








Basic information	
2008/0180(CNS) CNS - Consultation procedure Regulation	Procedure completed
Protection of animals at the time of killing Amended by 2013/0140(COD) Subject 3.10.04.02 Animal protection	

Key players				
European Parliament	Committee responsible		Rapporteur	Appointed
	AGRI Agriculture and Rural Development		WOJCIECHOWSKI Janusz (UEN)	06/10/2008
	Committee for opinion		Rapporteur for opinion	Appointed
	ENVI Environment, Climate and Food Safety			
Council of the European Union	Council configuration		Meetings	Date
	Competitiveness (Internal Market, Industry, Research and Space)		2963	2009-09-24
	Agriculture and Fisheries		2952	2009-06-22
European Commission	Commission DG		Commissioner	
	Health and Food Safety		VASSILIOU Androulla	

Key events			
Date	Event	Reference	Summary
18/09/2008	Legislative proposal published	COM(2008)0553 	Summary
20/11/2008	Committee referral announced in Parliament		
16/03/2009	Vote in committee		Summary
24/03/2009	Committee report tabled for plenary, 1st reading/single reading	A6-0185/2009	
05/05/2009	Debate in Parliament	CRE link	
06/05/2009	Decision by Parliament	T6-0369/2009	Summary
06/05/2009	Results of vote in Parliament		

24/09/2009	Act adopted by Council after consultation of Parliament		
24/09/2009	End of procedure in Parliament		
18/11/2009	Final act published in Official Journal		

Technical information	
Procedure reference	2008/0180(CNS)
Procedure type	CNS - Consultation procedure
Procedure subtype	Legislation
Legislative instrument	Regulation
	Amended by 2013/0140(COD)
Legal basis	Treaty on the Functioning of the EU TFEU 043-p2
Stage reached in procedure	Procedure completed
Committee dossier	AGRI/6/67395

Documentation gateway				
European Parliament				
Document type	Committee	Reference	Date	Summary
Amendments tabled in committee		PE416.622	11/12/2008	
Committee draft report		PE414.334	18/12/2008	
Committee opinion	ENVI	PE416.291	02/02/2009	
Amendments tabled in committee		PE419.903	25/02/2009	
Committee report tabled for plenary, 1st reading/single reading		A6-0185/2009	24/03/2009	
Text adopted by Parliament, 1st reading/single reading		T6-0369/2009	06/05/2009	Summary
European Commission				
Document type	Reference	Date	Summary	
Legislative proposal	COM(2008)0553 	18/09/2008	Summary	
Document attached to the procedure	SEC(2008)2425 	18/09/2008		
Document attached to the procedure	SEC(2008)2424 	18/09/2008		
Commission response to text adopted in plenary	SP(2009)3616	07/07/2009		
Follow-up document	COM(2016)0048 	08/02/2016	Summary	
Follow-up document	COM(2018)0087 	06/03/2018	Summary	
Other institutions and bodies				
Institution/body	Document type	Reference	Date	Summary

ESC	Economic and Social Committee: opinion, report	CES0341/2009	25/02/2009	
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Additional information		
Source	Document	Date
National parliaments	IPEX	
European Commission	EUR-Lex	

Final act	
Regulation 2009/1099 OJ L 303 18.11.2009, p. 0001	Summary

Protection of animals at the time of killing

2008/0180(CNS) - 24/09/2009 - Final act

PURPOSE: to improve the welfare of animals at the time of slaughter or killing, to encourage innovation in relation to stunning and killing techniques and to provide a level playing field within the internal market for the operators concerned.

LEGISLATIVE ACT: Council Regulation (EC) No 1099/2009 on the protection of animals at the time of killing.

CONTENT: the Council adopted a regulation improving the welfare of animals at slaughter by a qualified majority, with the Estonian, Netherlands and Romanian delegations abstaining.

The regulation aims at revising the legislation in force in the light of new technical and scientific elements. It also introduces a new approach - mirroring the one followed in the food safety field - increasing operators' responsibilities concerning welfare.

Subject matter and scope: this Regulation lays down rules for the killing of animals bred or kept for the production of food, wool, skin, fur or other products as well as the killing of animals for the purpose of depopulation and for related operations.

This Regulation shall not apply: (a) where animals are killed: (i) during scientific experiments carried out under the supervision of a competent authority (ii) during hunting or recreational fishing activities; (iii) during cultural or sporting events; (b) to poultry, rabbits and hares slaughtered outside of a slaughterhouse by their owner for his/her private domestic consumption.

General requirements for killing and related operations: animals shall be spared any avoidable pain, distress or suffering during their killing and related operations. To this end, business operators shall, in particular, take the necessary measures to ensure that animals: (a) are provided with physical comfort and protection, in particular by being kept clean in adequate thermal conditions and prevented from falling or slipping; (b) are protected from injury; (c) are handled and housed taking into consideration their normal behaviour; (d) do not show signs of avoidable pain or fear or exhibit abnormal behaviour;

(e) do not suffer from prolonged withdrawal of feed or water; (f) are prevented from avoidable interaction with other animals that could harm their welfare.

The new regulation makes the following changes compared to the existing legislation:

- changing from a directive to a regulation: it provides for uniform and simultaneous application, avoiding administrative burdens and inequalities sometimes due to national transpositions and allowing faster implementation. It also establishes a single set of rules that will be clearer and easier to apply both for EU operators and trading partners;
- better integration of animal welfare concerns into the production process through the requirement of Standard Operating Procedures for operators and the appointment of Animal Welfare Officers in certain slaughterhouses to assist them in ensuring compliance with the rules laid down in the regulation;
- increasing the level of competence of the operators and officials concerned, proper training and issue of certificates of competence for personnel involved in killing and related operations;
- updating of a number of technical standards in view of scientific progress;
- regular monitoring of the efficiency of stunning techniques;
- animal welfare to be taken on board in the design, construction and equipment of slaughterhouses;
- promotion of innovation and a common approach in relation to stunning and killing techniques;
- improving protection of animals during mass killing operations;
- in the case of meat imported from third countries, an attestation accompanying the health certificate will be required, certifying that requirements at least equivalent to those laid down in chapters II and III of the regulation have been met.

Reporting: the Commission shall submit:

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- no later than 8 December 2014, a report on the possibility of introducing certain requirements regarding the protection of fish at the time of killing taking into account animal welfare aspects as well as the socioeconomic and environmental impacts. This report shall, if appropriate, be accompanied by legislative proposals with a view to amending this Regulation, by including specific rules regarding the protection of fish at the time of killing;
- no later than 8 December 2012, a report on systems restraining bovine animals by inversion or any unnatural position. This report shall, if appropriate, be accompanied by legislative proposals with a view to amending the Regulation on this issue;
- no later than 8 December 2013, a report on the various stunning methods for poultry, and in particular multiple-bird waterbath stunners, taking into account animal welfare aspects, as well as the socioeconomic and environmental impacts.

Until 8 December 2019, provisions concerning the layout, construction and equipment of slaughterhouses shall apply only to new slaughterhouses or to any new layout, construction or equipment covered by the rules set out in Annex II which have not entered into operation before 1 January 2013.

ENTRY INTO FORCE: 08.12.2009.

APPLICATION: FROM 01.01.2013.

Protection of animals at the time of killing

2008/0180(CNS) - 18/09/2008 - Legislative proposal

PURPOSE: to improve the welfare of animals at the time of slaughter or killing, to encourage innovation in relation to stunning and killing techniques and to provide a level playing field within the internal market for the operators concerned.

PROPOSED ACT: Council Regulation.

BACKGROUND: every year nearly 360 million pigs, sheep, goats and cattle as well as more than four billion poultry are killed in EU slaughterhouses. In addition, the European fur industry kills 25 million animals, while hatcheries kill 330 million day-old-chicks. The control of contagious diseases may also require the killing of millions of animals. The protection of animals at the time of slaughter or killing, has been covered by Community legislation since 1974, and was substantively reinforced by Directive 93/119/EC. However, large discrepancies have been observed between the Member States in implementing that Directive and major welfare concerns and differences susceptible to affect competitiveness between operators have been pointed out.

The present situation is therefore not satisfactory in relation to the objectives pursued. The level of animal protection is unequally enforced in the Member States, with sometimes very unsatisfactory results. The proposal provides for simplification of legislation in this area. The proposal repealing the current Directive will make national transpositions obsolete. In addition, the better integration into food safety legislation will facilitate implementation.

CONTENT: this proposal will replace Directive 93/119/EC on the protection of animals at the time of slaughter or killing, which covers the killing of farmed animals.

In light of this the proposal provides substantial added value compared to the status quo.

Changing the legal basis: by changing the legal instrument from a **directive to a regulation**, the proposal provides for uniform and simultaneous application, avoiding the burden and inequalities due to national transpositions. The form of a regulation is also suitable for faster implementation of changes due to technical and scientific progress. It also provides for a single set of rules making them more visible and easier to apply both for EU operators and trading partners.

Taking ownership of animal welfare: the proposal also contains greater flexibility for operators through the adoption of guidelines on detailed technical matters. At the same time it requires operators to take real ownership of animal welfare. Each operator will have to develop and implement standard operating procedures for ensuring proper welfare standards in a reliable way. Such a methodology is not new for slaughterhouses as it is already required and in place for food safety (the so-called Hazard Analysis Critical Control Point or HACCP system). Requiring standardized procedures for animal welfare is an innovation of this proposal. As part of this, the proposal will require operators to evaluate the efficiency of their stunning methods through animal based indicators. After stunning animals will have to be regularly monitored to ensure they do not regain consciousness before slaughter. In addition, each slaughterhouse will have to appoint an Animal Welfare Officer who will be accountable for implementing the animal welfare measures. Small slaughterhouses will benefit from a derogation from this requirement.

Furthermore, the proposal requires manufacturers of stunning equipment to provide instructions for the use of their equipment, on how to monitor their efficiency and keep them in good working order.

Updating standards and more competent personnel: the proposal also aims to develop learning mechanisms based on sound science to make animal welfare better understood and integrated in the daily tasks of animal handlers, slaughter-men and official inspectors. The proposal requires staff handling animals in slaughterhouses to possess a certificate of competence regarding the welfare aspects of their tasks. The certificate will be valid for a maximum of 5 years and submitted to independent examination by accredited bodies. The proposal also aims at creating national centres of reference on animal welfare in order to provide technical support for officials working in slaughterhouses. Although there are some research centres in many Member States, the results of their work and their technical competence is not sufficiently available to official inspectors. The centre will provide scientific assessment for new stunning methods/equipment and newly built slaughterhouses, and will accredit bodies delivering certificates of competence concerning animal welfare. The proposal will provide precise definitions for stunning methods. It will also set up a common system for authorising new methods of stunning.

Protection of animals at the time of killing

2008/0180(CNS) - 22/06/2009

The Council reached **political agreement** on a Regulation improving the welfare of animals at slaughter.

The Regulation aims at revising the legislation in force - Council Directive 93/119/EC on the protection of animals at the time of killing or slaughter - in the light of new technical and scientific elements. It also introduces a new approach - mirroring the one followed in the food safety field - increasing operator's responsibilities concerning welfare. Directive 93/119/EC had not been substantially amended since its adoption although Community food

safety legislation applicable to slaughterhouses, as well as hygiene rules for food of animal origin had meanwhile been extensively amended by the adoption of several regulations in this field, including animal welfare requirements and checks for conformity.

The approved Regulation aims therefore at reviewing the legislation with the following main objectives:

- to address new animal welfare concerns about avoiding pain and minimising distress or suffering for animals, in particular establishing more humane killing practices in the event of eradication of contagious diseases;
- to update the stunning/killing requirements taking into account the most recent scientific data;
- to simplify the legislative framework in line with the food safety regulations by increasing operators' responsibilities.

Specific differences introduced by the new regulation:

- changing from a Directive to a Regulation: it provides for uniform and simultaneous application, avoiding administrative burdens and inequalities sometimes due to national transpositions and allowing faster implementation. It also establishes a single set of rules that will be clearer and easier to apply both for EU operators and trading partners;
- better integration of animal welfare concerns into the production process through the requirement of Standard Operating Procedures for operators and the appointment of Animal Welfare Officers in certain slaughterhouses to assist them in ensuring compliance with the rules laid down in the Regulation;
- increasing the level of competence of the operators and officials concerned, proper training and issue of certificates of competence for personnel involved in killing and related operations;
- updating of a number of technical standards in view of scientific progress;
- regular monitoring of the efficiency of stunning techniques;
- animal welfare to be taken on board in the design, construction and equipment of slaughterhouses;
- promotion of innovation and a common approach in relation to stunning and killing techniques;
- improving protection of animals during mass killing operations;
- in the case of meat imported from third countries, an attestation accompanying the health certificate will be required, certifying that requirements at least equivalent to those laid down in Chapters II and III of the Regulation have been met.

Community rules on animal welfare are among the strictest worldwide: the present text intends to minimise distress and avoid pain for animals throughout the slaughtering/killing process.

Protection of animals at the time of killing

2008/0180(CNS) - 06/05/2009 - Text adopted by Parliament, 1st reading/single reading

The European Parliament adopted, by 367 votes to 97 against with 45 abstentions a legislative resolution amending, under the consultation procedure, the proposal for a Council regulation on the protection of animals at the time of killing. The amendments adopted are chiefly intended to clarify the rules, to prevent red tape and to ensure that imports comply with EU standards.

The main amendments are as follows:

Scope: the Regulation will not apply in the context of the activities regulated by Council Directive 86/609/EEC on the protection of animals used for experimental and other scientific purposes. Nor will it apply to recreational fishing or in the following cases:

- for major religious festivities involving traditional sacrifices for direct consumption, for example at Easter or Christmas and only for a period of ten days preceding the relevant dates;

- semi-domesticated deer, shot in the field and processed through a game farm facility.

Definitions: Parliament inserted definitions for "competent authority" and "unconsciousness" and amended the definition for "stunning" deleting the words "without pain" in the latter. Raccoon dogs and rabbits are added to the definition of fur animal.

General requirements for killing: Parliament deleted operators obligations to ensure that animals are prevented from adverse interaction. It adds that the killing of surplus one-day chicks, by whatever means, shall no longer be permitted once appropriate alternatives to the killing of these animals are available.

Stunning: Members stipulate that bleeding shall start as soon as possible after stunning. In addition, they state that in order to take account of scientific and technical progress, the Commission may approve new stunning methods on the basis of an assessment by the European Food Safety Authority

Standard operating procedures: these will not apply to shall not apply to the killing of animals at slaughterhouses where not more than 50 livestock units per week are slaughtered.

Furthermore, in the interests of simpler administration, the procedures laid down in this Regulation need to be combined with other, similar, procedures in the Hygiene Package (Regulation (EC) No 852/2004).

The resolution also specifies that the official veterinarian shall be notified in writing whenever standard operating procedures have changed. The competent authority may amend standard operating procedures when they are clearly not in line with the general rules and requirements laid down in the regulation.

Use of restraining and stunning equipment: Members add that no animal shall be restrained if the slaughterer responsible for stunning or slaughtering that animal is not ready to do so.

Imports from third countries: Parliament states that, in the course of an inspection of slaughterhouses or establishments which have been, or are to be, approved in third countries for the purpose of being able to export to the EU in accordance with EU legislation, the Commission experts shall ensure that the live animals have been slaughtered under conditions which, as far as animal welfare is concerned, are at least equivalent to those provided for in the Regulation. The health certificate accompanying meat imported from a third country shall be supplemented by an attestation certifying that the above requirement has been met.

Arrangements for imports from third countries: a new clause states that the Commission shall ensure that meat and meat products from third countries that are intended for consumption in the internal market comply with the provisions of the Regulation.

Layout of slaughterhouses: the competent authority, referred to in Regulation (EC) No 853/2004, shall approve for each slaughterhouse with a slaughter capacity of more than 50 livestock units per week or more than 150 000 units of poultry per annum. Members deleted the requirement that the competent authority must approve the maximum throughput for each slaughter line.

Restraining operations before slaughter: Members deleted the prohibition of the use of electric currents that do not stun or kill the animals under controlled circumstances. They considered that low-voltage electro-immobilisation after stunning and before bleeding-out can prevent dangerous muscular reflex movements by animals, which cause a large number of accidents at the workplace among slaughter men.

Monitoring at slaughter: animals must be dead before any other potentially painful carcass-dressing procedure is performed or treatment applied. Operators of fur farms shall notify the competent authority in advance when animals are to be slaughtered, to enable the Official Veterinarian to check that the requirements set out in this Regulation, and the standard operating procedures, are being observed.

The Official Veterinarian shall regularly verify the monitoring procedures and adherence to the standard operating procedures.

Animal welfare officer: responsibility for ensuring compliance with the rules should lie with the operator, and should not in any circumstances lie with a particular employee. Slaughterhouses slaughtering fewer than 1 000 livestock units of mammals or 150 000 units of poultry per year may be operated by an animal welfare officer, and the procedure for obtaining a certificate of competence will be simplified in accordance with specifications defined by the competent authority.

Depopulation: Parliament deletes the requirement for an action plan before the commencement of an operation, and deletes the requirement for an evaluation report. It adds that in cases of force majeure, the competent authority may grant derogations from one or more of the provisions of the Regulation where it considers that compliance is likely to affect human health or significantly slow down the process of eradication of a disease or further undermine animal welfare.

Reference centres: this article is deleted. Parliament also made certain amendments to the article on the certificate of competence with regard to training. It adds that certificates of competence shall be valid for an unlimited period (rather than 5 years.)

Transitional provisions: Parliament wants certificates of competence to be issued without examination to persons demonstrating appropriate training and relevant professional experience of at least 12 months before the entry into force of the Regulation. The Commission had specified 10 years of professional experience.

The resolution adds that the Commission shall by 1 January 2013 submit a legislative proposal on the establishment of conditions and rules on the use of mobile slaughterhouses within the Union, ensuring that all precautions are taken in those mobile units not to compromise animal welfare.

Annexes: Parliament made certain amendments to the annexes on the methods of stunning and killing and operational rules for slaughterhouses. It stipulates in particular that Carbon dioxide at concentrations over 30 % shall not be used to stun or slaughter poultry in a slaughterhouse. Such concentrations may only be used to kill surplus chicks or for the purposes of disease control.

Protection of animals at the time of killing

2008/0180(CNS) - 06/03/2018 - Follow-up document

The Commission presented a report on the possibility of introducing certain requirements regarding the protection of fish at the time of killing.

Farmed fish are covered by Council Regulation (EC) No 1099/2009 on the protection of animals at the time of killing. However, only the general provision in Article 3(1) is applicable to farmed fish, i.e. animals shall be spared any avoidable pain, distress or suffering during their killing and related operations.

In addition, Article 27(1) of the Regulation requires that the Commission shall submit to the European Parliament and the Council a report on the possibility of introducing certain requirements regarding the protection of fish at the time of killing taking into account animal welfare aspects as well as the socio-economic and environmental impacts.

The purpose of this report is to comply with Article 27(1) of the Regulation.

The report also constitutes one of the actions listed in the EU strategy for the protection and welfare of animals 2012-2015.

For the main fish species farmed in the EU the European Food Safety Authority (EFSA) in 2009 published several opinions on the welfare aspects of the main systems of stunning and killing. These opinions demonstrated that challenges exist in the aquaculture industry with regard to maintaining good fish welfare at the time of killing. Using a risk based approach, the main hazards identified were:

- handling or handling related procedures (e.g. crowding, pumping, time out of water)
- water quality in holding tank/pen
- stunning and killing methods.

EFSA concluded that many of the methods and much of the equipment in use then resulted in **poor fish welfare**. For this reason EFSA proposed certain recommendations, both for the pre-slaughter and the stunning and killing operations. It was also emphasised that opportunities for development of new methods for stunning or killing, for all of the fish species assessed, were considerable.

To assist with the preparation of this report an independent study report by a selected external contractor was commissioned in 2016. The study focused on the five main farmed fish species in a number of selected EEA countries in order to provide a general presentation of the current situation in European aquaculture:

- Atlantic salmon (cold-water marine);
- common carp and rainbow trout (freshwater);
- European sea bass;
- gilthead sea bream (Mediterranean marine).

The international standards of the OIE on animal welfare during transport and stunning and killing of farmed fish for human consumption were used as a benchmark for assessment of welfare practices.

Main conclusions: overall the general requirements contained in Regulation (EC) No 1099/2009 applicable to the welfare of fish at slaughter have contributed to the development of a framework in terms of national legislation and guidance for the welfare of farmed fish in the EU particularly for Atlantic salmon.

The level of achievement of OIE standards at slaughter varies with the species considered.

For **Atlantic salmon**, best practices are mostly achieved, with a few exceptions, in the case-study countries.

For **common carp and rainbow trout**, the level of achievement varies between methods used.

For European sea bass and gilthead sea bream, OIE standards are not achieved in the case-study countries.

The economic analysis shows that differences in production cost are mainly caused by the structure of the industry, with particular benefits from economies of scale. Where such scale economies exist, improving welfare practices is likely to have only a small impact on the cost price, whereas for smaller farms the impact is likely to be much greater. Other factors, such as feed, labour and operating costs are responsible for most of the larger variations between enterprises and countries.

In the specific case of larger Atlantic salmon and rainbow trout farms, it was found that investment in improving welfare could lead to labour savings, and may outweigh the investment cost.

The commissioned study report findings have also shown that the **industry as a whole is gradually but continuously improving fish welfare** as evidenced by the increasing use of more humane methods such as electrical stunning, the phasing out of others such as CO₂ stunning, and the adoption of private standards. However, **improvements are still needed** in order to increase welfare of some fish species, such as the European sea bass and Gilthead sea bream.

The Commission considers that the evidence suggests that it is not appropriate to propose specific requirements on the protection of fish at the time of killing, taking into account that the objectives of the Regulation may equally be achieved by **voluntary measures**, as evidenced by the improvements introduced by industry in recent years. In view of these ongoing developments the Commission concludes that if further guidance is required this would be best achieved at **Member State level**. In any event the **Commission will continue to monitor progress in this area**.

However, it has also to be recognised that there is a need for **further research** aimed to **tailor dedicated systems** for those fish species where the development of more effective techniques is necessary.

The Commission therefore considers it essential to develop further stakeholder dialogues in order to favour specific initiatives and projects in this field that could be mutually beneficial both from an economic and animal welfare point of view.

Against this background the Commission has formulated a more **systematic and visible format for this dialogue**, through the EU Platform on Animal Welfare. The primary objective of this platform is to allow interested parties (animal welfare organisations, scientists, veterinarians, farmers, food processors, food retailers, etc.) an opportunity to express their concerns, share knowledge and resources to build common activities.

Protection of animals at the time of killing

2008/0180(CNS) - 08/02/2016 - Follow-up document

Pursuant to Council Regulation (EC) No 1099/2009 on the protection of animals at the time of killing, the Commission presented a report on **systems restraining bovine animals by inversion or any unnatural position**.

To prepare this report the Commission commissioned a study (later called the "BoRest study"). Due to the specificity and the complexity of this study (in particular collecting technical and scientific data in slaughterhouses), its preparation and realisation took much more time than expected, hence a delay in adopting this report.

The issue: the report stated that in slaughterhouses, bovine animals are restrained in upright position in a restraining pen before being stunned, usually using a penetrating captive bolt.

Regulation (EC) No 1099/2009 provides that the stunning requirements do not apply if slaughter is subject to particular methods prescribed by religious rites, provided that the slaughter takes place in a slaughterhouse.

Under these conditions, EU legislation exceptionally allows slaughter methods without stunning such as bleeding animals without prior stunning, which include ritual slaughter described by Jewish or Muslim rites. For that purpose, specific restraining systems have been designed to reverse the bovine animal upside down or on its side (rotating pen) in order to facilitate the cutting by the slaughterman. Such restraining systems may only be used if animals are slaughtered without stunning.

Restraining systems: the restraining system of bovine animals slaughtered without stunning is chosen by the slaughterhouse operators to meet the religious requirements of the communities concerned. In addition, the operators want a system that allows a quick loss of consciousness of the animals, ensures the work safety and is economically viable.

Two main restraining systems are used in the EU:

- the upright system where **animals are bled in upright position** (also used for stunning animals with a captive bolt);
- the rotating system where **animals are bled after being rotated in an inverted or lateral position** (only authorised for slaughter without stunning).

In 2012, in total 25 million bovine animals were slaughtered in the EU from which around 2.1 million (8.5%) were slaughtered without stunning, nearly all of them (97%) in six Member States.

From these 2.1 million animals, more than 1.6 million are slaughtered in a rotating device (78% of the animals slaughtered without stunning) while the rest (22%) are slaughtered in an upright device.

In 2012, rotating devices were not in use in Latvia, Portugal, Romania, Slovakia and the UK. The upright position was mandatory in the UK.

The breakup between upright and rotating pen varies considerably between Member States from 100% upright (in the UK due to legislation) to 90% rotating (France), with various intermediate figures.

Animal welfare: the report noted that both systems have advantages and disadvantages.

The upright system was in the past considered more appropriate for the perspective of animal welfare because it does not put the animal in an unnatural position. Data collected on more than one thousand animals in the EU show that from an animal welfare point of view there is **no conclusive findings indicating that one system is better than the other.**

Due to the variety of the situations found in slaughterhouses, the animal welfare outcomes depend more on **the way devices are designed and used** than on the position of the animals (upright or inverted).

The same applies for the safety of the operators or the throughput of the slaughterline.

Investment and operating costs are substantially higher for rotating restraining systems than or upright ones (rotating restraining device cost EUR 12 600/year including the depreciation costs of an investment of EUR 100 000, maintenance and interest costs whereas the annual costs for an upright restraining device are estimated at about EUR 4 300 per year including the depreciation costs of an investment of EUR 50 000, maintenance and interest costs). The first ones are however widely used in the EU (80% of bovine animals slaughtered without stunning).

Based on these data, the BoRest study estimates that more than **85% of the animals are slaughtered with modern designed rotating device.**

Information on best practices and training for proper use of such restraining systems contributes to improved welfare of animals, independent of the restraining system used.