommendations. It is also recommended in the same sources that lactating females not accompanied by their offspring should be milked at 12 hours interval.

Poultry

There are only a few documents addressing fitness to transport poultry. All agree that birds to be transported have to be fit. Fitness to travel should be assessed by the farmer together with the catching crew (Anonymous, 2012), with a veterinary validation and in good lighting conditions

¹⁰ Union of national federations representing livestock markets, livestock traders (cattle, horses, sheep, pigs), meat traders (beef, horse meat, sheep meat, pig meat), and the meat industry (slaughterhouses, cutting plants, meat preparation plants); for details, see [website](#).

¹¹ Advocacy organisation in the animal welfare sector ; for details, see [website](#).

¹² Organisation representing European farmers and European agri-cooperatives; for details, see [website](#).

¹³ Animal protection organisation, specialized in farm-animal transport; for more details, see [website](#).

¹⁴ The professionals of French pork industry; for details see [website](#).

¹⁵ Private cooperative group investing and carrying out industrial pig projects; for details, see [website](#).

¹⁶ Umbrella organisation of veterinary organisations from 38 European countries; for details, see [website](#).

¹⁷ The ELT has ceased to exist

¹⁸ World’s road transport organisation; for details; see [website](#).

¹⁹ More details are available on Livestock Welfare’s [website](#).

(PISC, 2006). What 'unfitness' is, is described by only two of the literature references: broken bones (EFSA, 2004), lameness, weakness, ill or injured birds (ref 015). The course of action to be taken when unfit birds are identified is that they should be euthanized before arrival of the catching crew (Les Eleveurs des Volailles du Québec, 2012). However, the method of euthanasia is not mentioned.

To prevent vulnerable birds from becoming unfit during transport special provisions applied to the transport of wet birds: dry bedding should be provided before loading (PISC, 2006). If the temperature is below 8°C, these birds should not be transported (EFSA, 2004). Otherwise, they should not be loaded close to air inlets (EFSA, 2004). There is not much information on the transport of chicks: the only recommendation is that chicks should be transported as soon as possible after hatching (Guillou, 2011; Philippe, 2001).

4.4. Improving compliance

Cost of welfare

Livestock farming is an economic activity, from which farmers and other stakeholders such as traders, transporters and slaughterhouse-operators make a living. Economic benefits, at least for some individuals, are an important driver to carry out activities that in general are viewed as undesirable or even illegal. A European Parliament report²⁰ suggests that transport enterprises incur the largest share of the increased costs to comply with the Regulation. As a result, animal transporters, all operating in a competitive environment, do not regard animal welfare as the main success factor. Transporting animals under optimal (legal) conditions is more expensive than transporting under minimal conditions. This means that veterinarians and transporters are under a lot of pressure to accept unfit animals.

A grey area

For animals of questionable fitness, transport to a nearby abattoir under special conditions and with a veterinary certificate could be an option. The audits of the Commission (carried out in Italy, 2008²¹) have shown that private veterinarians in some EU countries are providing certificates for animals that arguably should not have been transported according to the Regulation (EC) 1/2005. In such cases, the farmers and drivers apparently have had doubts regarding the fitness of the animals involved. Certificates are either provided because the private veterinarian truly considers the animal fit for travel, because there is no good alternative or because he/she is pressed to sign a certificate.

Cullinane et al. (2010) points out that certificates should have a restricted legally binding period of validity, because it occurred that there was considerable delay between the establishment of the certificate and the actual transport and slaughter of the animal. Another issue that may play a role here is that in some countries private veterinarians (who provide transport certificates for unfit animals) cannot be held legally responsible for allowing unfit animals to travel (as stated in an audit report of mission to Italy, referred to above). This makes it easier to issue a certificate.

Finally, the audits of the Commission of the inspection activities of the national Competent Authorities show that in some EU countries transport of animals that are unfit for transport according to the Regulation (EC) 1/2005 was considered acceptable both by Competent Authority veterinarians, private veterinarians, farmers and transporters. This issue has cultural as well as educational backgrounds. It will take time before standards in all countries are harmonised, and to educate all stakeholders regarding the European legislation. The study of Dahl-Pedersen et al. (2018)

²⁰ European Parliament, Report on the protection of animals during transport ([2012/2031\(INI\)](#)), 16 October 2012.

²¹ See http://ec.europa.eu/food/audits-analysis/audit_reports/details.cfm?rep_id=2033

showed that assessment of fitness for transport of cull dairy cows deserves more focus, training and research. The study of Herskin et al. (2017) showed that Danish livestock transporters overestimated their knowledge of the legislation. If farmers and drivers assess an animal as being fit for transport and have no doubts about their judgement, they will not consult a veterinarian to be sure the animal can travel.

It could be argued that *ante mortem* inspections of unfit animals by Competent Authority veterinarians should result in more dissuasive fines and slaughterhouses not accepting these animals without further consequences. Otherwise these and other practices may increase, as it is economically more attractive than complying with the legislation.

Lack of alternative solutions

Another factor causing non-compliance regarding fitness to transport is the lack of good alternatives. Although optimal farming practices can minimize the prevalence of unfit animals on-farm, it cannot completely be prevented that animals become unfit. In some instances, these animals can recover on-farm and transportation can be postponed. Often however, treatment is not a realistic option and for welfare reasons ending the suffering is the best option. Unfortunately, euthanasia is not always applied when it should. Work of Baumgartner (2014) who analysed animal welfare problems in fallen stock at the rendering plant detected a lot of hidden suffering: many casualties had wounds that must have been present for a long time before the animal finally died or was killed.

Turner and Doonan (2010) studied the development of on farm euthanasia plans, and argue that culling and transport decision preferably should be made early, before animals become unfit for transport or human consumption. The animals have to be either transported for emergency slaughter, killed on farm or euthanized and disposed to a rendering plant. Killing animals on farm instead of slaughtering them at the abattoir involves additional expense (e.g. veterinary and rendering bills) and missed income (as the carcass is worthless). So the animals are often loaded on the vehicle, despite not being fit to travel. Furthermore, on-farm slaughter is complicated by EU hygiene legislation, addressing the use of mobile or small scale regional slaughter and processing facilities. In fact, many small producers and slaughterhouses have ceased activity, and as a result, average transport duration has increased. To avoid these transports, sanitary legislation should be reformed to make it legally possible for slaughterhouses to accept carcasses of emergency slaughtered animals, killed on-farm (Magalhães-Sant'Ana et al., 2017).

Young animals

Another category of potentially unfit for transport animals are very young animals such as calves, lambs or piglets. For young mammals Regulation (EC) 1/2005 provides two criteria that should be fulfilled for fitness for transport: age (for piglets at least three weeks, for lambs one week and for calves ten days) and healing of the navel. In some EU countries, transport of calves is only allowed from an age of 14 days onwards. For Competent Authorities to check if the legislation is complied with they have to rely to a large extent on the administration of the farmers. A study on behalf of the Dutch Competent Authority of the healing of navels of young dairy goat kids (kids with unhealed navels should not be transported), has shown that mummification of the navel usually occurs within one week (Verkaik et al, 2016). Thus, this is not a good alternative criterion for the age requirements to check if they are fit for transport. Very young animals are considered unfit because they are too vulnerable, and postponing the journey until the animals are strong enough to withstand the stress of transport is an option. However, this implies that they have to be taken care of for longer on the farm where they are born, and many farmers want to cull the new-born animals they do not intend

to raise as replacements as soon as possible. It is in the interest of for instance the veal sector that calves that are transported from dairy farms are fit for transport, because this reduces health problems on the veal farms.

Changing the law

Finally, changing the law to shorten the maximum travel time has also been tried. The European Parliament Report on the protection of animals during transport ²² insisted on 'a reconsideration of the issue of limiting the transport time of animals destined for slaughter to eight hours' (as also requested in a petition of over one million EU citizens), to force the industry to slaughter animals closer to home. This would challenge their fitness a lot less, and fewer welfare problems would rise. However, the lack of a scientific basis for this has successfully delayed adoption and implementation of this suggestion.

²² European Parliament, Report on the protection of animals during transport ([2012/2031\(INI\)](#)), 16 October 2012.

5. Conclusions

- Regulation (EC) no 1/2005 puts great emphasis on the need for animals to be fit to be transported.
- Recording of compliance with fitness guidelines across the EU member states has only recently started to result in analysable data. Only data for 2014 and 2015 (and recently 2016) have yet been made public.
- Of the 6 categories of infringements presented in the Member State inspection reports, fitness has the highest level of non-compliance.
- There are huge differences between Member States in the frequency of inspections and the level of infringements.
- It is highly likely that Member States apply different inspection strategies, which makes the data not comparable across countries.
- Checks of the animals before and after the journey are far more prevalent than checks during transport or of the administration. By far the most checks are at the slaughterhouses and these are mostly short distance transports.
- Most infringements related to fitness are detected at the abattoir. Logically, this could either mean that animals became unfit during the journey, or that checks during loading are inadequate.
- Ascertain the state of pregnancy on live animals remains problematic, if the associated paperwork is inconclusive.
- Differences on what constitutes 'fitness' still cause practical problems. Farmers, drivers and inspectors are not trained sufficiently.
- The main on-farm hazards affecting the transport of unfit animals include poor record keeping (to avoid late pregnant animals and births on the vehicle) and housing and management practices that cause injuries.
- Poor information transfer to the driver may result in vulnerable animals being missed whilst loading (e.g. cows to be milked during long journeys).
- Hazards during transportation include a range of issues such as quality of driving, presence of adequate equipment (for e.g. milking and feeding) and unexpected changes in road or weather conditions (e.g. traffic jams, accidents vehicle break downs).
- It is often asked what alternatives there are to loading animals which are unfit.

6. Recommendations

- Member States should continue their effort to provide harmonised data on transport inspection and infringements levels to the Commission
- Efforts should continue to be made to reduce the level of non-compliance with the legislation on fitness by the chain actors and competent authorities
- Checking for fitness during loading by transporters, farmers and veterinarians (where appropriate) should be improved substantially.
- On farm record keeping of service and birth dates should be greatly improved by farmers
- Selection in the barn and loading of animals for transport should only take place if they can be identified and inspected properly, by those responsible for their welfare.
- More training to recognise unfitness should be provided to farmers, drivers and others responsible for the welfare of animals that are transported.
- Veterinarians should be held accountable by the competent authorities for any transport approval certificates they issue.
- Repeated infringements detected at the abattoir should lead to prosecution and compulsory retraining of those responsible for the fitness check during loading of animals.
- Legislative opportunities in each Member State should be investigated to facilitate on farm killing, and preferably on farm slaughter, of animals not fit to be transported.
- Commercial opportunities should be sought and supported by the livestock industry to reduce the economic incentive to transport animals at a very young age.
- The licence to transport animals on long journeys should be revoked if repeated infringements regarding fitness are detected at unloading or at border crossings.

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ANNEX Overview of recommendations in grey and scientific literature on Fitness for transport of five main livestock species

Regulation 1/2005	Recommendations regarding CATTLE	
<p>Annex 1, Ch 1 (1): No animal shall be transported unless it is fit for the intended journey, and all animals shall be transported in conditions guaranteed not to cause them injury or unnecessary suffering</p>	<p>As regards to fitness for transport and the transport of casualty animals, the UK Red Tractor Assurance Livestock Transport Standards recommend the following:</p> <p>“Transporters can take measures to ensure that animals which are in a “satisfactory condition” before leaving their point of origin are delivered to the abattoir in the same satisfactory state. The following steps should be considered by the transporter when transferring animals from the point of origin to the abattoir / market:</p> <p>Ensure as far as possible that animals are protected from adverse weather conditions during loading. A wet coat serves to exacerbate contamination due to defaecation during transport.</p> <p>Provide a transport vehicle which is maintained and cleaned to a suitable standard.</p> <p>Provide adequate bedding in the transport vehicle.</p> <p>Consideration should be given to the type of bedding used.</p> <p>Attention should be given to unloading animals to ensure they are not exposed to adverse weather conditions.</p> <p>It is advisable that transporters should be aware of the relevant regulations which relate to the transport of animals. Whilst it is not envisaged that the transporter should be obliged to rectify the condition of any animals with unsatisfactory coats, it is totally unacceptable that a transporter would bring about the contamination of animals which were loaded in a satisfactory condition, and subsequent to transporting them, they arrive at the abattoir in an unsatisfactory state i.e. it is the responsibility of the transporter to ensure that adequate and suitable transport is provided for the animals.”</p>	<p>Anon, 2011</p>
	<p>In the UK, the QMS guide to safe livestock transportation suggests:</p> <p>“The aim must be to provide the conditions that allow a driver to adequately inspect livestock at loading, and to provide a working attitude that does not pressurise the individual into carrying unfit stock.”</p>	<p>QMS, 2014</p>

Regulation 1/2005	Recommendations regarding CATTLE	
	In Canada, there are guidelines issued by the Canadian Food Inspection Agency to assist transporters in deciding whether an animal is fit for the intended transport.	Canadian Food Inspection Agency, 2010
	The European Practical Guide to Fitness to travel for bovines covers all aspects of fitness for transport with a distinction among animals unfit for transport, questionable animals where veterinary advice is needed and animals considered fit for transport.	Eurogroup for Animals, et al., 2012

Regulation 1/2005	Recommendations regarding HORSES	
Annex 1, Ch 1 (1): No animal shall be transported unless it is fit for the intended journey, and all animals shall be transported in conditions guaranteed not to cause them injury or unnecessary suffering	In order to make the right decision the following points should be considered: The general condition of the animal; The duration of the journey; The animal's previous transport experience; The environment within the vehicle (e.g. temperature and humidity, loading density); Whether the condition of the animal will deteriorate during the journey, and if transport will aggravate existing health conditions or a minor injury; The risk of rejection by the inspection services at the slaughterhouse.	World Horse Welfare et al., 2016
	Horses should be at least a body condition score of 2 before transport, as described in the table below (score BCS 1-5 Carroll and Huntington, 1988). Horses below condition score 2 should only be moved after veterinary advice and for the shortest distance necessary	Animal Health Australia, 2012
	A 9-points BCS scale is proposed, (following Henneke et al., 1983 publication), providing clear information about how the classification should be performed. Very thin or emaciated horses are not to be transported (score 1), while special care must be dedicated to the transportation of score 2 horses.	Horse Welfare Alliance of Canada, 2010

Regulation 1/2005	Recommendations regarding HORSES	
	Strategies to be implemented prior to departure to increase animal welfare at transport. Do not work horses the day prior to travel in order to have them more rested at departure; reduce grain ration (by half) the night before departure. Just before departure: provide hay and water <i>ad libitum</i> .	IFAP, 2013
	Preparation of horses before departure: use protection for tendons, cover with a non-impermeable blanket in case of cold weather, use protection for the tail.	IFAP, 2013
	Equidae need to lie down within a 24-hour period to achieve deep sleep, which is required to obtain adequate rest. Equidae need to be checked for signs of fatigue before the transport begins. Equidae displaying any signs of fatigue require further assessment before transport is undertaken: Head and neck held low; eyes closing or closed; Lying down for long periods, even when in an uncomfortable position; Leaning or resting head on objects or surfaces; Indifference to surroundings (unresponsive, 'shut-down', depressed, persistently refusing to eat and/or drink); Reluctance or inability to move and/or stand; Stumbles and loses balance when moving; Stiffness and pain; Abnormal breathing (rapid); In extreme cases the animal may collapse.	World Horse Welfare et al., 2016
Annex 1, Ch 1 (2): Animals that are injured or that present physiological weaknesses or pathological processes shall not be considered fit for transport [...]	Undertake further assessment if the following signs are observed: Lethargy; depression; loss of appetite; head and neck held low; cough; sweating and/or shivering; abnormal faeces: very soft, hard or, absent faeces; blood may be present; dark coloured urine, abnormal smell; sudden behavioural change, such as aggression; threatening behaviour; head pressing; restlessness; sensitivity to light, touch or noise.	Horse Welfare Alliance of Canada, 2010
	Do not transport if the following signs are observed: - Discharge from the nose, eyes, vulva or penis (may be foul smelling, thick, yellow or green, blood-stained, or frothy) -Shallow, rapid or laboured breathing - Swelling, lumps or abscesses, particularly around the head and neck; - Nodules under the skin that may become ulcers and/or discharge: -Neurological signs, such as: weakness; difficulty or reluctance moving; stiffness; lack of coordination; muscle tremors or spasms; circling; fitting; paralysis; collapse; - Diarrhoea.	World Horse Welfare et al., 2016

Regulation 1/2005	Recommendations regarding HORSES	
[...] in particular if: (a) they are unable to move independently without pain or to walk unassisted;	Animals with overgrown or misshapen hooves will find it difficult to maintain balance during transport; placing stress on their joints, which may result in fatigue and the risk of injury. Hooves should be trimmed a week before transport and the animal assessed for lameness and/or pain.	World Horse Welfare et al., 2016
	Deformities affect the animal's ability to balance during transport; therefore, it is less able to cope with the journey. Assess if the animal is lame and/or in pain. As long as the deformity is not causing pain or difficulty moving, and will not cause the animal to become fatigued during the journey, it is a minor issue and the animal is fit for transport.	World Horse Welfare et al., 2016
	A person in charge of horses to be transported must not transport a horse that has an equine lameness score of 4 or 5, except in accordance with advice from a veterinary practitioner.	World Horse Welfare et al., 2016
(a) they are unable to move independently without pain or to walk unassisted;	Animals with overgrown or misshapen hooves will find it difficult to maintain balance during transport; placing stress on their joints, which may result in fatigue and the risk of injury. Hooves should be trimmed a week before transport and the animal assessed for lameness and/or pain.	World Horse Welfare et al., 2016
	Deformities affect the animal's ability to balance during transport; therefore, it is less able to cope with the journey. Assess if the animal is lame and/or in pain. As long as the deformity is not causing pain or difficulty moving, and will not cause the animal to become fatigued during the journey, it is a minor issue and the animal is fit for transport.	World Horse Welfare et al., 2016
	A person in charge of horses to be transported must not transport a horse that has an equine lameness score of 4 or 5, except in accordance with advice from a veterinary practitioner.	Anonymous, 2013
(c) they are pregnant females for whom 90 % or more of the expected gestation period has already passed, or	Mares reach 90% of pregnancy at about 311 days	Ministero della Salute, 2008

Regulation 1/2005	Recommendations regarding HORSES	
<p>females who have given birth in the previous week;</p> <p>(d) they are newborn mammals in which the navel has not completely healed;</p>	<p>The navel of foals can be considered healed 10 days after birth, so they shall not be transported before then</p>	<p>Ministero della Salute, 2008</p>
Regulation 1/2005	Recommendations regarding PIGS	
<p>Annex 1, Ch 1 (1): No animal shall be transported unless it is fit for the intended journey, and all animals shall be transported in conditions guaranteed not to cause them injury or unnecessary suffering</p>	<p>When writing a confirmation for fitness for transport OV should also think of the duration of transport and write these in their confirmation and possibly also how long the confirmation is valid</p>	<p>National Animal Welfare Advisory Committee, 2011</p>
	<p>Euthanize: Non-ambulatory, Lameness Class 4 & 5 fractures of limbs or spine any case where pigs are unable to eat or drink due to injury or disease chronic "poor-doers" or emaciated pigs pigs suffering from severe non-responsive disease</p>	<p>LivestockWelfare.com</p>

Regulation 1/2005	Recommendations regarding PIGS	
	<p>prolapsed uterus arthritis involving multiple joints nervous disorders, such as rabies must be reported to CFIA; contact your vet before euthanizing hernia that impedes movement, is painful, or touches the ground severe recent injury</p>	
	<p>Detailed document to support decision between treat, slaughter, euthanize and process or sale of casualty pigs</p>	<p>COOP de France et al., 2009</p>
	<p>Where on-farm slaughter is not permissible non-ambulatory animals (downers) should be euthanized if loading and transportation without further suffering are not possible. Non-ambulatory animals (downers) must not be removed from the vehicle while conscious. If not fit for transport the animal should be killed.</p>	<p>CAFRC, 2001</p>
<p>Annex 1, Ch 1 (2): Animals that are injured or that present physiological weaknesses or pathological processes shall not be considered fit for transport [...]</p>	<p>Delay transportation and reassess pigs with: dehydration fever (range 38.5°C to 39.5°C) total blindness (consider on-farm slaughter) stressed pigs showing signs of exhaustion, heat stress, weakness or PSS</p>	<p>LivestockWelfare.com</p>
	<p>Transport asap direct to slaughter pigs with: abscess and local infections (no fever) recent prolapsed vagina or rectum lameness classes 1, 2 penile or vulva injury severe dewclaw injury</p>	<p>Pig Veterinary Society, 2013</p>

Regulation 1/2005	Recommendations regarding PIGS	
	first stage anorexia or weight loss (no fever) frost bite partial blindness severe tail bite or vulva bite smoke inhalation	
	Practical guidance on fitness for transport to slaughter. Health signs and related courses of action are shown to support decision making of pig farmers and transporters for a list of major or minor health issues: generalized bad health unable to move without pain or assistance hernia abscess, deformation, joint inflammation tail-biting uterine prolapse vaginal prolapse rectal prolapse pregnant or post-pregnant sows skin lesions	FPPC, 2008
	Decision tree for the transport of weak pigs including. Lists of good practices are provided in terms of definitions and recommendations regarding categories of ill or injured pigs whose transport cannot be authorized or must be postponed or can be authorized to the closest abattoir with special provisions.	National Pork Board, 2014
	Animals with hernia larger than 15 cm but without complications: fit to transport (but with extra bedding and separated). Maximum of 5 hernia pigs per compartment, with extra thick layer of litter and extra space/animal	Putzer et al., 2015
	Managing ill, injured, or fatigued pigs: Handle in a humane manner Prevent illness and injuries (i.e. feeding nutritionally sound diets, handling pigs properly, etc.)	Putzer et al., 2015

Regulation 1/2005	Recommendations regarding PIGS	
	<p>Provide a resting area to minimize competition for feed and water</p> <p>If ill, injured, or unable to walk during loading, this animal should not be transported to market channels</p> <p>If ill, injured, or unable to walk during transportation and post unloading, this animal should be segregated upon arrival and care given to their special needs. Notify the receiver of any ill, injured, or fatigued animals on the transport vehicle before it is unloaded.</p> <p>Never drag a live pig by its ears, legs, or tails. Do not use your foot or in any way force any pig to move.</p>	
<p>[...] in particular if: (a) they are unable to move independently without pain or to walk unassisted;</p>	<p>Do not load or transport lame animals: animals should not be loaded if at risk of going down in transit; pigs that can't bear weight on all four legs may be in pain and are at risk of going down during transit.</p>	<p>CAFRC, 2001</p>
<p>(c) they are pregnant females for whom 90 % or more of the expected gestation period has already passed</p>	<p>Animals that are pregnant should not be in the last third of pregnancy when transported</p>	<p>Canadian Food Inspection, 2010</p>

Regulation 1/2005	Recommendations regarding SHEEP	
<p>Annex 1, Ch 1 (1): No animal shall be transported unless it is fit for the intended journey, and all animals shall be transported in conditions</p>	<p>General recommendations. For example, paying attention to very young or very old animals, very thin or very fat animals, pregnant females and mothers with offspring</p>	<p>Universidad Austral de Chile, 2010</p>

Regulation 1/2005	Recommendations regarding SHEEP	
guaranteed not to cause them injury or unnecessary suffering		
	Transport with special provisions direct to slaughter rules.	BCFACC et al, 2010
	Conditions for the delay of transportation and euthanasia of animals.	Animal Health Australia, 2012
	General view about animals fit to be transported	PMAF, 2015
	Practical description of animals fit to be transported	Idele, 2011
Annex 1, Ch 1 (2): Animals that are injured or that present physiological weaknesses or pathological processes shall not be considered fit for transport [...]	Animals not moving without help, open wounds or prolapse, pregnant females for whom 90 % or more of the expected gestation period has already passed, or females who have given birth in the previous week, new-born lambs/kids with their umbilical cord still present, lambs less than 1 week of age	ANSVSA, 2015
(c) they are pregnant females for whom 90 % or more of the expected gestation period has already passed	A table stating how much days of gestation are 90% for different species, including ewes	Ministero della Salute, 2008; Ministero della Salute, 2008, 2016
Annex 1, Ch 1 (6): Lactating females of bovine, ovine and caprine species not	Lactating females not accompanied by their offspring should be milked at 12 hours interval	ANSVSA, 2010; ANSVSA, 2015

Regulation 1/2005	Recommendations regarding SHEEP	
<p>accompanied by their offspring shall be milked at intervals of not more than 12 hours.</p>		

Regulation 1/2005	Recommendations regarding POULTRY	
<p>Annex 1, Ch 1 (1): No animal shall be transported unless it is fit for the intended journey, and all animals shall be transported in conditions guaranteed not to cause them injury or unnecessary suffering</p>	<p>Check the animal fitness for transport. Unfit animals are not loaded</p>	<p>AVEC, 2015; Perrone et al., 2014</p>
	<p>Unfit birds removed prior to the arrival of transportation</p>	<p>Anonymous, 2006</p>
	<p>There should be sufficient lighting to permit inspection. A torch or other device should be used where light is insufficient.</p>	<p>Anonymous, 2006; AVEC, 2015</p>
	<p>If flooding occurs in sheds housing poultry on the floor, dry bedding should be provided, where practical, in order to minimise the problem associated with transporting wet birds</p>	<p>Anonymous, 2006</p>
	<p>birds should be protected from wetting at all times and particularly when air temperature is <8°C. Wetting birds should not be loaded close to air inlets on the vehicle, if temperature is <8°C wet birds should not be transported</p>	<p>EFSA, 2004</p>

	Non fit animals are euthanized before catching crew arrives	Anonymous, 2012
	Both farmer and catching crew check animals fitness for transport	Anonymous, 2012
Annex 1, chapter V, 2.1.b	Chicks are sent as soon as possible after hatching	Guillou, 2011; Philippe, 2001
Annex 1, Ch 1 (2): Animals that are injured or that present physiological weaknesses or pathological processes shall not be considered fit for transport [...]	Assessments to know if birds are fit to transport or not (joint decision by producer, catching crew, hauler, and processing plant): environmental problems : wet birds in cold weather, heat and / or humidity; cold and/or wind chill; road closure; individual bird with minor trauma, wounds or bleeding (including injury due to handling); flock : diarrhoea, coughing and sneezing - "snicking" , if a flock is diagnosed with a disease by a vet or lab, special provisions may be required. dark, red, purple or black combs or wattles; discharge from eyes nostrils; swollen head/neck; skin on head or neck is dark red or very pale (exception for Toms); Bloody and/or prolapsed vents; emaciated and weak : very thin, easily felt breastbone (careful, could be visible for laying hens without real emaciation); dislocated, broken or exposed bones (including injury due to handling); unable to rise or walk due to physical abnormality or injury.	Anonymous, 2015
	hens with broken bones should not be transported	EFSA, 2004; EFSA, 2011
	Lame broilers should not be transported	EFSA, 2004

Regulation (EC) 1/2005 came into force on 25 January 2005 and aims at protecting the welfare of animals during transportation. It lays down common rules for the transport of live vertebrate animals between EU countries, in order to prevent injury or unnecessary suffering to the animals.

This European Implementation Assessment (EIA) looks, through desk research, at the general implementation of the regulation, with a focus on data recording, as well as at the compliance with the technical rules as set out in Annex I on fitness for transport. Thus, this EIA should not be taken to represent an overall and comprehensive evaluation of Regulation (EC) 1/2005.

Our findings, based on existing data, revealed a mixed picture of implementation, with progress recorded but also problematic issues and areas where further progress is needed in the future

This is a publication of the Ex-Post Evaluation Unit
EPRS | European Parliamentary Research Service

This document is prepared for, and addressed to, the Members and staff of the European Parliament as background material to assist them in their parliamentary work. The content of the document is the sole responsibility of its author(s) and any opinions expressed herein should not be taken to represent an official position of the Parliament.



ISBN: 978-92-846-3317-3
DOI: 10.2861/15227
CAT: QA-04-18-757-EN-N