



ANIMAL TRANSPORT GUIDES

Guide to good practices for the transport of sheep

2017



For more information:
www.animaltransportguides.eu



Acknowledgements



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DISCLAIMER

The positions expressed in this report do not necessarily represent in legal terms the official position of the European Commission.



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0. Introduction

Since 1991, the EU has provided a common legal framework on animal transport which was then updated by [Regulation \(EC\) 1/2005](#) on the protection of animals during transport, hereafter referred to as **'the Regulation'**. It came into effect on the 1st of January 2007, and aims to provide a level playing field for operators while ensuring sufficient protection for the animals being transported. The content and impact of the Regulation has been the subject of a Scientific Opinion from the European Food Safety Authority ([EFSA, 2011](#)), followed in 2011 by an impact report from the Commission to the European Parliament and the Council ([Anon., 2011](#)).

In this report, three key recommendations were formulated:

1. The Regulation has had beneficial impact on the welfare of animals during transport, but there is room for improvement of the situation;
2. An amendment of the Regulation is not the most appropriate approach to address the identified problems;
3. As regards the gap between the requirements of the legislation and available scientific evidence the Commission sees that this is best addressed by the adoption of guides to good practice.

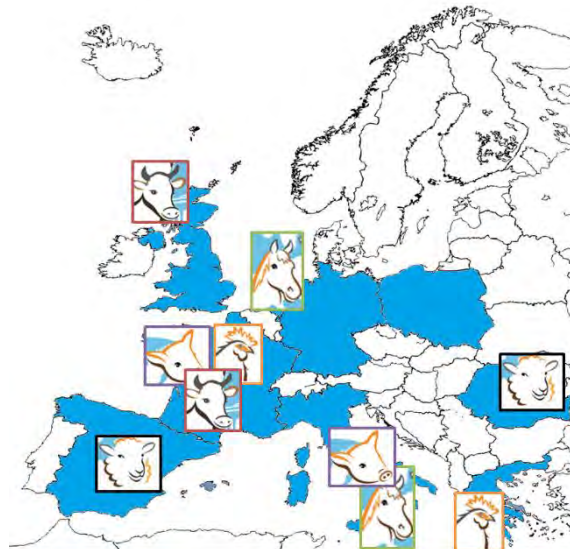
The European Commission has welcomed the production of **"clear and simple guidelines to assess the fitness for transport"** prepared by stakeholder groups for [bovines](#) in 2012, and [equidae](#) and [pigs](#) in 2016. It was then considered important to extend this approach to address all aspects of the welfare of livestock during transportation.

0.1 Approach and Acknowledgements

This Guide has been produced within the framework of the Animal Transport Guides project, commissioned by DG SANTE under contract SANCO/2015/G3/SI2.701422. The project started on the 10th of May 2015, and its main aim was to develop and disseminate good and better practices for the transportation of livestock. The foundation for this Guide was laid in the first project year, through an extensive literature search and resulting overview of a substantial number of available practices. These overviews of suggested practices can be found on the Animal Transport Guides website: <http://animaltransportguides.eu/>. There is one report for each of five livestock species (pigs, poultry, horses, sheep and cattle). In the second year, these very broad and diverse lists were discussed and largely rewritten, to develop the present five Guides to Good Practices. This involved an intensive process of stakeholder consultation.

The first step in moving from the collection of practices to a draft Guide of Good Practices was taken at member state level. Teams consisting of academic partners from two countries per species (**the 'Duo Countries'**) **took the lead**.

- ✓ Sheep: Spain and Romania
- ✓ Poultry: Greece and France
- ✓ Pigs: Italy and France
- ✓ Horses: Italy and the Netherlands
- ✓ Cattle: United Kingdom and France



The academic partners identified practices that are at the level of current EU legislation (**'Good Practices'**) and practices that are aspiring more (**'Better Practices beyond EU legislation', or simply 'Better Practices'**). The partners then proceeded to ask national stakeholder groups in their own countries to reflect on these suggestions for good and better practices.

To support this process and work towards consensus, an iterative Delphi procedure of anonymised input collection was used. Well over 100 stakeholders were involved in this step, representing a variety of backgrounds. The largest number of stakeholders indicated they were farmers (19 individuals), transporters (27), slaughterhouse personnel (13), NGOs (12) and competent authorities (27). Representatives from animal trade, academia and vehicle manufacturers also took part in this consultation process. All discussions were carried out in the national language of the member state involved. **The final result of this Delphi procedure were five "Draft Guides to Good Practice". These were not published, but used as the basis for the final Guides.**

The final Guides for each of the five livestock species were developed through a second round of consensus building **at European level, with the help of 'Focus Groups'**. These focus groups had an international basis: the delegates were asked to represent knowledge, experience and opinions beyond those of their own country. Table 0.1 below shows the composition of these five focus groups.

Table 0.1 Composition of international Focus Groups, involved in the production of the final Guides to Good Practice. The numbers indicate the number of representatives per stakeholder category.

	Sheep	Poultry	Pigs	Horses	Cattle	Total
Farmers	3	5	3	1		12
Vehicle manufacturers			2			2
Animal traders	1				2	3
Transporters		3	2	3	5	13
Slaughterhouses	2	5		1		8
Official veterinarians		2	1	2	2	7
Animal scientists	2	3	2	2	2	11
Animal welfare organisations	2	3	2	4	5	16
Total	10	21	12	13	16	72

A first series of meetings of the five focus groups was organised at the end of May 2016. During these meetings, the draft guides were presented by the academic partners. A road map to turn the draft guides into the current final versions was then agreed with the stakeholders. All focus groups held subsequent meetings in Brussels, to discuss and reach consensus on the wording of each single practice to be included in the final Guides. Different species groups had different numbers of meetings, and the last ones were held in March 2017.

To support and help guide the process of writing, the Animal Transport Guides project team set up a 'Stakeholder Platform'. This group of people provided advice throughout the first two years of the project on how to tackle issues that affect all five species guides. The Platform was composed of representatives from 13 international organisations or stakeholder groups: the International Road transport Union (IRU), the Federation of Veterinarians of Europe (FVE), Eurogroup for Animals, Copa-Cogeca, Association of Poultry Processors and Poultry Trade (AVEC), the German Breeders Organisation (ADT), Eyes on Animals, the Irish Ministry of Agriculture, vehicle manufacturer Pezzaioli, Union Européenne du Commerce du Bétail et des Métiers de la Viande (UECBV), European Forum of Farm Animal Breeders (EFFAB), the German Transporters Organisation (BDT), and the Greek Ministry of Agriculture. The Platform met 5 times in Brussels over two years.

As part of the development of the five Guides, the species Focus Groups and the Stakeholder Platform choose 17 topic areas which deserved extra attention. The practices in these areas were collected in 17 so called 'Fact Sheets', aiming to summarise and illustrate in an accessible way the most critical aspects of the journey or the most vulnerable categories of animals. Linked to the present Sheep protocol, 3 Fact Sheets were produced: Long distance transport, Heat and cold stress and Fitness to travel. These three, and those related to the other Guides, are published in eight European languages.



The target audience for the fact sheets are farmers, drivers, local veterinarians and abattoir staff. The target audience for the Guides to Good Practice are transport organisers, competent authorities and policy makers. The Guides and the Fact Sheets can all be found on the project's website: <http://animaltransportguides.eu/>.

The development of the Fact Sheets and the Guides would not have been possible without the highly constructive discussions at national and international level with the many stakeholders mentioned above. Their help with this process was essential, and the authors are grateful for the time and knowledge they contributed to the writing of the Guides.

0.2 Aim of this Guide

The Guides to Good Practice have the aim to improve the welfare of animals during transportation by providing practical tools to meet the requirements of the Regulation and to suggest practices which go beyond legislation.

Transport is a stressful situation for animals. This guide lists practices that aim to support entrepreneurs in increasing the quality of the transport of animals in accordance with the Regulation, thus limiting stress to animals and promote animal welfare.

This document is not of legally binding nature and does not affect the requirements of the EU legislation on animal transport or other relevant pieces of legislation. Nor does it commit the European Commission. Only the Court of Justice of the European Union is competent to authoritatively interpret Union law. The reader is therefore invited to consult this guide in connection with the relevant provisions of the legislation and refer, when necessary, to the relevant competent authorities.

0.3. Main welfare risks during sheep transport

Transport involves several potential stressors that can negatively affect animal welfare. The new and unfamiliar environment, movement restrictions due to confinement, vibrations, sudden and unusual noises, animal fitness, mixing with other animals, temperature and humidity variations together with inadequate ventilation and often feed **and water restrictions all have an impact on the animals' state.**

The effects of all these factors are influenced by the experience and condition of the animals, the nature of the journey, and the duration of transport. Long journeys have been identified as being potentially more detrimental to the general welfare status of the animals, because of the longer duration of exposure to the stressors mentioned above. Therefore, it is clear that stressful journeys including hostile transport environments or conditions may influence animal health and welfare negatively.

Inappropriate handling and transport can be associated with overt injuries, physiological and psychological stress, immunosuppression and metabolic disturbances. These responses may impact upon productivity and profitability through changes in animal body weight, hydration state and meat quality in slaughter animals.

In order that welfare can be good during transport, it is important that all of those involved are properly informed about the animals and how to assess their welfare [1.3 Competence and training](#). Check the animals before loading will reduce the risk of sending animals for transport who may not survive the trip, or suffer serious welfare consequences [2.4.2 Fitness to travel](#).

Careful planning of journeys [2.2 Planning](#) and suitable vehicles should be selected, with emphasis on compartments height and partitions used [2.3.1 Vehicle design](#).

Space allowances should be sufficient for sheep taking into account body weight and presence of wool and thickness of fleece [2.3.2 Space on the vehicle](#)

Long journeys, should be avoided wherever possible [2.2.1 Journey duration](#) and much better conditions are needed if journeys are long [6.3 Feeding and watering](#). Vehicles should be driven carefully and sudden turns and braking should be avoided, especially on roads with sharp bends or at right angle turns into other roads [4.2. Driving](#). Thermal conditions and ventilation management are important so that to reduce the effects of heat stress on sheep [4.3 Climate control](#)

0.4 Animal based measures

The ultimate aim of providing the right conditions during driving should be to provide good welfare, so that the animals are healthy and fit when they come off the truck at the destination. The current legislation, existing guidelines on Fitness to Travel ([Eurogroup for Animals et al., 2012](#)), most quality assurance schemes and also the present guides offer many suggestions on what these conditions should be. They advise for instance on space allowances, frequency and duration of resting and the feed and water requirements of the animals. This advice is based on years of experience or thorough research which has identified the welfare risks associated with deviations from this advice: if space allowances are too low, animals may not get access to water, may get more easily injured, and may not be able to rest; if they do not rest enough, they will become exhausted, with detrimental effects for welfare and meat quality; etc.

It is important to realise that recommendations based on 'conditions' (the resources on the truck or the handling and animal management by operators) do not necessarily guarantee good welfare: they merely offer advice to maximise the chance that the welfare of the animal will be good. The effect conditions have on the actual welfare status is influenced by other factors, as many of the (recommended) conditions are interacting with each other. One obvious example is the relationship between the driving conditions and the length of the journey: following a rough journey, the benefits of resting the animals outside the vehicle outweigh the stress of offloading. However, if the journey has been smooth and on-board conditions optimal, the benefits of offloading will be much lower and in some cases it may even be better to leave the animals on the truck.

Given these limitations of management and resource related practices, it is obvious that animal based measures can be a useful monitoring tool to help business operators to ensure welfare and, if necessary, take the appropriate corrective actions. Animal based measures (ABMs), such as injuries, panting, shivering, body and skin conditions, can be interpreted as direct indicators of animal welfare. The use of ABMs during live animal transport is not as novel and innovative as it may sound. Such indicators were included in tools for transporters for a long time and good professional drivers and keepers **already base their actions on the 'signals' they get from the animals** they work with. During routine checks they will not (just) look at the temperature gauge to see if ventilation is adequate: they will look at the animals for signs of panting or shivering. They **don't judge tiredness by the length of the journey, but by looking at animal posture and resting behaviour.**

Animal Based Measures can be of use before, during and after a journey. They can be used during routine checks to assess how the transport is going, and if action is necessary to improve animal welfare. They can also be used after a journey, when animals are unloaded, to know how the animals have experienced the transportation. Knowing this will

help the transporter (and others who handle the animals) to improve the conditions during the next journey with a different consignment.

Table 0.2 Animal Based Measures which can be used to monitor sheep welfare during transport

Animal Based Measures	Description
Dead on arrival	Animal that has stopped breathing and has no pulse (cardiac arrest) on arrival.
Severe lameness or non-ambulatory	An animal is considered severely lame when it shows inability to bear weight on one or more limbs while standing. An animal is considered non-ambulatory when it cannot rise or is unable to stand un-aided.
Slipping	Animal showing a loss of balance with a leg sliding unintendedly over a small distance
Falling	Animal showing a loss of balance during loading/unloading causing other part(s) of the body (beside legs) to touch the floor.
Shivering, panting or sweating	Shivering is defined as the slow and irregular vibration of any body part, or the body as a whole (skin movements due to flies are not assessed as shivering!). Panting is defined as breathing in short gasps carried out with the mouth. Animals with visible signs of sweating on their skin (wet animals, dried sweat spots, salt deposits) during transport are counted as sweating animals.
Cleanliness	Sheep are considered dirty if $\geq 25\%$ of the body surface is covered with dirt.
Exhausted	Signs of severe fatigue or exhaustion are e.g. chin or limbs resting at partitions or troughs, closed eyes, high drive to rest in recumbent position.
Other severe health problems	Any severe clinical health problem that is easy visible and may have been initiated or worsened by transport (management) and is not already covered by the parameters above.

0.5 Structure of the guide

Transport spans a chain of events from preparation to unloading. To facilitate the use of the guide in every day practice, it will be structured according to six stages of the journey:

1. Administrative issues
2. Preparation and planning
3. Handling and loading animals
4. Travelling
5. Stay at Control Posts, markets and assembly centres
6. Unloading animals

Stages 2 – 6 follow transport activities in chronological order. The first 'stage' is added because administrative issues, including staff competence, training etc. are important for the execution of almost all activities during transport of animals. Each stage is subdivided into a number of aspects, and for each of them this guide presents 'good practices' as well as 'better practices beyond EU legislation'. See below for definitions.

The practices are not equally important in terms of their expected impact on animal welfare. Therefore, this guide suggests topic areas which are very important, and areas which are relevant but less important. The very important topics will be **'boxed'** throughout this guide.

The digital version of this Guide includes words or references with so called 'hyperlinks'. **Clicking on these links (usually with 'Control' + 'left mouse click')** will lead to another related part in this Guide, or to background information in documents or on websites, providing of course the reader has internet access on his reading device.

0.6 List of definitions

For the purpose of these guides,

- o **'Good practices'** are defined as procedures and processes that ensure compliance with requirements of legislation or regulations, designed to protect the animals' welfare.
- o **'Better practices beyond EU legislation'** are defined as providing additional guidance on how procedures and operations can be improved to exceed any legally defined minimum welfare requirement, and to increase the welfare status of the animals during the relevant periods and procedures. They will be abbreviated to **'better practices'** throughout the document.

In addition to the above operational definitions of good and better practices, the following is a list of terms used in this Guide that may need a precise description to avoid confusion.

Table 0.3 Terminology used in this Guide

Assembly centre	Places such as holdings, collection centres and markets, at which domestic Equidae or domestic animals of bovine, ovine, caprine or porcine species originating from different holdings are grouped together to form consignments
Attendant	A person directly in charge of the welfare of the animals who accompanies them during a journey
Competent authority	The central authority of a Member State competent to carry out checks on animal welfare or any authority to which it has delegated that competence
Control post	Places where animals are rested for at least 12 hours or more pursuant the rules for journey times and resting periods set up by the Regulation. They must be approved by the competent authorities.
Journey	The entire transport operation from the place of departure to the place of destination, including any unloading, accommodation and loading occurring at intermediate points in the journey
Keeper	Any natural or legal person, except a transporter, in charge of or handling animals whether on a permanent or temporary basis
Long journey	A journey that exceeds 8 hours, starting from when the first animal of the consignment is moved
Navigation systems	Satellite-based infrastructures providing global, continuous, accurate and guaranteed timing and positioning services or any

	technology providing services deemed equivalent for the purpose of this Regulation
Official veterinarian	The veterinarian appointed by the competent authority of the Member State
Organiser	(i) A transporter who has subcontracted to at least one other transporter for a part of a journey; or (ii) A natural or legal person who has contracted to more than one transporter for a journey; or (iii) A person who has signed Section 1 of the journey log (when applicable)
Place of departure	The place at which the animal is first loaded on to a means of transport provided that it had been accommodated there for at least 48 hours prior to the time of departure. However, assembly centres approved in accordance with Community veterinary legislation may be considered as place of departure provided certain conditions (see Article 2 r of the Regulation).
Place of destination	The place at which an animal is unloaded from a means of transport and accommodated for at least 48 hours prior to the time of departure; or slaughtered
Transporter	Any natural or legal person transporting animals on his own account, or for the account of a third party
Vehicle	A means of transport fitted with wheels which is propelled or towed.
Shorn sheep	Animal who has been removed of wool by use of power clippers or blade shears.
Unshorn/full fleeced sheep	Animal who's woollen fleece has not been cut off.

1. Administrative issues

1.1 Introduction

A series of documents are required by the EU legislation to transport live animals which must accompany the consignments and might be required at all time by the competent authorities. Having properly prepared the documents required will prevent unnecessary delays and additional checks by the authorities.

In addition, Good record keeping is the cornerstone of quality monitoring: it contributes to transparency and supports quality evaluation. Records can be used to highlight aspects that went well and to identify weaknesses that need to be addressed. Such evaluations can be done at the level of a specific event such as a single journey, and also by aggregating data at the level of multiple transports. Record keeping is indispensable for maintaining and promoting adequate standards.

It is important that data requested to be recorded are clear and understandable and easy and quick to log. They should be able to be assessed objectively, and be justified for and proportional to the intended goals, i.e. safeguarding the welfare of the transported **animals. Records should not be longer than necessary and what is "needed to know" should prevail over what is "nice to know"**. Promoting and using electronic records facilitates meeting the administrative requirements. Furthermore, synergy can be obtained by linking animal welfare records with health and food safety records.

Transporters should carry the appropriate documentation with them during the journey. They are likely to be checked for these papers by the competent authorities either during transport or at any transfer or arrival.

In particular certificates of competence must be held by drivers or attendants responsible for transporting domestic Equidae, domestic animals of bovine, ovine, caprine or porcine species and poultry over 65 km. In the EU member states these are mainly independently assessed qualifications specific to the species and duration of journeys involved.

As is indicated in the Regulation, professional drivers and attendants should achieve knowledge of the legislation in relation to the following topics:

- Animal transport
- Animal physiology (in particular drinking and feeding needs)
- Animal behaviour and the concept of stress
- Practical aspects of handling of animals
- The impact of driving behaviour on the welfare of the transported animals and on the quality of meat
- Emergency care for animals and safety considerations for personnel handling animals

Drivers and attendants need to be able to adequately translate this knowledge into practice. Insufficient knowledge of these issues is regarded as the main risk for impaired animal welfare during transport.

The competent authorities have to ensure that the requirements of Annex IV of the Regulation have been included in a theoretical examination of applicants. The content and duration of training courses, the professional qualifications which can be taken into account, and the type of examination are the responsibility of each member state.

1.2 Administration

Good practices regarding Administration

1. Everyone transporting animals carries documentation on the means of transport stating their origin and their ownership, their place of departure, the date and time of departure, their intended place of destination, and the expected duration of the intended journey.
2. Furthermore the following document might be necessary to accompany the transport animals in the EU:
 - o A transporter authorisation for transports exceeding 65 km and up to 8 hours (Type I) and over 8 hours (Type II).
 - o A certificate of approval for transport vehicles for over 8 hours.
 - o A certification of competence of drivers and attendants transporting domestic Equidae, or domestic animals of bovine, ovine, caprine or porcine species or poultry.
 - o A journey log for long journeys of domestic Equidae, or domestic animals of bovine, ovine, caprine or porcine species (not for poultry).
 - o Animal health certificates (where required e.g. trade between Member States or when exporting to non-EU countries).
 - o Food chain information regarding slaughter animals.
3. The transporter shall submit the journey log to the competent authority before the journey commences and is held and fulfilled by the driver during the journey.
4. Animal health certificate and journey log shall be submitted via the electronic application TRACES.
5. On long journeys of domestic Equidae, or domestic animals of bovine, ovine, caprine or porcine species, transporters shall use a navigation system compliant with the current legislation.
6. Organisers archive all transport records, animal health certificates and journey logs of every transportation, for at least three years.

Better practices regarding Administration

7. Transport means provide information about the net usable surface area for each loading deck.
8. The data of the journey log are presented in an electronic format to be transmitted to the competent authorities.
9. The categories of animals within the species are indicated on top of the species (e.g. rams, lambs, ewes).
10. Transport organisers keep transport contracts and journey logs in an archive for at least 5 years.

1.3 Competence and training

In general, only skilled workers can complete animal transportation with minimal impact on animal welfare. **The skills required ('competence'), obtained through training** and work experience in the animal transport chain, enable each operator:

- To have the necessary knowledge about the impact of their work on animal stress, fear and related injuries.
- To know about the impact of their work on the quality of the meat of transported animals.
- To recognise the main physiological signs to judge the state of the animals before loading, during loading and transport phases and at unloading (e.g. posture, nervousness and stress, etc.).
- To adapt the journey to specific conditions (variable sensitivity of breeds transported to stress and mortality, weather conditions, events which can occur during the trip).
- To know the biosecurity rules.

Good practices regarding Competence and Training

11. Transport operators ensure that persons who handle livestock have a basic but detailed understanding of animals' behaviour and physical needs. For an overview of biological needs of sheep whilst travelling see [Chapter 2.4 Animal related preparation](#).

- 12. Trainers impress upon keepers the potential effects of their actions upon animals in their charge.
- 13. Transport operators ensure that there is a commitment to proper handling from everyone, from the top down, involved with the livestock shipment.
- 14. Transport operators ensure compliance with the minimum legal training programme required for the Certificates of Competence in Europe according to the Regulation and national requirements if any.

Better practices on Competence and Training

- 15. A Welfare Transport Officer in charge of the training, certificates and check of the quality of the transport is appointed in the transport company.
- 16. The practical abilities of the transporter are recorded and controlled (e.g. through audits and checks in the field).
- 17. Key parameters are identified and recorded to assess the quality of the transport (e.g. the incidence of mortality, injuries and any animal based measures of animal welfare).
- 18. Transport companies ensure that drivers (and keepers) receive continuous and updated training.

1.4 Responsibilities

Good practices on Responsibilities

19. The keepers and attendants (including the owners and managers) of the animals are responsible for:
 - a) General health, overall welfare and fitness of the animals for the journey; these are assessed and recorded by regular routine inspection.
 - b) Ensuring compliance with any required certification, either veterinary or other.
 - c) Presence of an animal keeper / attendant competent for the species being transported during the journey and with the authority to take prompt action; in case of transport by individual trucks, the truck driver may be the sole animal keeper during the journey.
 - d) Presence of an adequate number of animal keepers during loading.
 - e) Ensuring that equipment and veterinary assistance are provided as appropriate for the species and the journey.
20. Business agents or buying/selling agents are responsible for
 - a) Selection of animals that are fit to travel.
 - b) Availability of suitable facilities at the start and at the end of the journey for the assembly, loading, transport, unloading and holding of animals, including for any stops at resting points during the journey and for emergencies.
21. In addition animal keepers or attendants are responsible for the humane handling and care of the animals, especially during loading and unloading, and for maintaining a record of journey events and problems and the completion of the journey log on long journeys. To carry out their responsibilities, they have the authority to take prompt action. In the absence of a separate animal keeper, the driver is the animal keeper.
22. **The 'Organiser'** is responsible for planning the journey to ensure the care of the animals. This may be the transporter, the vehicle owner and/or the driver. In particular they are responsible for:
 - a) Choosing appropriate vehicles for the species transported and the journey.
 - b) Ensuring that properly trained staff are available for loading/unloading of animals.
 - c) Ensuring adequate competency of the driver in matters of animal welfare for the species being transported.
 - d) Developing and keeping up-to-date contingency plans for all journey types (even when not mandatory) to address emergencies (including adverse weather conditions).
 - e) Producing a journey plan for all journeys (including where mandatory) which includes a loading plan, journey duration, itinerary and location of resting places.
 - f) Loading only those animals which are fit to travel, for their correct loading into the vehicle and their inspection during the journey, and for appropriate responses to problems arising (if fitness to travel is in doubt, the animal should be examined by a veterinarian who is then responsible for declaring any animals unfit to travel).
 - g) Welfare of the animals during the actual transport.
 - h) Planning the journey, which should take into account any disparity in the requirements for animal journey times and the requirements of the social

regulations relating to drivers' hours, including the numbers of drivers required for long journeys to achieve complete compliance. This will ensure compliance with both sets of regulations. This may relate to both driver and animal rest times and a decision on the number of drivers required for long journeys.

23. Managers of facilities at the start and at the end of the journey and at resting points are responsible for:
- a) Providing suitable premises for loading, unloading and securely holding the animals, with water and feed when required, and with protection from adverse weather conditions until further transport, sale or other use (including rearing or slaughter).
 - b) Providing an adequate number of animal keepers to load, unload, drive and hold animals in a manner that causes minimum stress and injury.
 - c) Minimising the opportunities for disease transmission by detailed attention to vehicle and facility cleaning, disinfection, hygiene and environmental control, as well as provision of clean bedding.
 - d) Providing appropriate facilities to deal with emergencies.
 - e) Providing facilities and competent staff to allow the humane killing of animals when required.
 - f) Ensuring proper rest times and minimal delay during stops.

Better practices on Responsibilities

24. Ensure there are clear definitions of responsibilities of keepers, attendants, traders, transport organisers, farmers, assembly centre managers, drivers, control post owners and slaughterers, and that they are listed in the transport contract and to provide a checklist accessible by all staff including the driver(s) or attendants.
25. Standard Operating Procedures (SOPs) are established for each activity/task by the agent defined as responsible. These describe precise protocols for feeding, watering, renewal and replacement of bedding, animal inspection and monitoring and definition of those individuals responsible for each task. SOPs are continuously updated in accordance with new advice and/or guidance.

2. Journey planning and preparation

2.1 Introduction

Good preparation and planning for the transport of sheep is one of the most important stages of the journey. It is the key to successful animal transport in terms of compliance with legislation, best practice and high standards of animal welfare and economic benefit. Good planning promotes smooth execution of transport and is needed to minimize the risk that the involvement of the different parties is poorly synchronised. The complexity of the overall animal transport process necessitates well-structured integration of each of the activities according to defined sets of objectives, responsibilities and monitoring tasks. The anticipation of unexpected events and problems and the provision of contingency plans to supplement well defined Standard Operating Procedures are paramount. Next to the immediate animal welfare concerns, planning should include animal health considerations (biosecurity), human health and safety aspects and economic consequences. The importance of planning and preparation is also acknowledged by the EU legislators, and journey logs with a planning section are obligatory for long journeys.

From an animal welfare point of view, the 'preparation and planning' stage includes the following aspects:

- Planning the journey
- Vehicle preparation
- Animal related preparation
- Administration

These aspects are described in the paragraphs below.

2.2 Planning the journey

The journey shall be as smooth and quick as possible in order to limit exposure to transport stress. It shall be planned carefully to assure sheep welfare conditions during the whole transportation. As part of the planning for each journey, arrangements shall be made to manage any delay, breakdown or other emergency to minimise risks of impaired welfare during all transport.

The journey shall be planned and prepared carefully after the announcement by the farmer or trader of the date and the place of departure and the destination to the final client. Journey plans involve written arrangements regarding start and unloading places, contingency plans, and details on consignment sheets or arrangements that are in place for rest stops, particularly for long journeys.

In particular, they shall include:

- Description of the route of travel and estimation of its duration
- Analysis of weather forecast
- Choice of the transport company and of the truck (e.g. type I or II) and/or vessel depending on journey duration and weather conditions, animal number and categories, i.e. breeding ewes, lambs, cull animals. The reservation for unloading resting animals in a control posts when applicable,
- A contingency plan
- Planned number of drivers
- Provisions for bedding material
- Provisions for water and feed to be delivered at control post, depending on trip duration
- Assurances that the truck is ready at the place and time appointed for departure

2.2.1 Journey duration

The journey duration has to be estimated carefully and include the scheduled rests and stops at control posts. Taking the journey duration into consideration, the right type of vehicle and its equipment should be chosen.

Good practices on the nature and duration of the journey

26. The maximum permitted travelling time is 29 hours for adult sheep, and 19 hours for unweaned lambs. If in the interests of the animals, the journey times may be extended by two hours, taking account in particular of proximity of the final destination.
27. After this period (max 29/19 hours), the animals must be unloaded for a resting period of a minimum of 24 hours in a control post before travelling further (see Table 2.1 below)

28. The organizer must define accurately and realistically the duration of the journey. He must prepare a route map, with stops (in control posts on long journeys) and foresee any delays at customs or borders.

Table 2.1 Maximum permitted travelling times for sheep ([EC 1/2005](#)).

Animal species	Travelling Time (hours) Journey step 1	Rest period. Animals remain in the vehicle.	Travelling Time (hours) Journey step 2	Stop at approved resting point (authorization code)
Adult ovine	14 hours	Rest period at least 1 hour for water and if necessary feed.	14 hours	Unloading for 24 hours for feeding, watering and resting.
Un-weaned lambs	9 hours	Rest period at least 1 hour for water and if necessary feed.	9 hours	Unloading for 24 hours for feeding, watering and resting.

29. The organizer must choose the vehicle according to the journey duration and to the type and number of sheep to be transported.
30. For long journeys, the itinerary should have the control posts and resting stops identified and recorded in the journey plan.
31. All necessary documentation should be prepared and approved before the journey begins (i.e. journey log for journeys longer than 8 hours, health guides, sanitary authorization, declaration by the responsible person from the livestock farm, and the certificate of cleaning and disinfection of the vehicle).
32. Clear and effective communication is essential between the driver/transporter and the loading and unloading location. They must share telephone numbers in advance, in order to be able to promptly communicate any modifications to the scheduled transport programme before and during the journey.
33. The duration of the journey breaks should be long enough to check the animals for any signs of compromised health or welfare and to check feed and watering systems to ensure adequate supply is available.
34. Enough time should be available during stops to treat individual animals if required following inspection.
35. Plan the journey to avoid delays such as rush hour traffic, road works, diversions, ice and snow or flooding.
36. Ensure all required paperwork (e.g. livestock numbers, special requirements and emergency contact information) is completed and provided to the driver, so that the vehicle can leave immediately after loading.
37. Attention should be paid to the impact of thermal conditions (heat and cold) and humidity on ALL journeys. Try to minimise the risk of thermal stress.
38. Avoid travelling during the hottest periods of the day, plan to travel during the cooler periods

Better practices on the nature and duration of the journey

39. The journey plan should ensure that sheep can be unloaded promptly at the destination in less than 30 minutes after arrival.

2.2.2 Contingency plans

The main goal of the transporter is to deliver the animals timely and in good welfare conditions, despite risks of delay on the road. Emergencies may occur, even when optimal preparation and planning has taken place. The contingency plan aims at helping the driver and the transport company to ensure the security and the welfare of the animals in case of emergency. The Regulation mentions these as a requirement for long journey transporter authorisation, but they are also useful for short journeys. Contingency plans are most useful when they are regularly trained and updated by the transporter. They should address 4 questions: what potential risks may cause an emergency, what can be done when they occur, who is to do what and how the mitigating actions will be carried out. By being prepared, the transporter will be able to respond in an effective manner and reduce the impact of a delay or accident on the animals. Figure 2.1 provides an example taken from the [Practical Guidelines to Assess Fitness for Transport of Equidae \(2016\)](#).

Annex III – Example of UK contingency plan

Council Regulation (EC) 1/2005

Contingency Plan Template For Type 2 Transporters

Please complete this Contingency Plan and submit to the following address with your application form for a Type 2 Transporter Authorisation:

This generic Contingency Plan is to be completed by the Transporter.

Section 1 – Contact Details

Name of Transporter	<input type="text"/>		
Address:	<input type="text"/>		
Contact Telephone Number	<input type="text"/>	Email Address:	<input type="text"/>

Section 2 – In case of an emergency:

1 Who is your nominated vehicle breakdown/recovery company?	<input type="text"/>		
2 What action will you take in the event of a traffic accident, road closure or weather conditions delay your journey?	<input type="text"/>		
3 What action will you take if the ferry/shuttle service has been suspended?	<input type="text"/>		
4 What action will you take in the event that your vehicle suffers an irreparable breakdown?	<input type="text"/>		
5 What action will you take if any animal(s) become ill during the journey?	<input type="text"/>		
6 What action will you take if any animal(s) needs to be euthanised?	<input type="text"/>		
7 What action will you take in the event that you encounter extreme temperatures (either hot or cold) during the journey?	<input type="text"/>		
8 What action will you take if there is confirmation of a Notifiable Disease in an area you're travelling through?	<input type="text"/>		
Transporter Signature	<input type="text"/>		
Name in BLOCK LETTERS	<input type="text"/>	Date	<input type="text"/>

Figure 2.1. The structure of an emergency plan (as presented in the Practical Guidelines to Assess Fitness for Transport of Equidae, 2016)

Good practices regarding contingency plans

40. If a delay occurs, the welfare and safety of the animals must be considered **paramount at all times**. It is the driver's responsibility to keep the animals comfortable and safe and ensure the journey time is kept to a minimum.

41. The driver should make every reasonable effort to minimise the delay and ensure that water, shade on a hot day, and adequate ventilation are available.
42. If necessary, the driver should seek the help of the police to enable his journey to continue as soon as possible during long traffic hold-ups (i.e. if the road is closed due to an accident).
43. In the case of a mechanical breakdown of the vehicle, the nature of the breakdown should be determined and it should be estimated how long the repairs will take. If the repairs cannot take place at the site of the breakdown or they will take an extended period of time, arrangements for another vehicle will have to be made.

44. A contingency plan should be present in the vehicle. An example is provided in Figure 2.1. The plan should be known and understood by everyone involved in animal transport during any journey. It needs to describe how to handle unforeseeable incidents and delays to ensure the animals do not suffer significant harm. Delays can be caused by weather, traffic issues, accidents, road construction, mechanical breakdowns or plant shutdowns. The contingency plan must amongst other things include the provision for facilities to hold animals in emergencies.

45. In case of emergencies the contingency plan is activated by the driver and/or transporter, whoever is first aware of the emergency.
46. The contingency plan should include the following elements:
 - a) Solutions how a constant contact can be organised between the transporter and the driver/s.
 - b) Solutions how a contact to authorities can be warranted (police/veterinarians).
 - c) A list of contact-phone numbers of all parties involved,
 - d) Solutions how local breakdown services can be organised, how a taking over of the shipment can be organised (substitutes).
 - e) Solutions to arrange repairs in case of a damage to the vehicle,
 - f) Solutions to unload animals in case of emergency or delay: places where animals can be unloaded are identified throughout the planned route, and this information is readily available to the driver,
 - g) Solutions how water, food and bedding can be organised for animals in the case of unforeseeable long delays (e.g. at border crossings).
 - h) Other matters necessary to ensure the animals do not suffer significant harm as a result of delays during transport.
47. Animals may become injured during transport and it may be necessary to humanely kill an animal before it reaches its destination in order to prevent the animal suffering further pain or distress. Therefore the transporter should have readily available the contact details of a veterinarian or licensed slaughter man competent in humane killing at locations along the journey or at the destination.
48. Only drivers or attendants who have a certificate of competence and have received specific training in the field of animal emergency care, may attend to animals injured during transport.

Better Practices regarding contingency procedures

49. A contingency plan should also be drawn up and in place for short transports under 8 hours.
50. In order to be properly prepared for an accident, each transport vehicle should contain the following:
 - a) Emergency contact sheet with 24-hour phone numbers for dispatch, destination point and local competent authorities, available veterinary surgeons, emergency services, emergency plant operators and insurance companies
 - b) Emergency warning devices (e.g. flares, emergency triangles) consistent with European requirements
 - c) Camera / mobile phone camera.
 - d) Accident information sheet.
 - e) Company accident policy sheet/Standard Operating Procedures.
 - f) Fire extinguisher.
 - g) Spill containment or cleaning kit.
51. The transporter should constantly monitor the comfort and condition of the animals during any delay.
52. The transporter, in the case of delay, should contact the origination and/or the destination contact persons to inform them of the nature of the delay and determine the best plan of action for themselves and for the well-being of the animals.
53. Provision for convenient and simple emergency access should be present on vehicles to make it easier to inspect the sheep and provide assistance to animals in need.
54. Emergency procedures are periodically tested and discussed with personnel through internal audits, and amended as necessary.
55. Equipment kept for emergency euthanasia is well maintained and can be operated efficiently; documented training and equipment maintenance records are kept.
56. Information on how to transport animals (incl. issues related to emergencies) is shared between transporters, and what works or does not work is evaluated regularly.

2.3. Means of transport

Vehicle design, maintenance, preparation and operation are key factors in ensuring high standards of animal health and welfare during transportation. A major risk to animal welfare is presented by the physical environment experienced on the vehicle, in particular related to the thermal environment. Therefore, it is vital to ensure that ventilation regimes are effective in maintaining internal conditions that are not only compliant with legal requirements but are as close to the thermal optimal for the animals being carried. Adequate and appropriate ventilation systems are essential because during journeys of any duration weather conditions may change imposing varying thermal loads upon the transported animals. Seasonal differences in weather conditions will constitute also a risk in terms of thermal stress.

On long journeys on which animals may move across climatic zones the risk of thermal stress is increased. Mechanical ventilation should remove heat and moisture to provide an

environment in which any risk of thermal stress is minimised. Design and operation of such systems should be based **upon an understanding of the animals' requirements over and above** the specifications provided in current legislation. It is essential to understand the principles of upper and lower critical temperatures and thermo-neutral zones to ensure effective specification of ventilation requirements and operational strategies. Further factors including humidity and wetness of coat can also influence the acceptable temperature range.

Ventilation systems are either free or forced systems. Free ventilation systems are common in vehicles used for short (less than 8 hours) journeys, whereas forced systems are a requirement for long journey vehicles. According to the Regulation, the minimum air flow rate of fans should not be lower than 60m³/h per 100 kg live weight. The efficacy of forced ventilation systems becomes especially important with regard to transports from Northern Europe to Mediterranean regions and their hot climates. For instance, frequent stops due to traffic or border controls in hot climates can lead to heating up the vehicle interiors resulting in heat stress for livestock. Ventilation is also important in limiting the concentrations of ammonia from faeces and urine and of carbon dioxide from exhalations inside the vehicle.

Poor suspension can also affect animal welfare. Excessive vibrations can lead to symptoms ranging from nausea to muscular fatigue. Non-slippery floor surfaces are essential for preventing falls.

Adequate bedding material should be dry with high ability to absorb fluids. Sufficient amounts of bedding allow for more comfort and facilitate the resting of animals. If there is no appropriate bedding (type and/or quality and/or quantity) in combination with extreme temperatures, the welfare of the animals could be affected. The presence of bedding material can make also the floor non-slip and this factor is essential to prevent slipping and falling.

Scientists recommend that besides the legally required parameters, monitoring of parameters such as relative humidity, vibration and total loaded weight could provide additional information for assessing welfare during transport. However, much of the equipment (e.g. that for measuring relative humidity) is still not sufficiently robust or accurate enough for routine application in commercial transport. The automatic control of mechanical ventilation by the monitored temperature of a control system is technically feasible and new evidence suggests that it would be beneficial in animal transport.

2.3.1 Vehicle design and maintenance

Good practices on vehicle design and maintenance

57. Materials used in the construction of vehicles should be able to be cleaned effectively. There should be a cleaning regime in place between each journey.
58. Internal surfaces of the vehicle should be smooth to reduce the risk of pressure damage and bruising.
59. Vehicle gates and facilities should be wide enough to ensure free movement of sheep and to minimise injuries.

60. It must be possible to observe the animals at all times from outside the vehicle, e.g. by opening the side flaps or back doors without the possibility of sheep to escape
61. Vehicle exhaust gases should not enter the livestock compartment to avoid respiratory distress.
62. The vehicle should be constructed in such a way that sheep cannot get there limbs stuck or injury themselves.
63. Floor surfaces should be designed to maximise grip, to minimise slipping and falling. Design to improve grip include slats or grooves in the surface. If sheep are seen to be slipping and falling, the reason should be identified and appropriate action taken.
64. Special consideration should be given to multi-tiered vehicles. These should be suitably designed, maintained and managed so that animals are protected from the elements and animals on the upper tiers do not soil the sheep on the lower tiers.
65. Partitions should be available when travelling in hilly or high-traffic areas or when carrying small numbers of sheep, to prevent them from being thrown around or injured. Partitions should also be used for segregation when required.
66. On long journeys, the vehicle should be equipped with a minimum of four temperature probes per deck. The reason is that the temperature inside the vehicle varies dependent on the zone where the sheep are (the highest temperatures are likely to be experienced at the front of the animal compartment on the top tier; the lowest temperatures are likely to be encountered on the lowest tier at the rear)
67. On long journeys, the vehicle shall be fitted with a navigation system and global positioning system (GPS), this will allow the competent authority to track vehicles and ensure that journey plans are followed.
68. Essential mechanical repairs (e.g. tyre changes) and regular maintenance should be undertaken promptly to prevent undue delays.

Better practices on vehicle design and maintenance

69. Lambs and recently shorn sheep (up to 10 days after shearing) are susceptible to wind chill and should be transported in vehicles with enclosed fronts or provided with protection during weather that could cause heat or cold stress. Newly shorn sheep should only be transported if they have a staple growth of at least 7.0mm (this may be achieved either by allowing re-growth or by shearing with a suitable long comb); and if the sheep have not been shorn less than 24 hours before the start of the journey
70. The vehicle should be checked after each journey.
71. If any incident occurs during the journey, it should be recorded and any issues should be resolved before starting the next transport.
72. Routine vehicle checking and maintenance should be carried out at least once a year.

2.3.2 Space allowance

Good practices on space on the vehicle

73. The livestock vehicles must be designed to ensure that sheep can rise from lying to a standing position without contacting overhead deck structures and allowing optimum ventilation.

74. Unshorn sheep and lambs of ≥ 26 kg with thick fleece should be offered 25 % more space than shorn sheep.

Better practices on space on the vehicle

75. For sheep the space above the highest point of the animals should be of at least 15 cm on vehicles with forced ventilation and 30 cm on vehicles without forced ventilation.
76. Space allowances for sheep should differentiate between fleeced sheep, lambs and shorn sheep, as presented in Table 2.2

Table 2.2 Recommended space allowances for sheep

Live weight (kg)	Fleeced sheep		Lambs and shorn sheep	
	Short journey (m ²)	Long journey (m ²)	Short journey (m ²)	Long journey (m ²)
20	-	-	0.21	0.27
30	-	-	0.28	0.36
40	0.39	0.51	0.34	0.43
50	0.45	0.60	0.35	0.50
60	0.51	0.67	0.40	0.57
70	0.56	0.75	0.44	0.63
80	0.61	0.82	0.48	0.69

77. Previous space allowances should be increased if temperatures are very high or the journey is likely to be more stressful.

2.3.3 Bedding on the vehicle

Good practices on bedding

78. Bedding materials should be comfortable to lay on, anti-slip and highly absorbent of water and urine.
79. Lambs ≤ 20 kg need special attention. They need to be given adequate bedding or equivalent material which guarantees comfort appropriate to the number of animals transported, the duration of the journey and forecasted weather conditions.

Better practices on bedding

80. Softwood sawdust around 1 to 2 mm particle size can be used as bedding. However, avoid using sawdust if the animals are being transported to the slaughterhouse, as it can increase the contamination of the carcass. In contact with urine and feces it sticks to the wool of animals compromising the hygiene of the slaughter operations. In this case, straw and rice husk are better options.

81. During cold weather, it increase bedding or insulation and remove wet bedding after each trip to prevent it from freezing onto the vehicle.
82. During hot weather, do not use straw bedding. Better are wet sand, wet shavings, sawdust or rice husk.

2.3.4 Monitoring and evaluation

Good practices regarding monitoring and evaluation

83. Vehicles carrying out long journeys should be equipped so that all transported animals can be accessed and inspected.

84. The vehicle should be designed so that during the journey at every inspection stop the driver can check:
 - o The health and animal welfare status of the sheep
 - o Any bruises, injuries, wet fleeces or lameness
 - o Panting or shivering of the animals
 - o Potential damage to the vehicle

85. Tracing systems which monitor and record time, position and parameters such as air temperature should be present. They will improve the routine assessment of welfare during transport and reduce the administrative burden related to the journey log.

Better practices regarding monitoring and evaluation

86. Monitoring of parameters such as relative humidity, vibration and total loaded weight should be used to provide additional information for assessing welfare during transport.

2.4. Animal related preparation

Several aspects of the preparation stage are related to the animals that are intended to be transported. These are addressed to face the main risks mentioned in paragraph 0.3 and aimed to avoid:

- o Too long loading time which could be particularly stressful in hot climate conditions in stationary truck in which ventilation can be critical.
- o Poor fitness of sheep to travel which can worsen during transport and become dramatic and causing animal suffering.

2.4.1 Preparation of animals and equipment

Critical points that may impact animal welfare before starting the journey include the level of familiarity of the animals. Familiar animals should be kept in the same pen or vehicle. Mixing unfamiliar animals from different social groups will increase stress and can lead to aggressiveness and fighting.

Another important issue is the amount of water and food animals receive before the journey. Fasting will reduce the dirtiness of animals during transportation. However, it is important that fasting is not too long as it produces hunger in animals, depletes their energy levels, can lead to fatigue and dehydration during the journey and negatively effects

on meat quality (dry, firm and dark meat). For long journeys it is necessary to water and feed the animals.

Good practices on animal related preparation

87. Organize the animals in homogeneous social groups before starting to load. These groups should be animals of the same size and age, and preferably the group that the sheep were in prior to transport. This is important in order to minimize stress to the sheep during loading/unloading and transport.
88. Check and record the identification (ear tags, intra-ruminal boluses, etc.) of all the animals to be transported.

Better practices on animal related preparation

89. Fasting before short transports (less than 2 hours) is not necessary. Fasting times at farm should not exceed 12 hours.
90. Sheep only want to eat familiar feed. Therefore, either use their normal feed during the journey or feed introduced several days before departure.
91. Sheep should be fed hay or fibre before transport to sustain them for the journey, particularly if they are lactating.

2.4.2 Animals' fitness for transport

It is necessary to check the fitness of each sheep before loading, taking into account the specifications of the legislation. Animals in late pregnancy (> 90% gestation), just after delivering, or lambs less than a week old should never be transported. Furthermore, animals should not be transported if they present one of the following conditions.

- Animals that experience severe pain when moving e.g. animals with broken extremities or a broken pelvis.
- Animals with severe haemorrhages.
- Animals that are only able to stand after being forced (e.g. very weak, fatigued or emaciated animals).
- Animals, that are lame to such a degree that they can put little or no weight on one of their legs.
- Animals that have just been dehorned and of which the wound has not yet healed.
- Animals with visible cardiovascular or respiratory disorders.
- Animals with apparent lack of coordination (e.g. animals that have difficulties keeping their balance).
- Blind animals.

Wounded or unfit to travel animals should be transported only under exceptional circumstances and under close supervision.

Good practices on fitness for transport

92. Sheep should be assessed for fitness for the intended journey, before loading by a qualified person.
93. The farmer and transporter are accountable for ensuring that the animal is fit for the journey ahead.

94. In cases where the keeper has doubts on the fitness conditions, he should call a veterinary practitioner, who will issue a veterinary certificate stating the fitness of the animal.
95. If a sheep is unfit for the intended journey, proper arrangements for the care, treatment or humane killing of the animal should be made as soon as possible.

Better practices on fitness for transport

96. The minimum age at which lambs can be transported varies according to the duration of the journey. The recommendations in Table 2.3 should be followed.

Table 2.3 Minimum age of lambs for transport according to duration of the journey

Age of lambs	Journey duration
From 10 to 15 days	≤ 2h
From 15 days to 6 weeks	≤ 8h
more than 6 weeks more than 8 weeks (for some animals weaned later)	≥ 8h

97. Effective management options for sheep considered unfit for the intended journey include:
 - Resting them in a suitable holding area.
 - Provision of shelter, feed and water.
 - Veterinary treatment if necessary.
 - Humane killing if necessary.

3. Handling and loading

3.1 Introduction

Loading is one of the most stressful times for sheep. During this process the animals are moved from the holding pens to the vehicle and loaded via a ramp or lift. The stress caused to animals is physical as well as psychological. The animal has to make an extra physical effort during its movement onto the vehicle, and psychological stress occurs because the animals leave a familiar environment, to be housed in a completely different and new environment. In addition, animals are handled by unknown personnel.

To reduce stress during loading, the following two main points should be taken into account:

- o Firstly, the design of farm facilities and the design of the vehicle ramps should facilitate the movement of animals to reduce their stress response. Poor design of loading and unloading facilities, combined with poor handling, may cause slipping, falling, bruises and eventually injuries and more stress to the animals, thus producing low meat quality and economic losses.
- o Secondly, rough treatment of the animals must be avoided. This requires that the personnel involved have experience in handling sheep as well as knowledge of its normal behaviour. Sheep are gregarious animals and they have a strong social instinct, therefore they tend to walk side by side. Sheep suffer from severe stress when they are handled in group smaller than five individuals and transportation of a single sheep is inadvisable. In this sense, vocalisation and teeth grinding can be observed in sheep that suffer isolation distress. Sufficient time should be allowed for loading. Rough treatment is the main cause of bruising in sheep.

Loading starts when the first sheep to be transported exits the holding or lairage pen of a farm, assembly centre or control post and is moved towards the vehicle and will end when all the sheep are in the vehicle (last animal loaded). Unloading and the transport (time) ends when the last animal is unloaded from the vehicle (final destination).

3.2 Loading facilities

Good Practices regarding loading facilities

98. Loading areas must be prepared in advance of the transport.
99. Railings on ramps and raceways should be of appropriate height so that they cannot jump over it, with the gaps sufficiently narrow at the bottom to prevent sheep or their limbs being caught, slipping through or becoming injured.
100. Ramp should have a non-slip surface.
101. Ramp inclines should be no more than an angle of 26 degrees, which means that ramps should have a maximum height of 50 cm measured 1 meter before the end of the ramp.

102. Ramp width should allow animals to walk together. Sheep are gregarious animals and they have a strong social instinct, therefore they tend to walk side by side.
103. The width of the loading dock should be at least the width of the transport vehicle.
104. A transporter should ensure that the ramp and the vehicle are properly aligned, and that any gap between the ramp and the vehicle is sufficiently narrow to minimise the likelihood of injury to sheep during loading.
105. Where the slope is steeper than 10 degrees, that is 17.6 cm height for 1 meter long to the horizontal, ramps shall be fitted with foot battens, which ensure that the animals climb or go down without risks or difficulties.
106. Lifting platforms and upper floors shall have safety barriers so as to prevent animals falling or escaping during loading and unloading operations.
107. If inspecting the vehicle during the night or where light is insufficient, a portable source of lighting must be available.

Better practices regarding loading facilities

108. The height of railings on ramps and raceways should be 1.2m, with no gaps that might cause injury to the sheep or disrupt their movement to where they are being taken.
109. Solid floor extensions should be used to cover any gaps between the loading ramp floor and the floor of the vehicle through which an animal or part of an animal might slip.
110. A layer of straw should be used to cover the loading ramp floor to increase the grip on the surface and to avoid the animals falling or slipping.
111. Ramp slope should be as low as possible (i.e. less than 10°) and it is recommended to reduce this inclination during unloading, especially for lambs. A way to decrease the inclination of the ramp is to increase its length through a mobile ramp **that may be used as an extension of the vehicle's ramp.**

3.3 Handling of animals during loading

Good Practices when handling animals during loading

112. Sheep are social animals. They are less stressed when in the company of other sheep. So they should be handled in groups in a calm and quiet manner to minimize stress and injuries.
113. Sheep react to danger, so act with empathy towards them and avoid them to panic. Shouting, noise making and sudden movements should be avoided.
114. Sheep with no room to move should not be forced, prodded, pushed or excessively handled.
115. Ensure the ramp is free of objects or anything else of which the sheep are afraid. Where excessive handling effort is needed, the design of the facility should be examined.
116. Move animals from dark to light zones, animals may hesitate when entering darker zones.

117. A person who handles sheep in the transport process should do so in a manner that is appropriate to the sheep class, and minimises pain or injury. Specifically:
- o Sheep must not be lifted by the head, ears, horns, neck, tail, legs or wool.
 - o Mechanical lifting of sheep should ensure that the sheep is supported or secured as necessary.
 - o Sheep must not be thrown or dropped.
 - o Sheep must not be struck, punched or kicked.
 - o Check the animals in the upper decks, before you lower down the roof of the truck.
 - o Check on both sides of truck, when using the hydraulic to avoid animals getting limbs trapped.

Better practices when handling animals

118. Handling techniques should use the flocking instinct of sheep. Sheep have a strong **following instinct and a 'flight zone' that should be understood and used for efficient** sheep handling.
119. Waving flags or plastic bags can be used to stimulate the animals moving and to facilitate the loading operations. This is a practical and useful method, particularly for lambs.
120. Practices for moving sheep which are positive for animal welfare, working conditions and profit should be used. They include:
- o The use of a trained sheep to lead the rest of the animals into the vehicle. If it is not possible, the lamb of a mother which has recently given birth may be used. In this case, the mother follows the lamb and the rest of the group follows the mother.
 - o The use of a positive incentive in front of the animals. This incentive could be a bucket with feed for sheep or a feeding bottle for lambs. It is important that animals are familiar with the incitement used, if they are not accustomed to it, its use produces will result in stress for the animals.
 - o The use of a non-transparent opaque moveable barrier of one meter high around the area from which the animals need to be moved, with a single opening on the side of the truck.
121. Loading of sheep should be done early in the morning when the weather is likely to be hot. This will reduce the risk of heat stress in the animals.

4. Travelling

4.1 Introduction

The longer the journey, the greater the risk that welfare is negatively affected. There are four main aspects of animal transport, which have increasing impact on welfare as duration increases. These relate to the physiological state of the animal, feeding and watering, rest and thermal environment. If animals are fit, properly prepared to travel and the journey has been planned well, they are likely to arrive at destination in a good welfare state and able to recover quickly after unloading and a relatively short time of rest.

4.2 Driving

Drivers play one of the most important roles in livestock transport. Usually they must take sole responsibility for the welfare of animals on the road. How drivers operate vehicles, how much time they spend checking on animal welfare, and how well they are prepared to deal with emergency situations greatly influences the outcome of any livestock highway shipment.

While standing in a moving vehicle, all livestock struggle to maintain their balance and to avoid contact with other animals. If smooth driving is not provided, they might fail in this effort. Moreover, rough driving impacts negatively upon animal welfare and will increase also imposed stress and the risk of injuring animals. The main welfare impairments related to driving quality include loss of balance. In sheep, this is a relevant stress factor related to transport because erratic driving obliges them to make continuous postural adjustment to maintain balance and to avoid falling.

There is a good relationship between driving skills, the amount of stress on livestock, and also the profitability of the transport business. Smooth, consistent driving habits allow the animals to relax more during a journey than hard, erratic driving. Scientific studies have shown that not only does a hard driving style increase measurable stress on the animals transported, but it also significantly decreases meat quality. It has been estimated that there is a difference of 20% in fuel efficiency between driving on a flat road at uneven speeds of up to 100km/h compared with a uniform, cruise controlled safe speed of 80km/h. If you encounter a slower driver on a road with no passing opportunities, sit back and take a steady pace rather than hustling a situation you do not control.

The principles of road-holding of an HGV (Heavy Goods Vehicle) and the ability of an animal to be sure-footed are the same. However, the driver has complete control over the vehicle, but only partial control over the animal. Drivers compensate for this partial lack of control by applying knowledge of how an animal will behave under certain conditions. Transported animals have more pressure on their feet than the load on the vehicle tyres, and they will be working hard to stay on their feet. The more effort they are required to make, the greater the stress they will be under.

Smooth braking helps to keep animals on their feet with a minimum of effort. Hard breaking results in more stress, which can lead to bad welfare, and in turn results in poor meat quality.

Good practices on driving

122. Drivers should use smooth driving techniques, avoiding sudden turns or fast stops, to minimise excessive movements of sheep and to prevent injuries, bruising, slipping and falling of the animals.
123. Drivers should recognise the difficult conditions under which they work. There are very few drivers on the road that require more skills than the those who transport livestock. Live animal transporters have a vehicle with a high centre of gravity, and a load which is alive and not tied down.
124. Avoid harsh breaking.
125. Try to use a constant throttle.
126. Check that the brakes and braking systems are properly adjusted.
127. Use the engine break or retarder if fitted.
128. Fit automatic anti-lock breaking.
129. Although there are tight time schedules to keep, drivers should phone ahead if they encounter problems on the road instead of putting pressure on the livestock, the vehicle, and themselves.
130. Drivers who observe the following procedures will help assure arrival of stock in good condition:
 - a) Start out slowly and avoid fast stops. Fast starts and stops, taking curves too fast, etc., will knock animals down.
 - b) Keep loaded livestock vehicles moving, especially during hot weather. This will maintain a constant air flow that will help keep animals cool and prevent build-up of gases from animal wastes.
 - c) Plan to make periodic stops during transport to check welfare of stock (Are there any downers? Do any appear ill? Are they too cold or overheated?).
 - d) Make vehicle security inspections when checking animals during a stop. Make sure load partitions are in place and secure, trailer doors are securely closed, and bedding is sufficient.
 - e) Be prepared to make decisions or get instructions promptly about how to care for the animals depending on changing weather conditions.

Better practices on driving

Driving quality should be monitored and recorded using accelerometers installed in the vehicles.

131. Drivers should try to minimise the time for which any trailer containing animals is left unattended, particularly where there is any perceived or significant risk to animal welfare.
132. Drivers should avoid rush-hour traffic when possible.
133. Drivers should ensure that during roadside checks they obtain priority over other vehicles. Priority must be obtained in the interest of animal welfare.
134. Drivers should request priority in the case of delays caused by accidents.

135. There should be routine auditing of means of transport and practices of transporters, addressing whether:
- a) The driver knows the emergency actions and has them available in his cab.
 - b) The trailer is in good state (sides, flooring, ramps and gates).
 - c) The driver leaves within 15 minutes after loading the animals.
 - d) The driver knows the plant requirement for boarding and bedding.
 - e) Sufficient water is available for watering the animals.
 - f) The driver has the ability to adjust trailer ventilation during the journey if necessary.
 - g) The behaviour of the sheep is checked during the resting periods (e.g. respiratory behaviour, sweating, etc.).

4.3. Climate control

Animals transported over long journeys may endure prolonged exposure to extreme heat or cold, or may endure radical climate changes that can increase transport stress. The internal thermal microenvironment on vehicles is a major determinant of animal welfare and may pose a significant hazard in terms risk of heat or cold stress. Careful attention should therefore be paid to:

- o Airflow within the transport unit
- o Speed of travel
- o Number, location and conditions of planned stops
- o Space allowance
- o Condition of the sheep

During the hot season, ventilation rates should be high to maintain the temperature within the thermo-neutral zone of the animals. Air quality should not be a problem due to high airflow rates. During the cold season, ventilation rates will be lower (to maintain a thermo- neutral temperature) and air quality is likely to deteriorate.

For a given space and vehicle design, the temperature-humidity index (THI) inside the transport vehicle generally increases when vehicles are stationary in proportion to the duration of the stop. During journeys in summer, the stationary periods and the increase of external climatic temperature (>25 °C) may induce thermal stress. The solution to these problems must involve modification and improvement of the ventilation regime, developing active systems of environmental control.

During the journey the driver must be alert to notice anything that can go wrong, inspecting livestock as required, and taking action if a problem arises that affects the livestock. To achieve this, it is preferable to have frequent inspection stops during the journey, especially when dealing with long journeys. Thermal adequacy in the truck can be assessed by looking for panting of the animals (which indicates that the temperature is too high). This can also be observed in case of overstocking or poor ventilation in the truck. Huddling of sheep indicates that the animals are cold.

Good practices for climate control

136. The temperature within the vehicle should not fall below 5 °C or rise above 30 °C, with a tolerance of 5 °C. Therefore at all times the temperature should be between 0 and 35 °C.
137. In hot weather, avoid parking in direct sunlight for prolonged periods. If practical, park passively ventilated vehicles at right angles to the wind direction, with sufficient apertures open, to optimise air movement through the container.
138. Sufficient ventilation must be available at all times while the animals are on a vehicle.
139. Never leave a trailer /semitrailer with animals on board standing somewhere without working ventilation and an attendant nearby.
140. In high temperature conditions, it is recommended to minimize the number of stops. Otherwise, when possible, the trailer should be parked in an area that provides shade and allows for a breeze to pass through the sides of the trailer and the loading ramp should be opened. Do not park near other vehicles due to the potential for reduced air flow and increased risk of disease transfer.

Better practices for climate control

141. Temperature should be monitored in combination with humidity. This allows a tracing system to automatically calculate the temperature-humidity index (THI). This temperature and humidity monitoring system should be housed in the cabin in order to facilitate the work of the driver (Fig. 4.1).

Figure 4.1 An example of climate monitoring equipment



142. The minimal and maximal temperatures within the vehicle should take the relative humidity and the fleece of the sheep into account. Minimum and maximum acceptable values are presented in Table 4.1.

Table 4.1. Recommended temperature ranges for different categories of sheep adjusted to the Relative Humidity (RH) levels within the vehicle (EFSA, 2004).

Type	Recommended temperature ranges with mechanical ventilation		
	Minimum (°C)	Maximum adjusted for humidity (°C)	
		RH < 80%	RH > 80%
Full fleeced sheep	0	28	25
Shorn sheep	10	32	29

143. Drivers should ensure that ventilation is adequate at ALL times to maintain appropriate thermal conditions and air quality on-board the vehicle / trailer.
144. Animal behaviour and spatial distribution within the container should be monitored and any abnormal behaviour associated with inadequate ventilation is acted on and recorded.
145. Action is taken and documented if animals show signs of overexposure to noxious gases, such as watering eyes, nasal discharge and coughing, retching, ocular/vision disorders to remove animals from the situation or improve ventilation or otherwise lower levels of noxious gas.

146. During cold weather, care should be taken to avoid cold stress and chilly wind, particularly for recently shorn sheep and lambs and for long journeys. Remedial actions that should be applied when animals show signs of being too cold include:
 - o Wait for warmer temperatures.
 - o Reduce space allowance if animals have more than the minimum allowed (e.g. breeding animals).
 - o Provide feed before loading.
 - o Provide additional bedding or insulation.
 - o Increase weather protection for animals on vehicles.
 - o Protect livestock from wind chill during cold weather by adjustment of flaps or windows and the use of protective sheeting with due consideration for overall ventilation requirements.
 - o Restrict air movement through trucks by using side covers to partially block air movement through trailers. Be careful to maintain adequate ventilation.
 - o Keep animals as dry as possible. Shipment of wet animals may cause death from wind chill. Even the fleece of sheep may not protect them from wind chill when saturated.
 - o Protect animals from prolonged exposure to freezing rain and sleet. Precipitation in this form can be deadly to animals.
 - o Pre-warm vehicles by using heaters prior to loading, particularly for young animals.
 - o Prevent the freezing of drinkers and/or water lines by the use of heaters or the addition of (commercially available) mixtures such as glycerine and glucose to the water supply.

147. In hot weather, animals should be inspected at every opportunity for signs of heat stress. Remedial actions that should be applied when animals show signs of being too warm include:

- Delay of the journey until there are cooler temperatures, e.g. at night.
- Load and transport sheep during the cooler parts of the day.
- Use of climate controlled vehicles.
- Increase space allowance by at least 30% – a decision which must be made prior to actual loading commencing and with consideration of the higher risk of loss of balance.
- Provision of drinking water to animals as often as possible.
- Provision of water or electrolyte solutions.
- Increase ventilation.
- Minimise the duration of the stops, when possible.
- Parking the vehicle in the shade and in a place with sufficient air flow.

4.4. Rest, water and feeding

Healthy adult sheep, transported under good conditions can tolerate long journeys without undue compromise to their welfare. However, exposure to heat stress increases water loss principally through thermal panting and this increases the risk of significant dehydration. After a period without access to feed and water during transport, sheep must have access to drinking water after feeding, and before a subsequent journey is undertaken. This is due to their difficulty to drink water from unfamiliar sources in novel environments. A 24 hour rest stop is sufficient to ensure adequate drinking and rest.

Good practices on rest, water and feeding

148. At the end of the legal maximum permitted travelling time (29 hours for adult sheep and 19 hours for un-weaned lambs), the animals must have a break of a minimum of 24 hours before continuing. They must be unloaded and have access to food and water before their journey recommences.
149. Before or during long journeys, un-weaned animals should be offered electrolytes or milk substitutes during the resting period.
150. Metal nipples or troughs alone should not be considered as being adapted for the drinking of un-weaned animals. Only vehicles equipped with pails and flexible teats should be considered acceptable for that purpose.
151. The provision of liquid feed to lambs in transit is considered to be impractical. On long journeys (> 8 hours) it is recommended that lambs are taken to a control post and unloaded upon arrival. At the control post lambs should be provided (individually) with milk (or electrolytes) and then be rested for 24 hours with appropriate further provision of milk / food.

Better practices on rest, water and feeding

152. Transporters should water the animals manually during hot weather and especially during delays. This is the only guarantee that all the animals receive enough water.

153. Sheep should be monitored to determine whether they are drinking as expected. If they are not drinking, try to encourage them to drink by:
- o Ensuring all sheep can access the water facilities and use the drinkers (i.e. showing some animals how the drinkers work).
 - o Checking the water quality (e.g. by flushing water lines, keeping troughs clean). If after these actions the sheep still do not want to drink, empty the tank water and replace it with fresh drinking water.

4.5. Care of sick or injured animals

Sick or injured animals in the context of transportation fall in to 3 categories.

- a) Animals identified as sick or injured at the point of departure.
- b) Animal that are identified as sick or injured during a journey.
- c) Animals that are identified as sick or injured at the point of destination or control posts.

Individual animals may fall into more than one of these groups. However, if animals are identified as sick or injured during a pre-journey inspection at their origin they should be deemed as not fit for transport and should not be loaded. (see also [2.4.2 Fitness for travel](#)). Animals identified as sick or injured at the end of the journey will be dealt with by the appropriate authority at the destination e.g. the veterinarian at a slaughterhouse or control post.

Only animals that are identified as sick or injured during a journey will be addressed here. These animals may be identified during routine journey breaks or specific inspection stops (e.g. additional stops during hot weather), and will probably fall into one or more of these categories:

- o Animals that have fallen or been trampled or injured e.g. as a result of aggression and have a clear lesion or fracture.
- o Animals that exhibit an injury such as a hernia, prolapse or dislocation.
- o Animals that are exhibiting the symptoms of heat or cold stress and/or dehydration.
- o Animals that appear to have developed symptoms of a disease or infection.
- o Ewes that have an abortion or give birth during journey.

These animals should be assessed and decisions made immediately regarding remedial actions or treatments.

Animals should be transported in such a way that each animal can be observed during the journey to ensure their safety and good welfare. Video recordings may help, e.g. breathing rate (associated with heat stress) can be observed directly, but also from good-quality video recordings. If the animals are in multi-tiered vehicles which do not allow free access for observation, for example where the roof of the tier is too low, animals cannot be inspected adequately, and serious injury or disease could go undetected.

Good practices regarding care of sick and injured animals

154. A person driving a vehicle containing livestock will need to check the animals in the vehicle at regular intervals during a long journey. The intervals between

regular checks correspond to the intervals between rest periods which are prescribed by law for drivers.

155. When animals are checked, the driver should look for:
- o The health and animal welfare status of the sheep.
 - o Any bruises, injuries, wet fleeces or lameness.
 - o Panting or shivering of the animals.

156. Inappropriate driving conditions can be detected by the presence of bruises, injuries, wet fleeces or lameness. While bruising would only be evident post-mortem, injuries, wet fleeces and lameness mainly become visible during unloading.
157. Inappropriate grouping of animals or inadequate accommodation on the vehicle can be assessed by looking at injuries. In addition, most animal will stand up as soon as the vehicle stops and special attention should be paid to those that remain **lying after vehicle's engine is turned off (they might be injured or ill)**.
158. Thermal adequacy in the vehicle can be assessed by looking for panting (this indicates that temperature is too high). Panting can also be observed in cases of overstocking or poor ventilation in the truck. Shivering, on the other hand, may indicate that the temperature is too low.
159. Sheep should also be monitored to determine whether they are drinking as expected and, if they are not drinking, action should be taken to encourage water intake.
160. Sufficient light needs to be present to be able to observe all animals during inspections.
161. Upon identifying a distressed or injured sheep, the driver/attendant must provide or seek assistance as soon as possible.
162. Only drivers or attendants who have the corresponding certificate of competence and have received specific training in the field of animal emergency care, may attend animals injured during transport.
163. Records should be kept and made available to the competent authority, of all sick, injured or dead animals, including any disposed of during a journey. Where the animals are transported to slaughter, the abattoir as well as the owner of the animals will need a copy of the record.
164. Where the injury or sickness is such that the animal cannot complete the journey, for example if it cannot stand unaided, the animal should be killed or unloaded as soon as it is reasonably possible at an appropriate place.
165. Weak, ill or injured sheep should be identified to the person receiving them.

Better practices on care of sick and injured animals

166. Weak, ill or injured sheep that are able to walk, do not have broken limbs and are not in pain should be assessed individually. They have a higher risk of poor welfare, and should be transported only if necessary for the better management of the animal, under veterinary supervision.
167. Each sheep should be visible, so the design of vehicles, distribution of animals in the vehicle and space allowance must allow for this.
168. Drivers should inspect all sheep as soon as practical after any unusual or difficult road or weather conditions.

169. The checking of animals should involve visual inspection and awareness of auditory and olfactory cues that the animals have problems. Animal based indicators of potential adverse effects on sheep welfare due to transport are shown in Table 4.2.
170. Special care should be given to weak, ill or injured sheep that are still fit for transport. This may include shortening the journey by transporting them directly to an alternative destination, protecting from extreme weather, not mixing with stronger sheep and not consigning to sale yards.
171. Transporters should have a minimum knowledge about common injuries or diseases suffered by the animals during transport, and how to act in each case.
172. The transporter should record the results **of the sheep's inspection along the journey**.
173. In cases of injury, sickness or death, it may be relevant to inform the competent authority of the region. This is especially important if any major infectious disease is suspected. Journey plans include the addresses, e-mail addresses and telephone numbers of the competent authorities in each of the regions passed through during the journey.
174. If a problem with the sheep is identified during transit, even when the problem is rectified, additional checks should be made as necessary to ensure the welfare of the consignment. Drivers should notify ahead for assistance if necessary.

Table 4.2 Animal based (observational and clinical) indicators of the potential adverse effects of transport on sheep (EFSA, 2011)

Adverse effect	Clinical/observational indicators	Adverse effect	Clinical / observational indicators
Hunger	- Weight loss (in long journeys)	Disease	- Incoordination
Dehydration	- Skin-pinch test		- Posture
	- Extreme thirst		- Limping
Lack of comfort around resting	- Tired animals		- Teeth gnashing/grinding/bruxism
	- Lack of space to lie down all at the same time		- Incapacity to walk
	- Lying down behaviour		- Head tilt gait
	- Lack of space above the top of the head		- Eye and nasal discharge
Heat stress	- Dead animals by asphyxia		- Difficult to breath
	- Panting		- Respiratory sounds
	- Respiration rate (low heat stress: 40-60 breaths/min, medium heat stress: 60-80 breaths/min, high heat stress: 80-200 breaths/min, severe heat stress: over 200 breaths/min (Silanikove, 2000)		- Coughing
	- Drooling	- Lethargy	
	- Position of animals (isolate individuals or group clumped or dispersed)	- Apathy	
	- Increased body temperature	- Faecal characteristics	
Cold stress	- Mortality	Pain	- Evidence of pain on palpation of "injured" area
	- Extreme thirst, high drive to drink		- Increased heart rate
	- Shivering		- Teeth grindings
	- Stand in physical contact with one another	- Panting	
Exhaustion	- Reduced body temperature	Locomotion problems	- Slipping and falling events
	- General lethargy		- Stiffness in gait
Injury	- Apathy		- Shorter walking speed
	- Lack of reaction		- Shorter strides
	- Inability/reluctance to rise	- Lameness	
	- Visible signs of injury (bite marks, wounds, bruises, scratches, abrasions)	Fear	- Increase in heart rate
			- Increase in respiratory rate
			- Head alert
			- Stand still
		Isolation distress	- Escape behaviour
			- Turning away
			- Freezing behaviour
			- Reluctance to move
			- Moving backwards
			- Urination and defecation
			- Teeth grindings
			- Isolated
			- Vocalisation
			- Teeth grindings

4.6 Emergencies

Emergency situations are by definition unexpected, and require immediate action. It is important that drivers or other persons in charge have a plan on what to do, should an emergency situation take place. The plan should include a series of emergency telephone numbers, e.g. to obtain veterinary assistance.

Good Practices during emergencies

175. In case of a mechanical breakdown of the tractor, the nature of the breakdown should be determined and it should be estimated how long the repairs will take. If the repairs cannot take place at the site of the breakdown or they will take an extended period of time, arrangements for another tractor will have to be made. Numerous factors need to be taken into consideration when determining how long animals can safely be left on a stationary trailer:
- o Weather – (e.g. sheep will do fine on a trailer for four hours in cool, low humidity weather. In extreme summer heat and humidity, they will experience heat stress quite quickly).
 - o Fitness of the animals.
 - o Age of animals.
 - o Time since last feeding and drinking.
 - o Location of the delay (e.g. rural area vs. freeway).
 - o Time of day.
 - o Safety of animals at current location.
176. In the event of an accident, the transporter should:
- a. Call the national road emergency number if the accident occurs on a public roadway or if the emergency assistance is required for an on-farm accident. Advise operator of:
 - o The location of the accident.
 - o The fact that you have animals on-board.
 - o The status of any loose animals.
 - o Any known hazards.
 - b. Set out emergency warning devices within 10 minutes of accident.
 - c. Call the designated company contact. If the company has a dispatch checklist for accidents, proceed through list. If not, inform the dispatcher of the location of the accident, if there are any injuries, condition of animals, position of trailer, number of vehicles involved and if first responders are on scene yet
 - d. Call other designated contacts according to company protocol. These could include but are not limited to the insurance companies for the cargo and the vehicle and the destination, and provide them with the same information.
 - e. If the tractor and/or trailer are damaged and unable to move, proceed to point g.
 - f. If damage is minor, the trailer is upright and there are no injuries, take photos and record names and addresses of other people involved and witnesses.
 - g. Herd any loose animals from the road and gather them in an area as far away from traffic as possible.
 - h. Locate accident reporting kit and camera. Take photos of accident as soon as possible. Photographs should include photos of road conditions, vehicle damage, trailer position, the overall accident scene, skid marks, curves, intersections and where the vehicle left the road (if it did).
 - i. Provide as much protection and comfort for the animals as possible.
 - j. When first responders arrive, the transporter should advise them of accident details including any human injuries, the status of any loose animals, any **known hazards and the company's emergency response plan. If available, the transporter should let the authorities know if a company rescue trailer and animal handling personnel are on the way and their estimated time of arrival. Transporters must respect the chain of command at all times.**

- k. Animals that have become injured during transport should be humanely killed to prevent further pain or distress. This is particularly true where there is likely to be an unacceptable delay in treating the source of pain, where the pain is untreatable, or where transportation of the animal would aggravate the condition to a significant extent. A veterinarian should be called to make the decision and to kill the animal humanely.

Better practices on emergencies

177. In the case of a mechanical breakdown of the truck, or in the event of an accident, see the chapter on [2.2.2 Contingency plans](#)
178. In case of animals become injured during transport, see [4.6 Care of sick or injured animals](#)
179. During unexpected hot or cold climatic conditions, appropriate actions should be taken as described in the chapter on [4.3 Climate Control](#)

180. In the event of an accident, the transporter should undertake the following actions:
 - a. The national road emergency number is called if the accident occurs on a public road or if emergency assistance is required for an on-farm accident.
 - b. The driver/ operator is advised of:
 - The location of the accident
 - The fact that there are animals on-board
 - The status of any loose animals
 - Any known hazards
 - c. Emergency warning devices are set out a.s.a.p. (preferably within 10 minutes of the accident).
 - d. The designated company contact is called. If the company has a dispatch checklist for accidents, this is followed by proceeding through the list. If not, the dispatcher of the location of the accident is informed whether there are any injuries, about the condition of animals, position of the trailer, number of vehicles involved and whether first responders are on scene yet.
 - e. Other designated contacts are called according to the company protocol and provided with the same information. These contacts could include, but are not limited to, the insurance companies for the cargo and the vehicle and the destination.
 - f. If the tractor and/or trailer are damaged and unable to move: proceeding to next point. If damage is minor, the trailer is upright and there are no injuries: photos are taken and names and addresses of other people involved and witnesses are recorded.
 - g. Any loose horses are herded from the road and gathered in an area as far away from traffic as possible.
 - h. Locate the accident reporting kit and take photos of the accident as soon as possible. Photographs should include photos of road conditions, vehicle damage, animals, trailer position, the overall accident scene, skid marks, curves, intersections and where the vehicle left the road (if it did).
 - i. As much protection and comfort are provided for the animals as possible.

- j. Statements are released only to people of authorities. The driver must remember that at this point he or she is the most visible company and industry representative and must conduct himself or herself as such.
- k. When first responders arrive, the driver advisee them of accident details including any human injuries, the status of any loose animals, any known **hazards and the company's emergency response plan. If available, the** transporter should let the authorities know if a company rescue trailer and animal handling personnel are on the way and their estimated time of arrival. Transporters must respect the chain of command at all times.

5. Unloading animals

5.1 Introduction

Upon arrival at the final destination or control post unloading of the animals should be undertaken as soon as possible. Unloading is part of the journey and the journey is only complete when the last animal has been unloaded at the final destination.

Unloading is a stressful situation for transported animals due to the rapid changes of their close environment. Unloading areas should be secure and provide a wide, clear and straight path from the vehicle to the holding pens.

When performing unloading, it is also of particular importance to take into account the mental and health status of the animal. Drivers and operators should be aware that some animals may have become tired after a long journey and should be handled properly in order to avoid any additional stress.

Handling skills required are similar to those for loading. The animals should be checked on arrival to ensure that they are fine, that they didn't suffer from their journey and if they should receive an immediate attention. If necessary a veterinary help should be held without any delay.

5.2. Layout of the unloading area

Good Practices on layout unloading area

181. The ramp should have a non-slip surface which is sufficiently resistant, with panels or sidebars high enough to prevent animals falling or escaping during unloading.
182. Ramp inclines should be no more than 26 degrees (which means that ramps should have a maximum height of 50 cm measured 1 meter before the end of the ramp). It is recommended to reduce the inclination during unloading, especially for lambs. A way to decrease the inclination of the ramp is to increase the ramp length.
183. Ramps of more than 10 degrees must have foot battens to stop animals slipping.
184. The width of the unloading dock should be at least the width of the transport vehicle.
185. The driver should ensure that the ramp and the vehicle are properly aligned with the unloading area, and that sheep cannot get trapped or injured by the gap between the ramp and the vehicle.
186. Lifting platforms and upper floors shall have safety barriers so as to prevent sheep falling or escaping during loading and unloading operations.

Better practices on layout unloading area

187. As animals prefer to walk slightly uphill rather than downhill, it is advisable to maintain lower angles during unloading.

188. The optimum **unloading angle for all animals is 'zero'**, so various methods to maintain the angle as low as possible have to be adopted (minimum height of the dock depending on the type of trucks, lift, etc.).
189. Solid yard extensions should be used to cover any gaps between the unloading ramp floor and the floor of the vehicle through which an animal or part of an animal might slip.
190. Unloading ramp should be covered with straw to disguise any change of surface.
191. Ensure the animals can see where they are going and avoid moving them to round sharp corners, particularly near the door of the vehicle they are being unloaded from.
192. The height of railings on ramps and raceways should be of 1.2m, with no gaps that might cause injury to the sheep or disrupt their movement to where they are being taken.
193. Ramps need to be wide enough to ensure unrestricted movement and should be of an appropriate slope for the class of sheep.
194. The unloading areas should be equipped with a mobile ramp in order to increase the length of the ramp and thus facilitate the unloading operations.
195. The unloading areas should be fitted with rounded/smooth corners to prevent animals being injured.

5.3 Handling of animals during unloading

Good Practices on handling during unloading

196. Enough time should be given to the animals during unloading so as to they can adapt to the new situation (light, odours, etc.). Attempting to rush sheep during unloading can be a cause of injuries and poor welfare.
197. Sheep should be unloaded in the same social group as they were in before they were loaded onto the vehicle, and in accordance with the size of pen they are going into.
198. If an animal is staying on the truck:
 - o If the animal is not sick/injured or trapped, check for any cause of disturbance, gently stimulate and guide the animal with a stick preferably from outside of the truck.
 - o If the animal is sick/injured or is still unable to move (generally criteria similar to those for animals unfit to transport), inform the official veterinarian or the animal welfare officer (in slaughterhouse) and follow their instructions.
 - o If the animal is trapped and needs to be freed, consider the safety (for both animal and operator) to solve the problem before entering the vehicle.
199. Make it a priority to unload trucks with poor ventilation or other complications.
200. Park the truck in an area protected from adverse weather conditions (this should be taken into account in the layout of the unloading area).
201. Take appropriate measures in order to limit the delay to less than one hour before the animals can be housed or slaughtered.
202. If animals need to remain in a control post after the truck has departed, for instance because they are injured or otherwise unfit to be transported, they need to receive care and treatment.

203. If an animal needs to be protected from further injury from other animals, the confinement of that animal in an isolation pen should be adequate.

5.4 Care of animals following unloading

Unloading of sheep can cause serious stress and discomfort. It is important that appropriate care is given to the animals, in particular when they have sustained injury during transport.

Good practices on care following unloading

204. The driver of a vehicle should make sure that the area he has unloaded the sheep into is secure and that they will not escape after he has left (this is especially important if there is no one there to receive the animals at the destination).
205. The driver should ensure that all the relevant documents are left with the animals at the place of arrival.
206. The welfare conditions of each consignment of animals shall be systematically assessed by the animal welfare officer or a person reporting directly to the animal welfare officer upon arrival in order to identify the priorities, in particular by determining which animals have specific welfare needs and the corresponding measures to be taken.
207. The animals should have access to food and water, except in the case where they are unloaded at a slaughterhouse to be killed in a short time frame.
208. Fatigued, injured or sick animals should be held with visual and auditory contact of their social group, or with a companion animal as isolation of individual sheep from their peers is stressful.
209. Where it is necessary to emergency kill sheep, it is done promptly, safely and humanely.
210. The animals to be slaughtered as a result of injuries or illness, detected at the time of unloading, should be done by qualified personnel and killing methods set out in [Regulation 1099/2009](#).
211. The personnel involved in killing and related operations and the animal welfare officer shall provide with a certificate of competence.
212. If it is not certain that a sheep is dead, then an approved method should be used immediately to ensure death in a rapid and humane manner. If necessary, bleeding-out or another technique should be used to ensure death in unconscious sheep.
213. Where there is concern about the assessment of fitness for a subsequent journey, veterinary advice should be sought.

Better practices on care following unloading

214. After the journey, feedback on sheep welfare should be provided by the driver to the consignor of the sheep.
215. An **“animal welfare officer”** should check the animal welfare during the unloading and maintains records of the check.
216. Humane killing should be done with the minimum number of people present to avoid distractions.

217. The sheep should be handled carefully and be appropriately restrained so that it is not unnecessarily distressed or alarmed. Where sheep are able to walk, they should be handled in a race or crush.

5.5 Cleaning and disinfection

Bio-security measures are necessary to prevent the spreading of diseases. A clean vehicle is also required because stress during transport may affect the immune system of the animals, and make them more sensitive to disease.

Good practices for truck cleaning and disinfection

218. Trucks should be cleaned directly after unloading, and before they enter the overnight parking space.
219. Before cleaning and disinfecting, dirty bedding should be removed and conveyed to the manure treatment facility or the manure storage area. The truck compartment should be cleaned preferably using high pressure warm water (>70 bars).
220. During cleaning the operator should wear protective waterproof clothing
221. Walls and compartment barriers which are clean but still wet should be disinfected using authorised disinfectant products.
222. The cleaning and disinfection area must have sufficient hot and cold water available to clean the maximum number of trucks that can stay each day.
223. Cleaning and disinfection areas should be free of obstacles around the truck within a 2 meter perimeter. Lighting must be available at night time.
224. 400 lux should be provided at the level of objects to be cleaned.
225. All washing equipment and products must be securely stored and protected from weather.
226. Upper decks must be cleaned first.
227. The driver must keep a record of each cleaning/disinfection indicating the trade name of the disinfectant product used and the doses.

Better practices for truck cleaning and disinfection

228. The driver should have access to a list of washing and disinfection areas in Europe, including their conditions of use, opening hours, availability of fresh water and fresh litter.
229. Lorry wash areas should be 25 m long to accommodate trucks, with a 5 to 7% slope to drain waste water to the relevant collecting system.
230. There should be a checklist on the truck with the main points required for adequate cleaning, including the bedding material used, water quality, approved program of cleaning and disinfection, the method of inspection, correctives measures, detergent and the disinfectant agents approved and used.
231. A standard operation procedure for cleaning and disinfection should be present at the unloading facilities, and should be applied.
232. Special attention should be given to disinfecting the tyres and the underneath of the truck, especially before travelling back to areas/countries with a low disease status.
233. There should be an external lift or stage or platform so that the upper parts of the lorry + roof can be cleaned from outside.

234. There should be side protections in open disinfecting premises, so that no pollution from the lorry will contaminate far away surroundings.

6. Stay at control posts, markets and assembly centres

6.1. Introduction

The maximum permitted travelling time is of 29 hours for sheep and 19 hours for unweaned lambs, with a tolerance in all cases of 2 additional hours to reach the final destination. This additional 2 hours are exceptional only (e.g. in cases of traffic jams) and are not to be included in the planning. At the end of the legal maximum permitted travelling time, the animals must reach the final destination and shall be unloaded for slaughter (in the case of slaughter animals) or for a resting period of 24 hours, which in ongoing journeys has to happen at an approved control post before travelling further. The Regulation also establishes a maximum duration for long journeys, which varies according to the species and the age of the animals, and requires a specific resting period (Table 6.1).

Table 6.1 Maximum permitted travelling times for cattle and unweaned calves (Regulation EC 1/2005).

	Maximum duration of the first period including loading	Minimum duration of the rest period	Maximum duration of the second period including unloading
Adult sheep	14 hours	1 hour with access to water	14 hours
Non-weaned lambs	9 hours	1 hour with access to water	9 hours

Control Posts are facilities which may be attended and inspected by an official veterinarian, and which have been approved by competent authorities based on the requirement of a specific EU requirements (Council Regulation EC No 1255/97). At the control post the animals may rest, be fed and watered and cared for during long journeys. Assembly centres are places such as holdings, collection centres and markets, at which animals from different holdings may be sold and grouped together to form consignments. Regarding animal welfare and health, the main risks are similar for control posts, markets and assembly centres (see below).

Control Posts must be designed, organised and managed to accommodate animals for rest, feeding, watering, and care during long journeys. Housing conditions and staff working at the Control Posts should guarantee that the animals transported receive adequate care according to their status and continue their journey under optimum welfare conditions including compliance with animal-health requirements and bio-security measures. Therefore, resting periods in control posts must ensure the possibility for all animals to get rest, food and water at the level of their needs. Then the use of Control Posts is an efficient mean to improve animal welfare and benefit return for the economic operators during very long transport. Control posts can be approved for pigs, cattle, sheep and/or horses. The booking of the control post has to be done before the

beginning of the transport and must be indicated in the journey log. A current list of control posts can be found on the internet at the following address:

https://ec.europa.eu/food/sites/food/files/animals/docs/aw_list_of_approved_control_posts.pdf

Main risks of poor welfare at control posts, as well as at assembly centres and markets are related to:

- o Cross-border spread of infectious diseases. Risks are due to the mixing in the same place of animals of different origin, not only because of the simultaneous presence of the animals in the Control Post, but also due to poor cleaning and disinfection procedures between successive consignments. The European regulation establishes rules and procedures, applying to a list of diseases. However, the control post owner and staff, transporters and the official veterinarian in charge should also be aware of the possibility that non-listed diseases may spread and should be therefore well informed and trained so as to be able to detect non listed diseases, as well as symptoms or changes in the behaviour of the animals that could indicate health problems.
- o Inappropriate/rough/hasty unloading or loading procedures which can cause stress and injuries
- o Inadequate space allowances and/or pen sizes in the control post that can compromise resting conditions and cause competition and aggressive behaviour between animals.
- o Inappropriate feeding and watering, and facilities that could cause animals frustration or health problems due to hunger and/or dehydration

Relevant recommendations can be found in High Quality Control Post Handbook (www.controlpost.eu)

Good practice regarding control posts and assembly centres

235. All control posts are required to have a closing day for cleaning and disinfection after 6 days of usage. It is good practice to undertake this during any available break in occupation even after less than 6 days of continuous use.
236. A Proof of an Appointment and a Proof of an Acceptance of the animals by the **control post must be shown to the 'loading vet' (the veterinary officer approving the journey)**.
237. Only one assembly centre is used during long journeys, and any resting legally required during a very long transport must be for a full 24 hours at an approved control post.

6.2 Housing

Good practices on housing

238. Building insulation is required if the housing is to be heated and frost-free (particularly in fully slatted floored houses).
239. Insulating materials such as bricks on the walls are recommended as very young animals are highly sensitive to cold.

240. To keep inside temperature above the indicated minimum, additional heating may be applied if necessary, especially for young animals. If the temperature is higher than the indicated maximum, additional measures have to be taken to cool down the animals, such as more floor space, additional fans for ventilation.
241. Indoor holding facilities must have adequate mechanical or natural ventilation to provide fresh air and to keep the effective environmental temperature within the comfort zone of the animals as far as possible (see also Table 6.2 for better practices). Air should be able to freely circulate above the heads of the animals.
242. A group of sheep will spontaneously produce a lot of heat, so the temperature of their housing needs to be monitored at regular intervals.
243. The exact number of sheep that each pen can accommodate should be clearly specified.
244. The pens used at the holding place should be constructed so that sheep in the same social groups prior to loading can be kept together.
245. The holding location should be equipped with mobile barriers in order to allow the maintenance of separated groups of animals according to provenance and animal species. These barriers must be constructed in such way that they cannot harm or injure the animals.
246. All pen materials should be non-toxic, cleanable and able to be disinfected.
247. Floor material must be non-slippery, cleanable, sufficiently drained and appropriate for the animal species.
248. Straw bedding should be provided in the pens.
 - o Ewes: 0.5kg/head
 - o Lambs: between 0.20 and 0.25 kg/head.
249. Diffuse natural or proper artificial lighting should be provided throughout from the unloading/ loading area to the resting area.
250. The lighting should be around 40 lux in the regular pens (reading a newspaper is possible), but it must be stronger in the nursery pen (250 lux), milking parlour and unloading area (100 to 150 lux).
251. Care should be paid in order to avoid any light contrast, light reflection on metal equipment, or high luminosity because this causes animals to stop, and sometimes to turn back.
252. At least one fire extinguisher (solid, liquid, gas) must be available in each building according to the quantity and type of combustible materials present.

Better practices on housing

253. The temperature in the building should be maintained within the thermo-neutral zone, see Table 6.2

Table 6.2 Better practice for temperature ranges in farm building, minimizing health problems for animals.

Animal categories	Minimum temperature	Maximum temperature
Ewes	6°C	26°C
Lambs	14°C	21°C

254. Space allowance in each pen should be appropriate for the animal species held. Recommended values are given in Table 6.3.

Table 6.3 Better practice for minimum space allowances at a resting place.

	Animal categories	(m ² /head)
Sheep	Ewes	1
	Lambs	0.5

6.3 Feeding and watering

Good practices on feeding and watering

255. Feed must be of good quality, palatable and appropriate to the species and age of the animals.
256. Feeding equipment shall be constructed and installed so that food contamination and competition among animals are minimised.
257. Feeding equipment should not be an obstacle or cause of injuries to the animals and it must be cleaned and if necessary disinfected.
258. Feed shall be stored in a clean, dry and labelled (visually identifiable) facility.
259. Feed storage facilities are used for feed only, unless feed is stored in closed containers/packaging material.
260. No chemicals (for instance pesticides, biocides, veterinary pharmaceuticals) shall be present in feed storage facilities.
261. Animals should have free access to fresh potable water, delivered ad libitum.
262. Drinking devices must be designed and positioned in a way that is appropriate for the species, the age and the size of animals.
263. To avoid freezing, water pipes should be insulated and checked during cold weather to ensure that water is available. This check should also be carried out prior to the arrival of the sheep and regularly during their visit in very cold weather.
264. Drinking bowls should be emptied and cleaned regularly, especially in warm weather conditions.
265. Drinkers should not create obstacles for animals, workers, machines and mechanical systems.
266. Drinkers should not be placed next to feeding or resting areas, to prevent wetting of food and bedding by water leaks.
267. Re-supplying of the vehicle with water and feed at the control post should be done before continuing the journey.
268. The condition and state of the animals shall be inspected by a staff member of the holding facility on their arrival and at least once every 12 hours during their stay.
269. Sheep should be assessed for fitness by a qualified, independent person, before continue travelling.
270. If in doubt over the fitness for transport of one or more sheep, veterinary assistance should be sought to make a decision before continuation of the journey.
271. If a sheep is assessed to be unfit for the intended subsequent journey, proper arrangements for the care, treatment or humane killing of the animal should be made.

Better practices on feeding and watering

272. Only milk replacers specifically formulated for lambs should be used at places where animals are temporarily rested
273. Required milk replacer volumes increase with the age and size of the lambs, see Table 6.4.

Table 6.4 Recommended feeding programme for lambs using milk replacer* (FAO, 2011).

Age (days)	Birth weight	Volume (ml) per feed	Feeds/day
5-14	2.0 to 2.5 kg	250	2 or 3 equal feedings
	2.6 to 4.0 kg	400	2 or 3 equal feedings
15-28	2.0 to 2.5 kg	350	2 or 3 equal feedings
	2.6 to 4.0 kg	600	2 or 3 equal feedings
29-42	2.0 to 2.5 kg	250	2 or 3 equal feedings
	2.6 to 4.0 kg	400	2 equal feedings
43-56	2.0 to 2.5 kg	150	2 or 3 equal feedings
	2.6 to 4.0 kg	200	2 equal feedings

*Mix 1 part dry milk replacer with 4 parts of warm water (39°C) for lambs just before feeding.

274. Gradual withdrawal of milk replacer from day 43 to a complete stop by day 56 is recommended.
275. Offer starter feed from 5th day of life to 5 months or continue as long as needed.
276. Good quality hay should be provided from day 10. The minimum quantity of hay available should be that required for body maintenance as shown in Table 6.5.

Table 6.5 Hay quantity required for maintenance.

Animal categories	Kg/feed	Feeds/day
Ewes	3	1
Lambs	1 to 2	1

277. If animals are fed ad libitum, at least 1 feeding place per 10 animals must be available in group housing.
278. If animals are not fed ad libitum, all animals in the pen must be able to eat at the same time. The minimum feeding space per head is given in Table 6.6.

Table 6.6 Suggested feeding space per head to minimize the competition between animals.

Animal categories	Feeder/trough space (m/head)	
	Linear	Circular
Ewes	0.40	0.40
Lambs	0.30	0.30

279. The drinker height must be appropriate to the size of each category of animals that are allowed to be housed in the Control Post, see Table 6.7.

Table 6.7 Suggested height of drinkers above the floor

Animal categories	Height of water bowls (m)
Ewes	0.50
Lambs < 30 kg	0.30
Lambs > 30 Kg	0.40

280. An attendant shall check animal welfare every 12 hours during their stay at the staging point and shall maintain records of their checks. He shall determine which animals have specific welfare needs and take the necessary measures.
281. Sheep that are rested on a journey will frequently not drink, unless they have just been fed, so feeding sheep during a rest period may be essential to stimulate drinking.
282. Special requirements for un-weaned animals should be considered when feeding lambs at arrival. Liquid feeding of un-weaned lambs requires the observation, and often the handling, of each individual animal. It also requires attention to hygienic presentation of the feed, which has to be made up to the correct temperature and solution strength in order to avoid digestive problems.
283. When sheep are gathered at a holding point before loading, they should stay without feed and water for maximum 18 hours. For ewes with lambs or pregnant ewes, this is maximum 14 hours maximum.
284. All the animals must be provided with feed and water just after the arrival to the destination, but this is essential in sheep more than three months pregnant (third trimester).

6.4 Biosecurity, cleaning and disinfection

Transport conditions impose a close contact between animals and can increase the risk of pathogens spreading. Biosecurity is based on good hygiene practices aimed to limit pathogen development and spread, logistic management to prevent contacts between different consignments, and global management of the location to minimise sanitary risks and hazards. The owner of the location (but also the transporter) has to ensure the biosecurity criteria are followed in order to protect the animals that are hosted. [Regulation \(EC\) 1255/97](#) sets down the requirements regarding the location, construction and operation of control posts that aim to achieve an appropriate level of biosecurity. Local competent authorities check that these requirements are fulfilled before approving control posts.

Good practices regarding biosecurity at control posts

285. Hygienic routing of transport is organised to prevent external transport (feed deliveries, removal transport of waste) to cross internal transport (animals). Different routes are clearly indicated to **separate 'clean' and 'dirty' routes** to: animal buildings, lorry wash station, feed and bedding storage, and manure storage. If physical separation is not possible, transports are separated in time. A plan to show the movement of all such vehicles or time separation to prevent cross overs should be made available.
286. The control post is divided into zones to allow the Control Post owner to plan for traffic patterns, work organization and biosecurity measures. Zones are large enough to permit later expansion without encroaching on other areas. Control posts can be divided into three concentric rings or activity zones: Zone 1 office and main entrance; Zone 2 accommodation for drivers, store house and truck wash; Zone 3 animal houses, lorry wash station, feed and bedding storage, and manure storage. (See Figures 6.1 and 6.2).
287. Traffic areas and truck paths between entrance, (un)loading areas, truck wash and parking are planned according to the maximum size for trucks, trailer and semitrailers and to their radius of curvature.

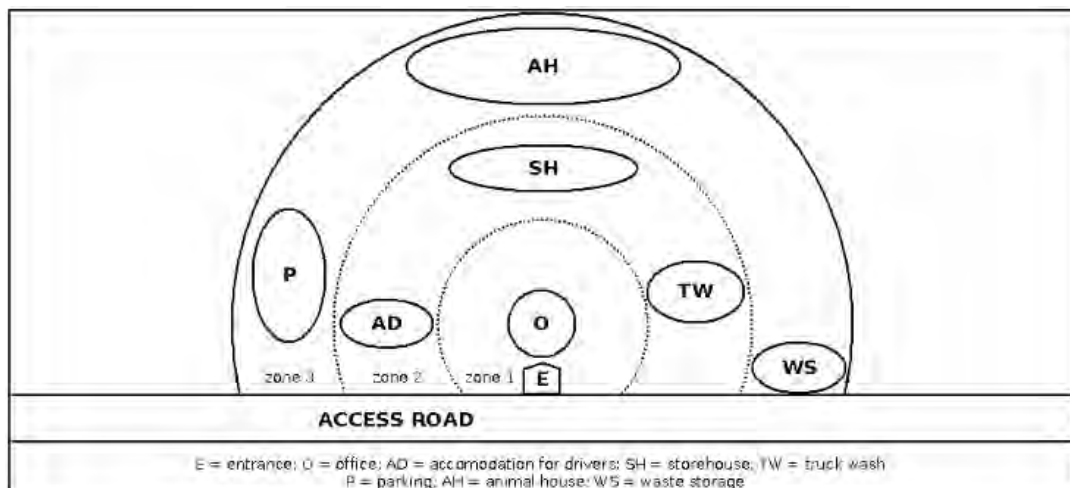


Figure 6.1 Example of the organization of a control post to optimize biosecurity

288. Dead animals are stored in a separate building or sealed container (chilled) and these facilities must be paved or floored with appropriate material. They should be cleaned and disinfected after every use. Carcasses are transferred to vehicles for transportation to the site of disposal or incineration in a manner that ensures these vehicles do not have to enter the premises of the control post (Regulation (EC) N. 1774/2002). Bedding and waste from these buildings should be removed and disposed of in an appropriate manner.
289. Animal buildings are clearly marked. Control post staff should be the only persons allowed to enter into these buildings of the control post. All people entering the building have to wear clean clothes and shoes (or one-use disposable clothing) or walk through footbath facilities to disinfect the shoes before entering into the control post. The driver has to fulfil this procedure to handle animals into the control post. Bathroom should be available to visitors and drivers to wash their hands and themselves.

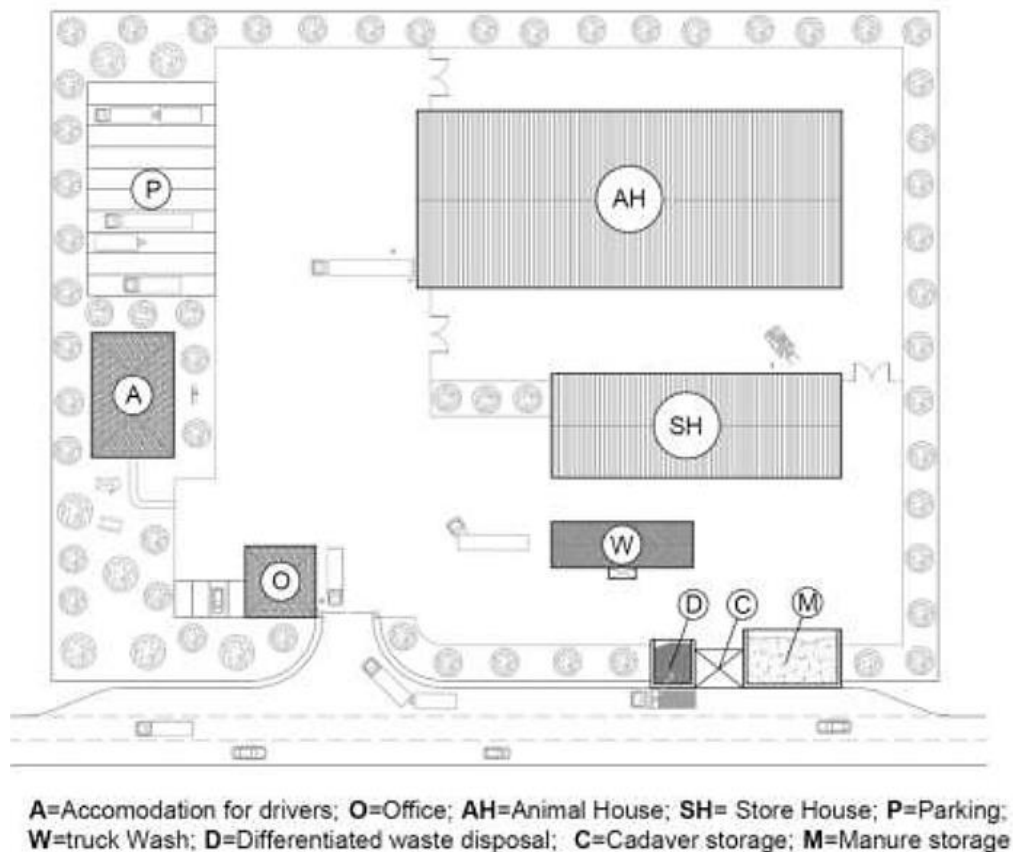


Figure 6.2 Possible organizational layout of a control post.

290. The cleaning, removal of solid waste, washing and the disinfection of the building and equipment must be completed within 24h from the time of removal of the animals from the pens. Buildings and equipment should be dry before a new batch of animals can be housed again. Cleaning of barriers and flooring (pens and ways) should be done using high pressure water (40-200 bars, 25 to 70 l/min).
291. Warm water with detergent is specially recommended for metallic barriers. Cleaning of drinkers and feeders can be done as partitions, floors and walls by using warm high pressure water, or if possible by soaking equipment 20 to 30 minutes in warm water and detergent before pressure cleaning. Foaming can improve the washing. When pens wall and barriers are clean and still humid, disinfection should be done.
292. Authorized disinfectant products **should be sprayed according to manufacturers' recommendations**. Only authorised products (under national agreements) can be used: for national lists of products, refer to official veterinarian and check for AFNOR reference (NFT 72-150/151, 72-170/171, 72-200/201, 72-180/181).

Better practices regarding biosecurity at control posts

293. Changing rooms separated from building in which animals are kept should be available both for co-workers, drivers and visitors (veterinarians, inspectors, etc.). A basin with running hot and cold water, soap, disinfectants, clean towels are available

in the changing rooms. The control post shall have showers, toilets and leisure room for drivers and a well-kept first aid kit.

294. The control post should have communication facilities available for drivers (telephone, fax, internet) and a website including: the name of the contact person of the control post, phone number, e-mail address, address, route planner, opening times, availability of facilities, language spoken, service available for driver (sanitation, leisure facilities, etc.) and health service. A phone list of local medical practitioners, hospitals, police, fire department, veterinarians must be available.
295. Water supply to animals should be potable and not become contaminated. Any water storage tanks must be covered and capable of being disinfected if necessary. Water supply systems should be capable of being flushed with a sanitizer if required.
296. Storage of feed and bedding must be kept secure and not capable of becoming contaminated. Tractors and other mechanical equipment used for feeding and bedding should be cleansed and disinfected after each use.

6.5 Emergency

In case of emergencies occurring while animals are at the control post, the contingency plan of the control post and that of the transporter are activated.

Good practices during emergencies at control posts

297. If there are not enough pens according to the number of pens in the truck, no more than two pens of the truck are mixed. Behaviour is observed and injured or stressed animals are isolated.
298. If an animal shows signs of colic (e.g. profuse sweating, continuous rolling, turning head towards the belly, persistent movement and getting up and down violently, lying down frequently), which is one of the most common problems, veterinary assistance is sought immediately. It is avoided as much as possible to stress the animal.
299. If several trucks arrive together at a control post with animals of different sanitary status:
 - o The competent authorities are contacted for official recommendations, also when one or more trucks create a biosecurity hazard.
 - o Animals of different sanitary status are isolated in different areas of the site.
300. If a local sanitary crisis occurs when animals are expected at the control post:
 - o The competent authorities are contacted for official recommendations, also when one or more trucks create a biosecurity hazard.
 - o The driver and the owner of the transported animals are informed before the arrival. Mobile disinfection systems (wheel splash-boards) are used when the truck enters the control post.

Better practices during emergencies at control posts

301. If animals need to remain in the control post after the truck has departed, for instance because they are injured or otherwise unfit to be transported, they are kept

in a separate area. The local competent authorities are informed of these animals. No pens are disinfected whilst animals are still inside them. Care is taken not to cause avoidable stress.

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