



Unit 1 Introduction

Topic title 1a: Control Post



Unloading area of a control post

COUNCIL REGULATION (EC) No 1255/97

Definition

Control posts are places where animals are rested for at least 12 hours or more pursuant to point 1.5. or 1.7(b) of Chapter V of Annex I to Regulation (EC) 1/2005.

[we can link the pdf of legislation](#)

[in depth contents](#)



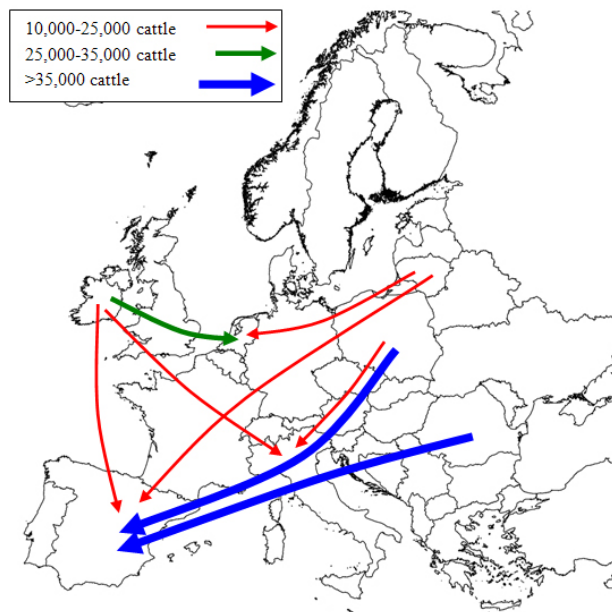
Unit 1 Introduction

Topic title 1b: Control Post

Why Control post exist?

Each year around 6 million farm animals are transported on extremely long journeys across the EU or to or from third countries, some for slaughter, and others for further fattening. Many of these journeys, which involve extensive suffering, take over 30 hours; the worst take over 70 hours (Stevenson,2008).

http://www.ciwf.org.uk/includes/documents/cm_docs/2008/t/transport_in_europe_report_2008.pdf



Main routes of cattle travelling more than 29 hours in 2009

Source: TRACES, 2009



Unit 1 Introduction

Topic title 1c: Control Post

Since the adoption of Directive 95/29/EC the transport of animals in the EU has been limited in time for the main farm species (horses, cattle, sheep, goats, poultry and pigs). After a certain period of transport by road (up to 29 hours for ruminants and 24 hours for horses and pigs) animals must be unloaded for 24 hours in locations approved by the Competent Authorities. Although today's framework of the animal transport legislation has been recast through the adoption of Regulation (EC) No 1/2005, rules on travelling times and resting periods have been maintained.

Control posts, formerly referred to as staging points, are structures used to accommodate animals for rest, feed, and water after long distance transport. The animals are required to rest there for at least 24 hours before travelling further.



Unit 1 Introduction

Topic title 1d: Control Post

Control posts shall:

- (a) be located in an area which is not subject to prohibition or restrictions in accordance with relevant Community legislation;
- (b) be under the control of an official veterinarian.
- (c) operate in compliance with all the relevant Community rules regarding animal health, the movement of animals and the protection of animals at the time of slaughter;
- (d) undergo regular inspection, at least twice a year, to ascertain that the requirements for approval continue to be fulfilled.



Unit 1 Introduction

Topic title 1e: Control Post

- Control posts shall be used exclusively to receive, feed, water, rest, accommodate, care for and dispatch animals passing through.
- Animals may be present at the same time at **control post** only if:
 - (a) they are of the same certified health status, including where appropriate, any additional guarantee granted in accordance with Community legislation;
 - (b) their health status is certified
 - (c) they belong to the category of animals for which the **control post** is approved



Unit 1 Introduction

Topic title 1f: Control Post



Cattle resting in a Control Post

The animals staying at **control posts** are fed and watered at the right time according to the species involved and to provide for this purpose appropriate quantities of feeding stuffs and liquids



Unit 1 Introduction

Topic title 1g: Control Post



Pigs resting in a Control Post

The owner of the control post is responsible

- to care for the animals staying at **control posts** where required, take all necessary steps to guarantee their welfare and compliance with animal-health requirements.
- to use staff who possess the appropriate ability, knowledge and professional competence and have for that purpose received specific training.
- to take the necessary steps to ensure that all those handling animals at **control posts** comply with the relevant animal-welfare provisions



Unit 1: Introduction

Topic 2a: Findings of feasibility study

The feasibility study was focused on:

- Overview of the current state of control posts in the EU members states
- Survey to collect views of stakeholders and other interested parties, and
- Definition and development of criteria for high quality control posts

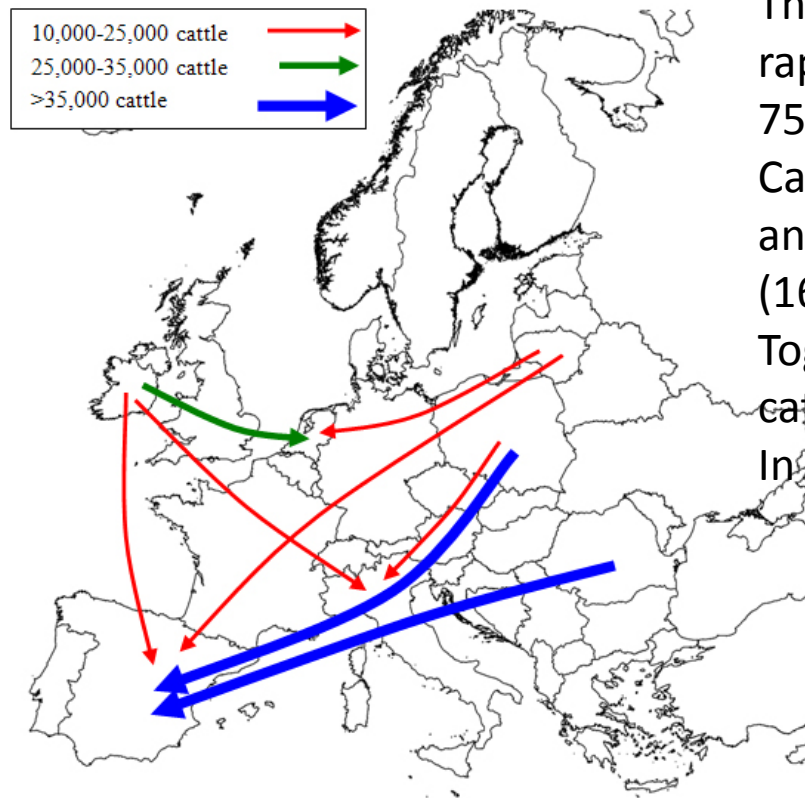
The evaluation of the control posts covered 12 countries where 148 approved control posts (95% of the total 157 control posts) are located. In the beginning of 2010 about 39 control posts were not operating as control posts because of a lack of customers, including almost all of the 23 control posts in the UK, 5 of which were closed. Of the 113 remaining control post, 57 (about 50%) have responded to the questionnaire.

Control posts fulfill most of the minimum requirements of Regulation (EC) No 1255/97. However, at least 27 out of the 57 control posts do not fulfill at least one of the minimum requirements. Most owners of the control post have other activities such as farming, trading or transporting animals. Also the equipment at the control post is often used as an assembly center.



Unit 1: Introduction

Topic 2b: Findings of feasibility study



The total number of cattle travelling more than 29 hours is rapidly decreasing in the period 2007 to 2009 from 756.000 to 290.000.

Cattle are transported from Ireland, UK and Lithuania, Poland, and Romania to Italy (12-17%), Spain (42-53%), the Netherlands (16-20%), and Greece (3-9%).

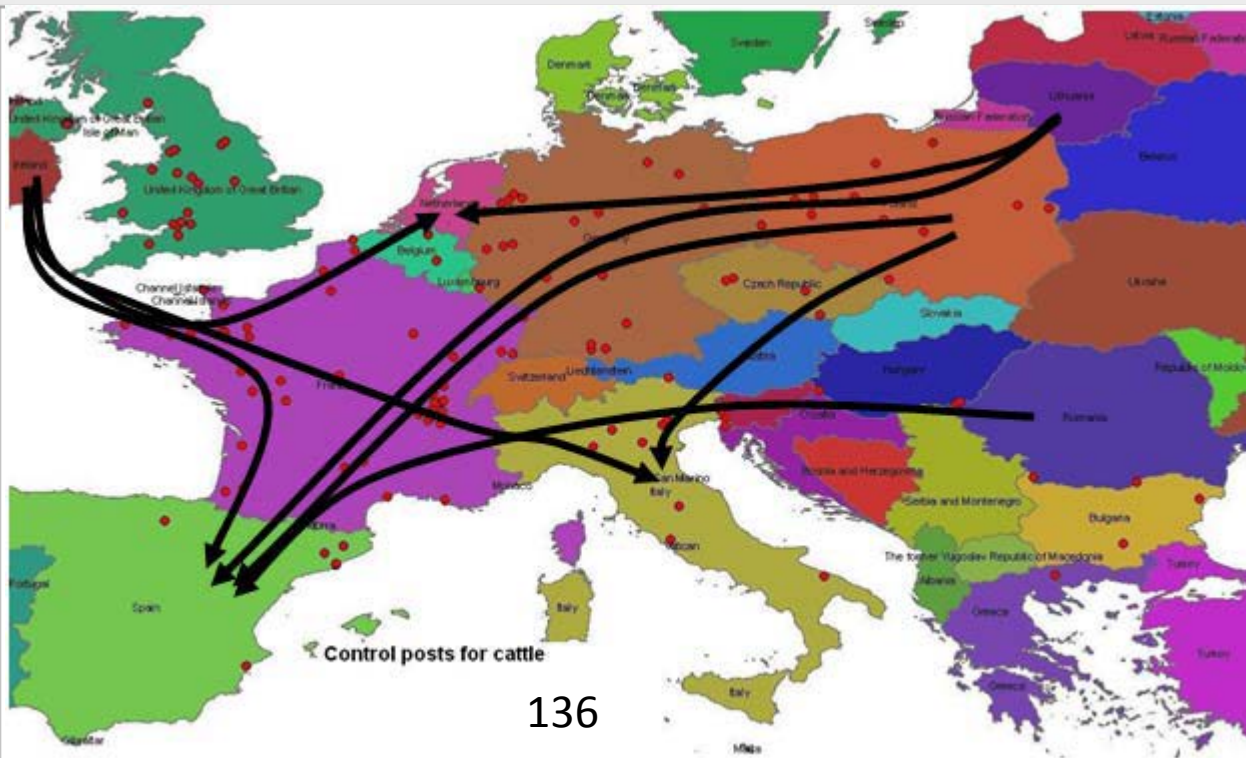
Together the four importing countries import 85 to 88% of all live cattle in the period 2007-2009.

In the Figure, the main routes are given for 2009.



Unit 1: Introduction

Topic 2c: Findings of feasibility study

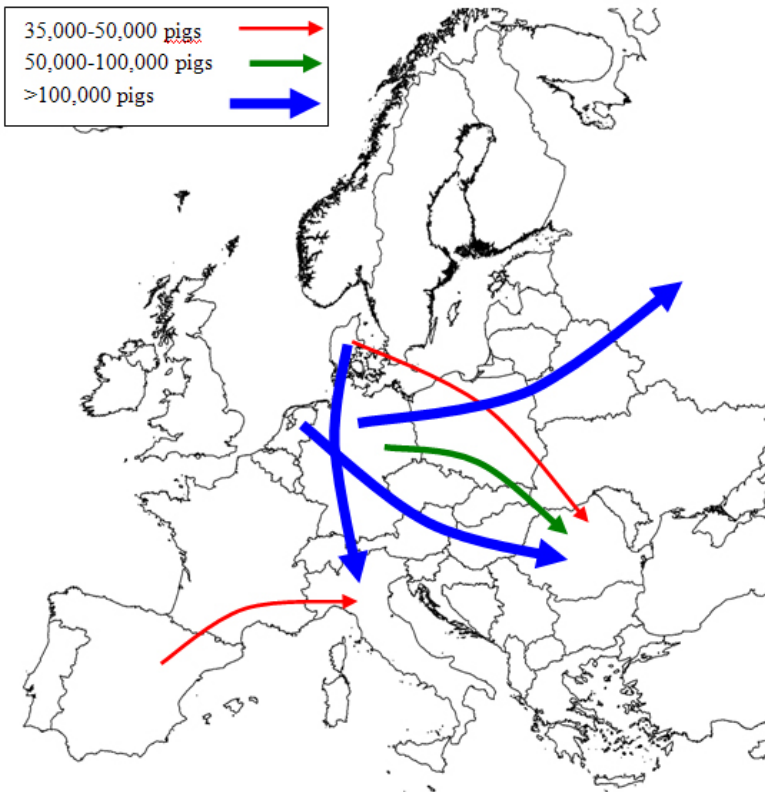


Location of control posts for cattle and the main transport movements of long distance transports of cattle.



Unit 1: Introduction

Topic 2d: Findings of feasibility study

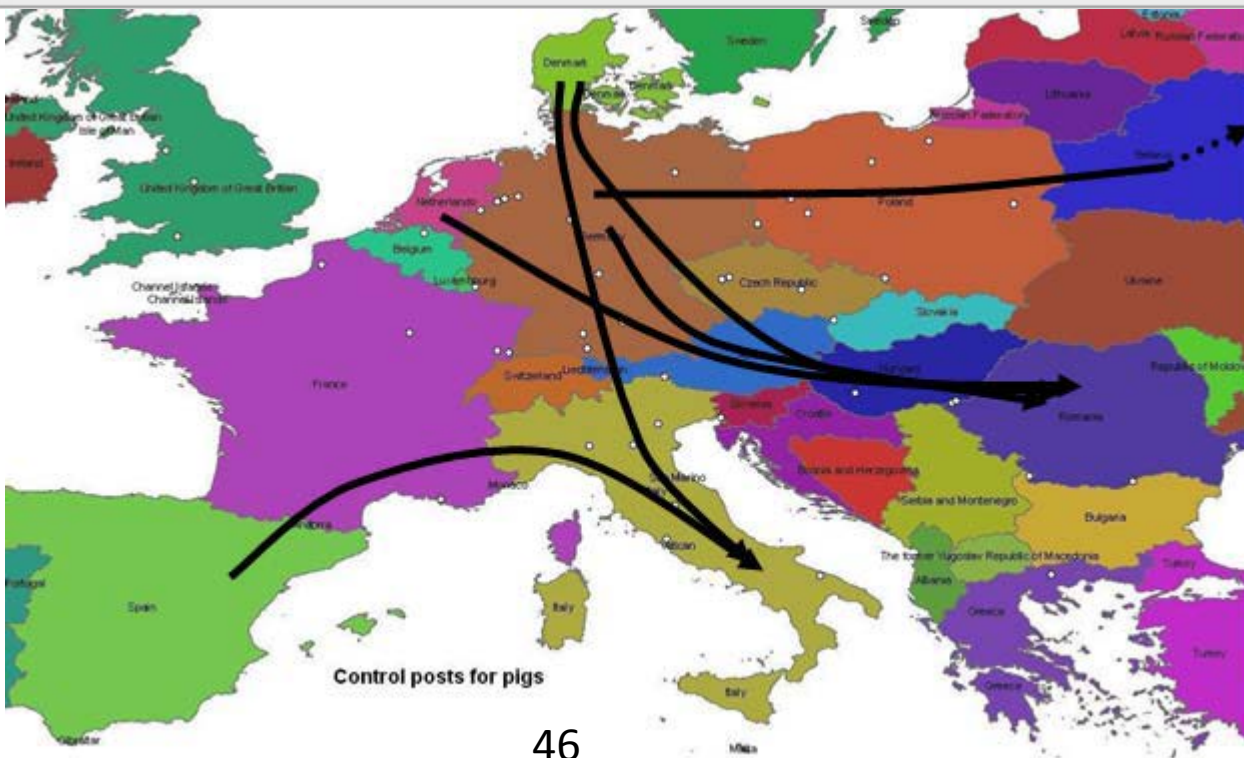


- The number of pigs travelling more than 24 hours increased from 2005 till 2008 from 344 000 to 1 065 000 pigs and decreased to a level of 916 000 in 2009.
- The main importing countries are Italy, Spain, Romania and Russia (outside the EU-27). These four countries are responsible for 80% of all imports of live animals travelling more than 24 hours in 2008 and 2009.
- The main exporting countries are Germany, Denmark and The Netherlands. The share in total export of pigs travelling more than 24 hours increases from 2007 to 2009 from 56% to 83%.



Unit 1: Introduction

Topic 2e: Findings of feasibility study



Location of control posts for pigs and the main transport movements of long distance transports of pigs.



Unit 1: Introduction

Topic 3a: Basic concepts of animal welfare

Different views of animal welfare

When talking about the welfare of animals, different people tend to emphasize different concerns:

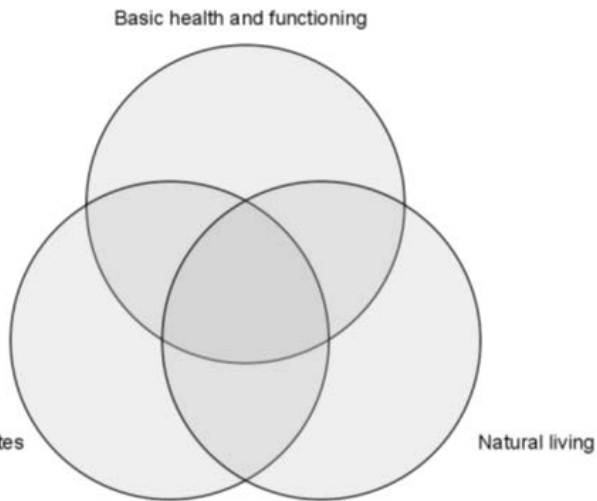
- **Basic health and functioning** of animals, especially freedom from disease and injury
- **"Affective states"** of animals – states like pain, distress and pleasure that are experienced as positive or negative
- Ability of animals to **live reasonably natural lives** by carrying out natural behaviour and having natural elements in their environment





Unit 1: Introduction

Topic3b: Basic concepts of animal welfare



[Fraser, 2008](#)

Different views of animal welfare

The different concerns constitute different criteria - reflecting different sets of values - that people use to assess animal welfare:

Our understanding of animal welfare is both *values-based* and *science-based*



Unit 1: Introduction

Topic3c: Basic concepts of animal welfare

Five Freedoms

The earlier proposed conceptions of animal welfare (affective experience (eg fear, hunger), biological functioning (eg injury, disease) and performance of natural behaviour) may also be combined. This was the basis for the so-called **Five Freedoms**.

Five Freedoms have been the cornerstone of much legislation and policy in Britain and elsewhere, have been used widely in marketing, and form the basis of welfare assessments. Their origins lie in the [Brambell Report](#) of 1965 and they were first cited in 1979 when [FAWC](#) was established.

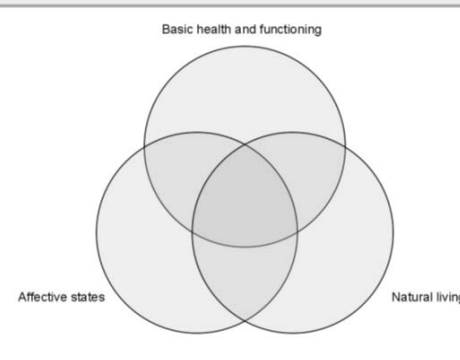
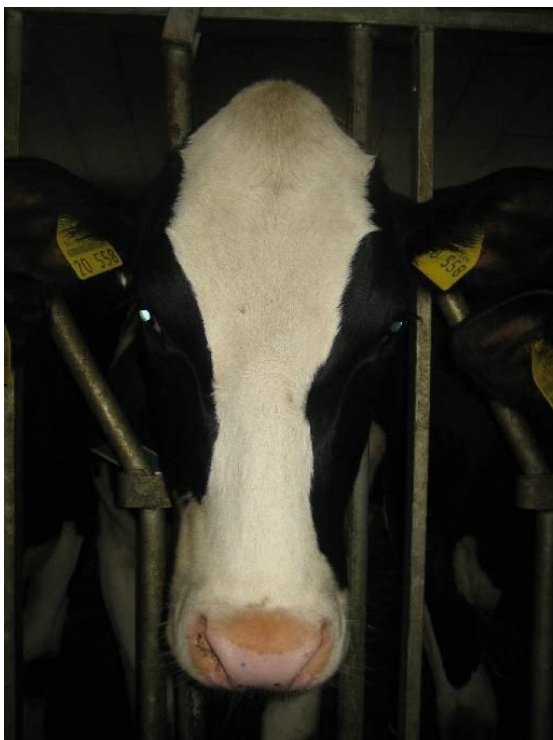


Photo: istockphoto.com/arissanjay



Unit 1: Introduction

Topic 4a: Overview of animal welfare assessment protocol



The welfare of an animal depends on ***how it experiences the situation in which it lives***. Emphasizing the animal's point of view by placing increased importance on measures taken on animals is therefore important. Based on this, ***four principles*** were defined which are essential to safeguard and improve animal welfare:

- Good housing
- Good feeding
- Good health
- Appropriate behaviour

These principles complement and extend the Five Freedoms and provide the solid platform needed to assess animal welfare



Unit 1: Introduction

Topic 4b: Overview of animal welfare assessment protocol

The *four principles*

- Good housing
- Good feeding
- Good health
- Appropriate behaviour

.....correspond to the *questions*:

- Are the animals properly housed?
- Are the animals properly fed and supplied with water?
- Are the animals healthy?
- Does the behaviour of the animals reflect optimized emotional states?



Link to: Welfare assessment protocols for pigs and cattle in control post: text for the e-learning tool

in depth contents



Unit 1: Introduction

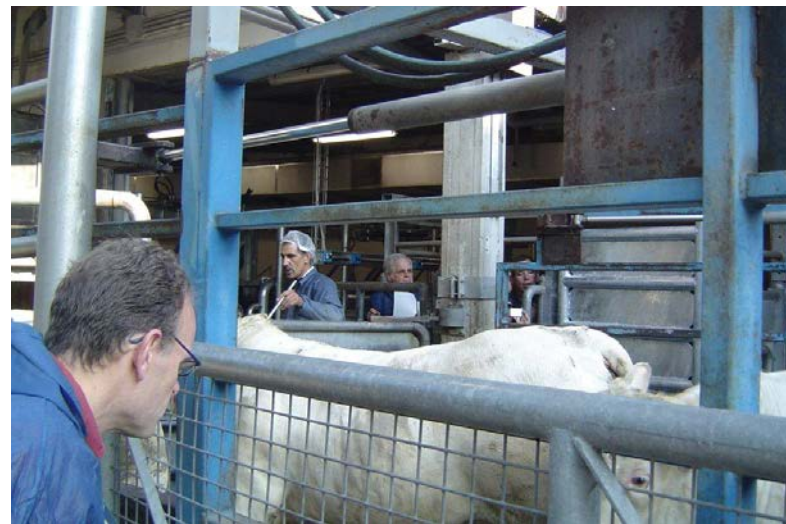
Topic 4c: Overview of animal welfare assessment protocol

Specific animal welfare assessment protocols apply to pigs and cattle transported between farms and to the abattoir. ***Welfare can be assessed at different stages:***

- At arrival to and departure from the control post, during (un)loading
- At the control posts, including the transit between (un)loading area and staying in the resting pen

The animal welfare assessment protocols include:

- ***Observations of the animals:*** How do the animals behave? Are they healthy?
- ***Measures of infrastructure and management:*** characteristics of environment and management that may influence animal welfare





Unit 1: Introduction

Topic 5: Fitness for transport

An important point in terms of transporting animals is **fitness for transport**. Before the animals leave the CP, the official veterinarian or any veterinarian designated for this purpose by the competent authority shall confirm on the journey log that the animals are fit to continue their journey.

Helpful material for assessing fitness for transport:
Practical guidelines to assess fitness for transport of adult bovines. [© 2012 Eurogroup for Animals, UECEBV, Animals' Angels, ELT, FVE, IRU]
Fit for transport to the slaughterhouse? [inaporc]

Not fit for transport are:

- animals **unable to move** independently without pain or to walk unassisted
- animals with a **severe open wound**, or prolapse
- **pregnant** females for whom 90 % or more of the expected gestation period has already passed, or females who have given birth in the previous week
- **new-born** mammals in which the navel has not completely healed
- pigs of less than three weeks or calves of less than ten days of age, unless they are transported less than 100 km



Unit 1: Introduction

Topic 6a: Certification

Documents that the certification scheme include:

- Checklist
- Interpretation guide, including sanction level
- Certification policies
- Impartiality statement
- Various application forms (Transporters, Control Posts, Certification bodies, auditors)
- Auditor calibration outline and frequency



Unit 1: Introduction

Topic 6b: : Auditing

Audit setup

- planning of audits,
- calibration of auditors: Each Certification Body involved in the scheme need to demonstrate through their administrative set-up according to the implemented 45011 accreditation that they comply to the calibration structure requested by the scheme.
- execution of audit: Audits need to be planned, executed and reported within the timeframe set by the scheme.
- evaluation of audit: An evaluator need to evaluate the incoming audit report from the qualified auditor. The evaluator decide the out come of the certification level from the described sanction level in the scheme certification policies.
- Final reporting.: The certified party is informed the certification status and the period of approval. Date of follow-up audit will be indicated.



Unit 1: Introduction

Topic 6c: auditing

Setup of scheme

- Application Form for transporters
- Application Form for Certification bodies
- Application Form for auditors
- Certification policies
- Audit Frequency
- Assessment Criteria and measures
- Impartiality statement

Setup of physical audit

- Check list
- Interpretation document
- Sanction list
- Auditor Calibration outline and frequency

Test of audit setup

- Test audits
- Reports
- Sanction list
- Evaluation
- Amending checklist and interpretation guide
- Consultation AB

Final audits and auditor program

- Final test audits
- Auditor training program
- Publication of relevant documents



Unit 2: Legislation framework and licensing

Topic1a: Council Regulation 1/2005



Regulation (EC) No 1/2005 is about „the protection of animals during transport and related operations“.

- It is about minimum requirements during the transport process with direct validity in the member states.
- It is requested that transport duration has to be as short as possible and to beware animals of injuries and suffering.
- competencies and responsibilities for all actors involved are defined.
- advice for general conditions of animal transport by air, water or road is given.
- Training for drivers of animal transport vehicles and animal handling staff is compulsory.
- Further more special parts are regulated species-specific e.g. space allowance or transport duration.

To get more information you should read [Regulation \(EC\) No 1/2005](#)



Unit 2: Legislation framework and licensing

Topic1b: Council Regulation 1/2005

Durations of long transports (> 8 h) for cattle and pigs before unloading into CP:

Unweaned* calves and piglets:



Other pigs:



Other cattle:



→ The 1 hour break is to give the animals liquid and if necessary feed. After the indicated transport time the animals have to be unloaded, fed, watered and rested for at least 24 hours → **Control Post**

→ In the interests of the animals, the journey times may be extended by two hours, taking account in particular of proximity to the place of destination.



Unit 2: Legislation framework and licensing

Topic1c: Regulation related to CP (1255/97)

After a certain duration transported animals have to be unloaded, rested, fed and watered before further transport (for details see (EC) No 1/2005). Locations for this are the control posts, formerly known as staging points. Council [Regulation \(EC\) No. 1255/97](#) is the corresponding ordinance. Here specific requirements for control posts are listed concerning the building, approval and usage of CPs.





Unit 2: Legislation framework and licensing

Topic1d: Regulation related to CP (1255/97)

- CPs are intended to be used at least 24 hours for watering, feeding, resting and care
- Only animals of the same certified health status belonging to the species which the CP is approved for may be present at the same time at CPs.
- Before animals leave the CP the official veterinarian shall confirm on the route plan that these animals are fit for transport
- CP should be cleaned and disinfected before / after use → upon arrival you should find fresh and clean bedding material in the stables
- CPs shall have suitable facilities for all persons having business on and using the premises
- Animals shall be unloaded without delay after arrival
- For the required records the CP-manager needs (among others):
 - Animal health certificate number
 - Name and adress of transporter and driver
 - Registration number of the vehicle

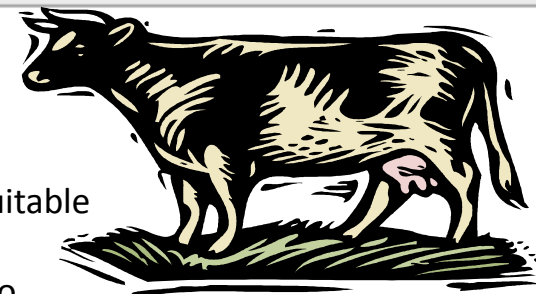


Unit 2: Legislation framework and licensing

Topic1e: Directive 98/58

The protection of farmed animals (98/58):

- animals must be looked after by a sufficient number of skilled staff
- all animals must be inspected at least once a day
- injured or ill animals must be treated immediately and isolated if necessary in suitable premises
- all animals, even if tethered, chained or confined, must be given enough space to move without unnecessary suffering or injury
- air circulation, dust levels, temperature and relative humidity should be kept within acceptable limits
- animals kept in buildings must not be kept in permanent darkness or constantly exposed to artificial lighting
- automatic or mechanical equipment essential for the health and well-being of the animals must be inspected at least once a day. Where an powered ventilation system is in use, an appropriate backup system must be in place to guarantee sufficient air renewal
- feed, water and other substances must be wholesome and appropriate, in sufficient quantities and at regular intervals. In addition, the feeding and watering equipment must minimise the risks of contamination





Unit 2: Legislation framework and licensing

Topic1f: Directive on husbandry: calves

The protection of Calves (2008/119): [Calf: a bovine animal up to six months old]



- up to 8 weeks of age individual pens are permitted, later they are only permitted for ill or injured animals, space requirements are laid down in this directive
- Calves must not be tethered (except possibly during the feeding of milk for a period of not more than one hour) or muzzled
- Calves are to be fed at least twice a day
- Calves over two weeks of age should have access to fresh water
- Each calf must have access to food at the same time as the others in the group
- Floors must be smooth but not slippery so as to prevent injury to the calves.
- The lying area must be comfortable, clean and adequately drained. Bedding is compulsory for calves less than two weeks
- Calves should be kept in conditions with natural or artificial lighting (equivalent to the period of natural light between 9 a.m. and 5 p.m.)



Unit 2: Legislation framework and licensing

Topic1g: Directive on husbandry: pigs

The protection of Pigs (2008/120):

- Pigs are, apart from some exceptions (farrowing sows, boar, injured animals, aggressive animals), to be raised in groups and must not be mixed
- Keepers have to prevent aggression within the group
- Pigs need sufficient quality and permanent access to drinking water
- All pigs must have access to food at the same time as other animals in the group
- Animals must be fed at least once a day
- Floors must be smooth but not slippery so as to prevent injury to the animals
- The lying area must be comfortable, clean and dry
- Continuous noise as loud as 85 dB is to be avoided
- Light intensity is to be at least 40 lux for eight hours

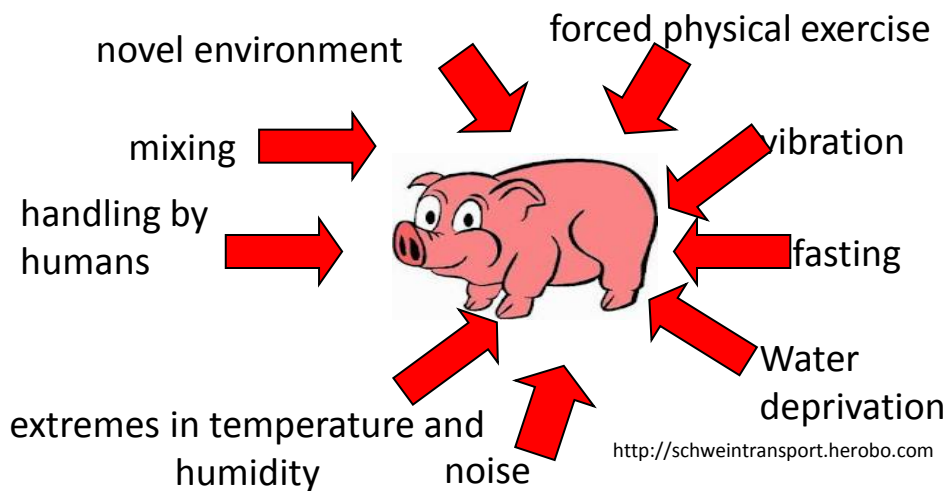




Unit 3: Bio-security and health risk

Topic 1: Introduction to biological hazards during transport and CPs

During transport animals are exposed to a variety of stressors.



Immune system has to fight on many fronts

- reduced immunity
- enhanced duration
- and enhanced level of pathogen shedding



Unit 3: Bio-security and health risk

Topic 2: Introduction to biological hazards during transport and CPs

On one side there are animals with reduced immunity which are stimulated to shed pathogens more and longer than usual.

On the other hand transport promotes the intensity and frequency of contact between animals.

Therefore transport can contribute to disease spread. By reviewing the spread of foot-and-mouth-disease and classical swine fever in the EU it was concluded that at least 9 % of further spread was caused by animal transport.

Reduction of stressors to the animals is the best chance to reduce disease outbreaks. That means to reduce the stress for the animals by good animal welfare and reduce stress to the immune system of the animals by cleaning and disinfection!

**Less stress
=
Less disease**



Unit 3: Bio-security and health risk

a) Introduction to biological hazards during transport and CPs

There are many links in the chain of events that cause spread of disease during transport. A control post is to be seen as a “hot spot” in this line.

The design of CP to keep Biosecurity and Hygiene should:

- be located, designed, constructed and operated as to ensure sufficient bio-security preventing the spreading of serious infectious diseases to other premises and between consecutive consignments of animals passing through these premises, and
- be constructed, equipped and operated as to ensure that cleaning and disinfection procedures can be carried out. A suitable lorry wash must be provided on the spot. Such facilities must be operational under all weather conditions.





Unit 3: Bio-security and health risk

a) Introduction to biological hazards during transport and CPs

The management of the CP should focus on:

- To be cleansed and disinfected before and after each use, as required by the official veterinarian.
- Personnel and equipment in contact with animals shall be exclusively dedicated to the premises concerned.
- The CP shall provide clean equipment and protective clothes, and also suitable equipment for cleansing and disinfecting them.
- Bedding material shall be removed when a consignment of animals is moved out and, after the cleansing and disinfecting operations, shall be replaced by fresh bedding.
- At higher risk levels animals litter, faeces and urine shall not be collected from the pens without an appropriate treatment in order to avoid the spreading of animal diseases.



Unit 3: Bio-security and health risk

a) Introduction to biological hazards during transport and CPs

The biosecurity program of CP should also include:

- Sanitary breaks between two consecutive consignments of animals of animals should include a cleansing and disinfection operation within 24 hours following the departure of all animals previously held in the premises.
- Additionally, the CP shall be completely cleared of animals for a period of at least 24 hours after a maximum of 6 days in use (= a break of 24 hours each week) and after a cleansing and disinfecting operation.
- Before accepting animals, control posts shall have remained clear of animals until the cleansing and disinfection operation is completed to the satisfaction of the official veterinarian.



Unit 3: Bio-security and health risk

h) Animal care in case of emergency at the CP

A major principle in animal handling is to avoid pain, injury or suffering! Nevertheless it is possible that cases of emergency occur during transport or in a CP.

When an animals falls ill or are injured you have to handle according to the problem:

a) Minor health issues

- (for example sign of lameness but able to walk and in good general condition, limited tail biting with no secondary infection in pigs, broken horns in cattle)
- provide basic help like blood stilling and antiseptic care on broken horns for instance



b) Major health issues

- (for example unable to move without suffering or assistance, serious and open wound or prolapse)
- Separate the animal (nursery pen obligatory)
- Provide first aid
- Call a Vet

All medicinal treatments have to be recorded!





Unit 3: Bio-security and health risk

h) Animal care in case of emergency at the CP

Major Health issue has occurred:

One animal is lying in the truck, refusing to stand or showing great difficulties to stand:

- During unloading: handle at the end of the group if possible
- Check for injuries or sickness
- Call a Vet
- emergency euthanasia

A Female is giving birth during transport or the time spend at the CP:

- That means the female is illegally transported
- Separate the mother with the offspring from the group
- Provide appropriate bedding
- Refer to competent authorities

Emergency euthanasia:

- Injured or diseased animals have to be killed on the spot. However the competent authority may authorise the transport of these animals. (For more information see [Regulation \(EC\) No. 1099/2009](#))
- On vessels, aircrafts and rail wagons for transport more than three hours, a means of killing suitable for the species shall be available to the attendant or a person on board who has the necessary skill to perform this task humanely and efficiently

End of CP stay – one animal is not fit for transport:

- Call competent authority!



Unit 4: Handling of animals during transport (GG)

Topic 1: Vehicle design and facilities

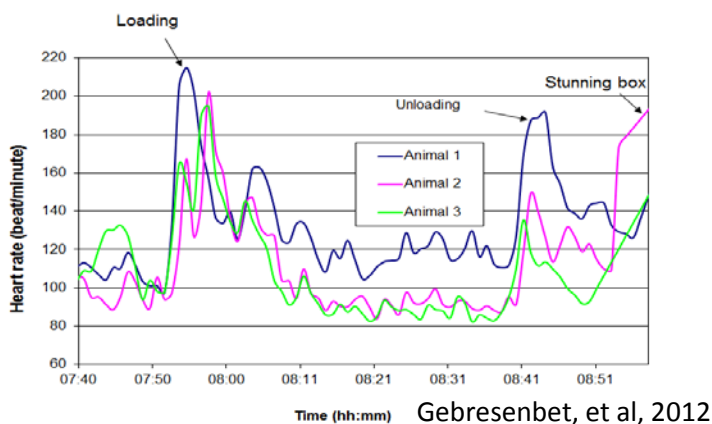


- **Transportation** services are provided using specifically **designed**, environmentally controlled **vehicles** to ensure the well-being and safe **transport of animals**.
- Design of vehicles and facilities should take into consideration the needs of the animals. These facilities include loading and unloading ramps, transport vehicles, and facilities of control posts which need to be similar to the basic housing conditions at farms.
- Vehicle design requirements include:
 - **Suspension system to reduce vibration**
 - **Ventilation system**
 - **Natural ventilation (proper openings at proper positions)**
 - **Mechanical ventilation**



Unit 4: Handling of animals during transport (GG)

Topic 2: Loading and unloading



- Loading activities and conditions at the farms: separation of an animal from its group and original environment; forced movement to the loading ramp along slippery floor; and forced to climb the ramp to enter into the vehicle;
- Unloading activities at abattoirs: forced movement down the ramp at the abattoir, forced movement along usually zigzag alley or chute, restraint in the stunning box.

Unloading and loading at control posts

- These activities are similar with loading at farms and unloading at abattoirs.
- Mixing with another animal group may occur (which is not recommended)





Unit 4: Handling of animals during transport (GG)

Topic 3: Mixing with unfamiliar animals

Mixing with unfamiliar animals causes:

- Fighting
- Restlessness
- Fear
- Injury
- Reduced meat quality

Therefore, it is advisable **NOT** to mix animals with other groups and keep them separate

Meat from animal that has been subjected to fighting due to mixing of animals of different farms





Unit 4: Handling of animals during transport and at control post (GG)

Topic 4a: Space allowance



Space allowances shall at least comply with the figures laid down by EU, in respect of the animals and the means of transport.

The table shows EU recommendation for cattle for transport by road and rail

New recommended space allowances for cattle

Category	Approx. Live weight (kg)	Legal requirement on transport (m ² /head)	High quality CPs (m ² /head)
Small calves	50	0.3-0.4	0.43
Medium sized calves	110	0.4-0.7	0.73
Heavy calves	200	0.7-0.95	1.10
Medium sized cattle	325	0.95-1.3	1.52
Heavy cattle	550	1.3-1.6	2.16
Very heavy cattle	> 700	> 1.6	> 2.54



Unit 4: Handling of animals during transport and at control post (GG)

Topic 4b: Space allowance

New recommended space allowances for pigs

- All pigs must at least be able to lie down and stand up in their natural position.
- In order to comply with these minimum requirements, the loading density for pigs of around **100 kg should not exceed 235 kg/m²**.
- The breed, size and physical condition of the pigs may mean that the minimum required surface area given above has to be increased; a maximum increase of 20 % may also be required depending on the meteorological conditions and the journey time.

Category	Legal requirement on transport, kg/m ² (m ² /head)	High quality CPs (m ² /head)
<10 kg	<0,04	0,13
10 kg > < 20 kg	0,04-0,08	0,2
20 kg > < 30 kg	0,08-0,13	0,26
30 kg > < 50 kg	0,13-0,21	0,37
50 kg > < 85 kg	0,21-0,36	0,53
85 kg > < 110 kg	0,36-0,47	0,63
> 110 kg	>0,47	0,96
Sows ¹ (200 kg)	0,85	1,22
Gilts ² (110 kg)	0,47	0,63
Boars ³ (200 kg)	0,85	1,22



Unit 4: Handling of animals during transport (GG)

Topic 5a: Feeding and watering during transport

During transport, animals shall be offered water, feed and the opportunity to rest as appropriate to their species and age, at suitable intervals





Unit 4: Handling of animals during transport (GG)

Topic 5b: Feeding and watering during transport

According to EU regulation, watering and feeding intervals, journey times and rest periods when using road vehicles which meet the following

Requirements:

- Unweaned calves and foals which are still on a milk diet and unweaned piglets must, after nine hours of travel, be given a rest period of at least one hour sufficient in particular for them to be given liquid and if necessary fed. After this rest period, they may be transported for a further nine hours;
- Pigs may be transported for a maximum period of 24 hours. During the journey, they must have continuous access to water;
- Domestic Equidae may be transported for a maximum period of 24 hours. During the journey they must be given liquid and if necessary fed every eight hours;
- All other animals of the species referred to in point 1.1. must, after 14 hours of travel, be given a rest period of at least one hour sufficient for them in particular to be given liquid and if necessary fed. After this rest period, they may be transported for a further 14 hours.
- After the journey time laid down, animals must be unloaded, fed and watered and be rested for at least 24 hours.



Unit 4: Handling of animals during transport (GG)

Topic 6: Standing orientations and vibration



Vibration causes

- Postural instability
- Transport sickness
- Fatigue

So, adequate **suspension system** and
a good **driving performance** is necessary

Standing orientation is important aspect to maintain good postural stability.

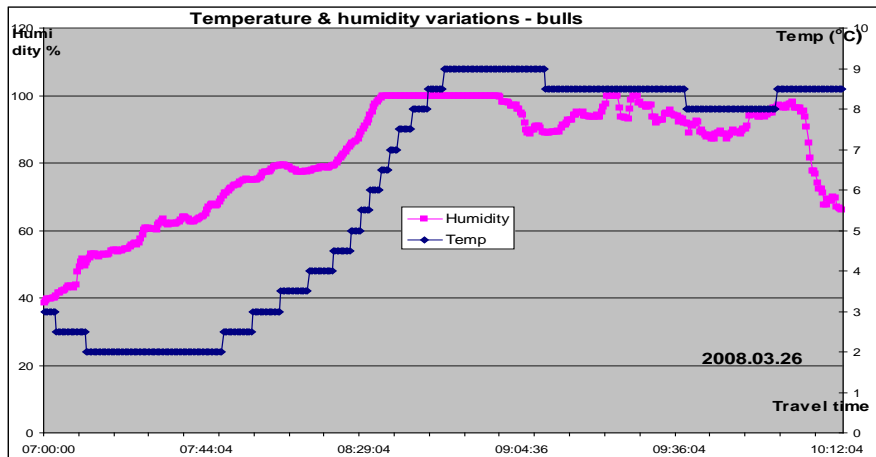
Standing diagonal or perpendicular to the driving direction has been recommended based on the recent research finding (Gebresenbet et, al, 2011)





Unit 4: Handling of animals during transport (GG)

Topic 7a: Climatic conditions in vehicles



Gradual increase of temperature and relative humidity (Gebresenbet et al, 2010)

- Temperature and relative humidity are the main parameters to control during transport
- Installation of mechanical ventilation is mandatory if animals are to be transported more than 8 hours.
- Temperature and relative humidity develops gradually and relative humidity remains at 100% when there is no ventilation system a vehicle
- The ventilation system must be capable of ensuring even distribution throughout with a minimum airflow of nominal capacity of 60 m³/h/KN of payload. It must be capable of operating for at least 4 hours, independently of the vehicle engine.



Unit 4: Handling of animals during transport (GG)

Topic 7b: Climatic conditions in vehicles

Table 1: Recommended minimum and maximum temperature in vehicles during transport, with relative humidity not exceeding 80% (Scientific Panel on Animal Health and Welfare, 2004)

Species	Type/weight/age	Minimum temperature (°C)	Maximum temperature adjusted for humidity (°C)	
			RH < 80%	RH > 80%
Pigs	<10 kg	20	30	29
	10 – 30 kg	14	32	29
	>30 kg	10	25(30)*	25(30)*
Cattle	0 – 2 weeks	10	30	27
	2 – 26 weeks	5	30	27
	> 26 weeks	0	30	27



Unit 4: Handling of animals during transport (GG)

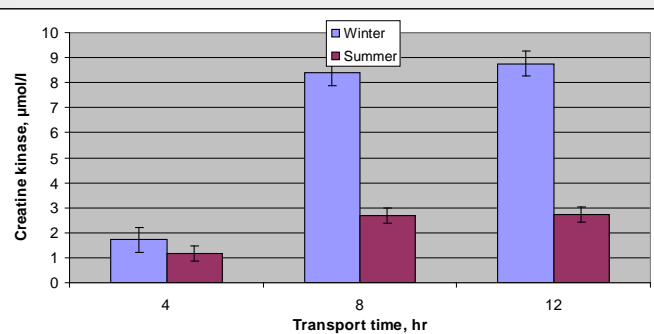
Topic 8a: Transport time and limitations

- **Journey times** for all animals (with the exception of registered equidae, shall not exceed eight hours.
- The maximum journey time may be extended if there is Continuous access to water and feeding and ventilation system
- Pigs may be transported for a maximum period of 24 hours. During the journey, they must have continuous access to water
- After the journey time laid down, animals must be unloaded, fed and watered and be rested for at least 24 hours.
- Cattle must, after 14 hours of travel, be given a rest period of at least one hour sufficient for them in particular to be given liquid and if necessary fed.
- After this rest period, they may be transported for a further 14 hours.



Unit 4: Handling of animals during transport (GG)

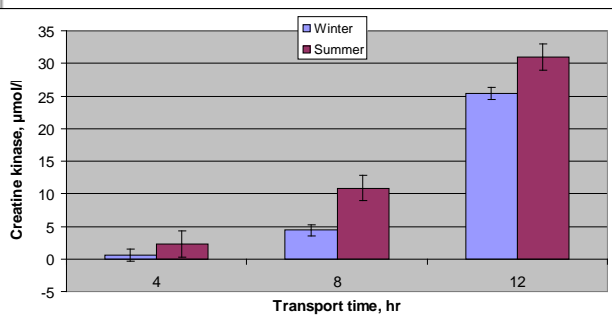
Topic 8b: Transport time and welfare



Creatine kinase concentration in cows for the different transport times and seasons

Gebresenbet et al, 2012

- Transport time has significant effect on welfare of animals.
- Stress hormones increase with transport time



Creatine kinase concentration in pigs for the different transport times and seasons

Gebresenbet et al, 2012



eLearning course: Course module for Transport companies



Unit 4: Handling of animals during transport (GG)

Topic 9: First care for animals in case of emergency during transport

EVA or Michael will make one slide on this





Unit 5: Navigation and information systems for drivers (RG)

Topic 1: Directive related to navigation during transport

Legislation

- Regulation 1/2005

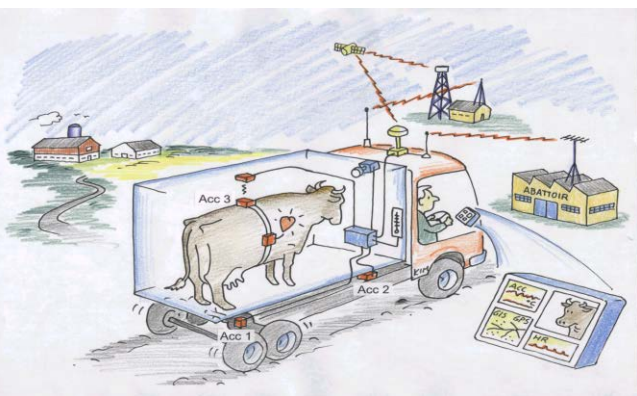


Unit 5: Navigation and information systems for drivers (RG)

Topic 2: Principles of GPS functions and navigation system

- **Objectives of navigation and GPS functions are**
 - Tracing vehicles (location and route)
 - Tracing animals
 - Including monitoring of events
 - Ad hoc intervention ↔ spread of calamities
 - Route planning

- **Solutions**
 - On-line data input and management
 - Format = journey log defined by law
 - Mobile communication
 - GSM
 - Satellite
 - GPS
 - Route planning and tracing
 - Speed measurements,
 - Locations monitoring



Gebresenbet, 2001





Unit 5: Navigation and information systems for drivers (RG)

Topic 3: Journey log and required information

- The journey log should include the following:
 - Route planning
 - Place of departure
 - Place of destination
 - Description of route
 - Resting
 - Overloading
 - unloading



Unit 5: Navigation and information systems for drivers (RG)

Topic 4: Required information about CP for transport companies and drivers



- **Location of the control post**
- **Route to the control posts**
- **Availability of facilities for vehicles**
 - Adequate parking space and maneuvering
 - Cleaning and disinfection
 - Repairing possibilities
- **Availability of facilities for drivers**
 - Telephone
 - Internet
 - Food to purchase
 - Bath possibility
 - Bed
 - First aid equipment

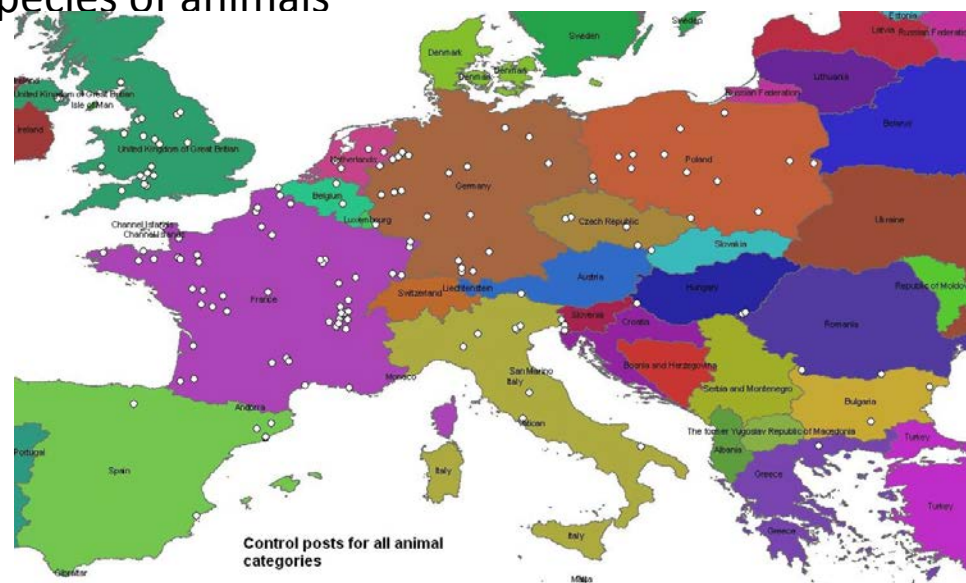


Unit 5: Navigation and information systems for drivers (RG)

Topic 5: Information about CPs required for drivers and transport companies

Important information for the transport companies

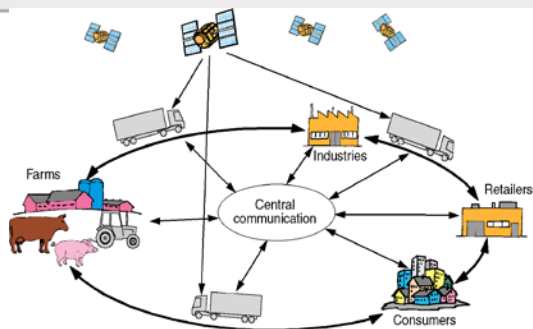
- Location of control posts
- Nearness to the main road
- Whether the control post is designed for specific species of animals
- Facilities for animals
- Facilities for vehicles
- Facilities for drivers
- Cost of the control post





Unit 6: Logistics and facilities of CPs (GG)

Topic 1a: Organizing transport



At farm level

- Preparation for transport;
- Definition of responsibilities between farmers and drivers;
- Loading facilities and methods.

During transport and vehicle

Adequate ventilation system in the vehicle

- sufficient openings for natural ventilation to avoid hot spots
- mandatory to install a mechanical ventilation system with sufficient capacity and alarming to the driver;

Space allowance;

Access to water and feed;

Improved driving performance;

Route planning;

Automated monitoring and control facilities, also during loading and unloading



Unit 6: Logistics and facilities of CPs (GG)

Topic 1b: Organizing transport



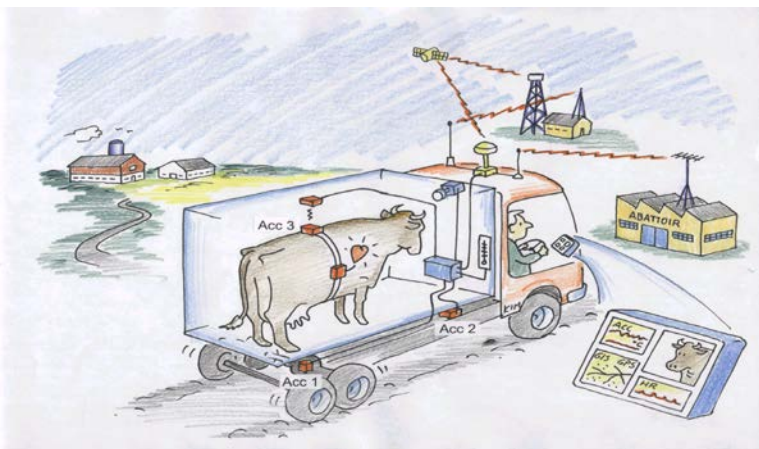
Control posts

- Unloading and loading facilities;
- Hygiene and health measures to avoid disease transmission;
- Space allowance;
- Avoid mixing of animals from different farms;
- Access to water and feed;
- Inspection;
- Documentation;
- Automated monitoring and control facilities, e.g. camera observation.



Unit 6: Logistics and facilities of CPs (GG)

Topic 2: Navigation system



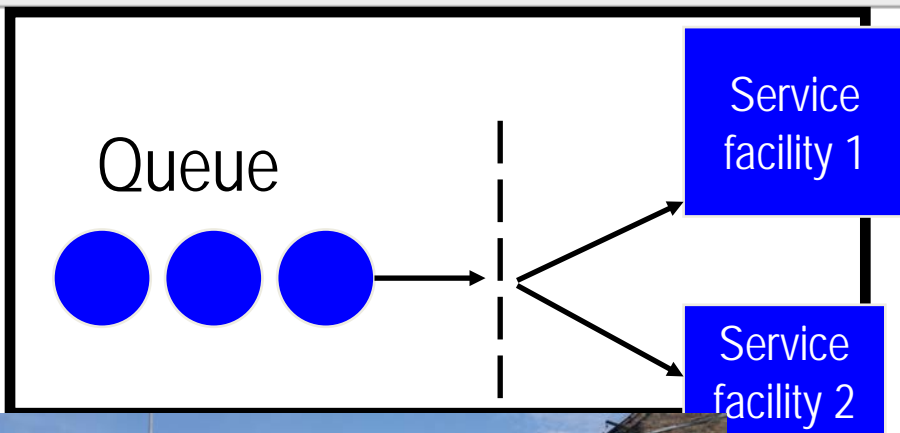
Source: Gebresenbet, 2003

- According to the Council Regulation No 1/2005, Directives 64/432/EEC and 93/119/EC and 1255/97, **it is mandatory to install a navigation system in vehicles for animal transport.**
- Satellite navigation in the context of vehicle telemetric is the technology of using a GPS and electronic mapping tool to enable, monitoring and controlling the movement of a vehicle and locate the position of the vehicle, and to
 - **plan the route and to navigate a journey,**
 - **Improve of journey log and documentation,**
 - **Improve control mechanism**
 - **Improve communication between transporter and control posts**
 - E.g. To avoid queuing at arrival



Unit 6: Logistics and facilities of CPs (GG)

Topic 3a: Queuing at the control posts



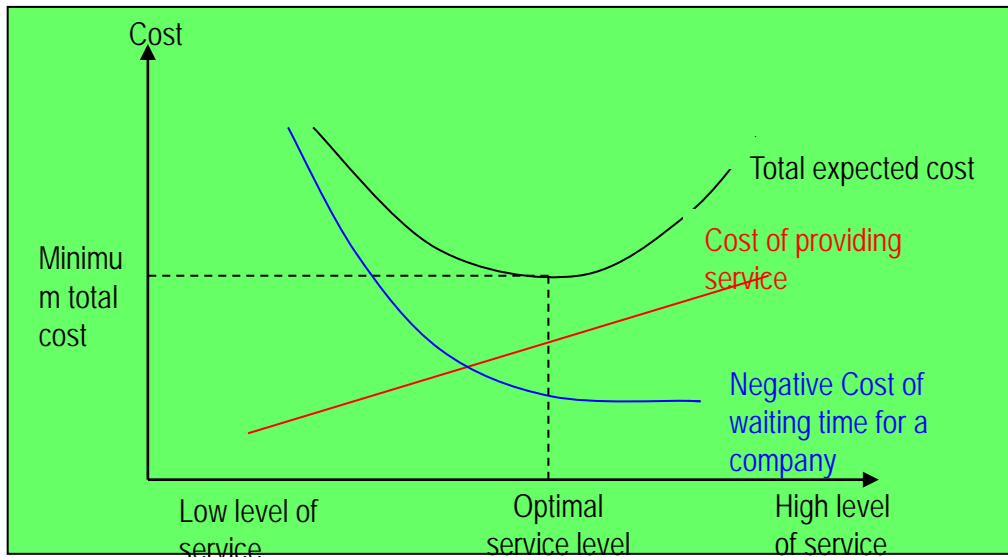
- **A *queuing system* involves customers (i.e. transporters arriving) for service who sometimes have to wait, and facilities for service**
- **Trucks with on-board animals may arrive at the same time and may need to wait for unloading**
- **Facilities considered at control posts are**
 - **animal resting facility and**
 - **other facilities such as washing, repairing, etc**





Unit 6: Logistics and facilities of CPs (GG)

Topic 3b: Queuing costs at the control posts



Queuing time costs both those who are in a queuing system (transporters) and owner of facility service, i.e., cost of providing service (see the diagram)

It can also compromise animal welfare

To reduce queuing cost:

- Communication between transporters and control posts
 - Preparation of facilities by the control posts so that animals are unloaded right at the arrival
- are necessary to obtain the optimum cost for both customers (transporters) and service providers (control posts)



Unit 6: Logistics and facilities of CPs (GG)

Topic 4: Facilities for vehicles and drivers at control posts

- **Facilities for vehicles**

- Adequate parking space and maneuvering
- Cleaning and disinfection
- Repairing possibilities

- **Facilities for drivers**

- Telephone
- Internet
- Food to purchase
- Bath possibility
- Bed
- First aid equipment





Unit 6: Logistics and facilities of CPs (GG)

Topic 5: Management system at the control posts



- **Adequate booking system**
- **Availability of website where necessary information are enclosed**
- **Efficient communication between drivers and control posts**
- **Adequate space for animals with proper partitions to avoid mixing**
- **Availability of first care for animals in case of emergency at control post**
- **Documentation**