



# **Study on economic models to prevent the transport of unfit end-of-career dairy cows**

Final report

Written by ICF  
March 2022



**EUROPEAN COMMISSION**

Directorate-General for Health and Food Safety

Contact: Sandra Sanmartin

E-mail: [Sandra.SANMARTIN@ec.europa.eu](mailto:Sandra.SANMARTIN@ec.europa.eu)

European Commission

B-1049 Brussels

# **Study on economic models to prevent the transport of unfit end-of-career dairy cows**

Final report

Directorate-General for Health and Food Safety

## LEGAL NOTICE

This document has been prepared for the European Commission however it reflects the views only of the authors, and the European Commission is not liable for any consequence stemming from the reuse of this publication. More information on the European Union is available on the Internet (<http://www.europa.eu>).

PDF

ISBN: 978-92-76-51230-1

doi: 10.2875/70926

EW-07-22-194-EN-N

Manuscript completed in March 2022

Luxembourg: Publications Office of the European Union, 2022

© European Union, 2022



The reuse policy of European Commission documents is implemented by the Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Except otherwise noted, the reuse of this document is authorised under a Creative Commons Attribution 4.0 International (CC-BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated.

For any use or reproduction of elements that are not owned by the European Union, permission may need to be sought directly from the respective rightsholders

## Table of Contents

Abstract .....	ii
Executive Summary .....	iii
1 Introduction .....	1
2 Definitions .....	6
3 Methodology.....	7
3.3 Data collection challenges .....	13
4 Research findings.....	14
4.1 Magnitude of the problem.....	14
4.2 Measures put in place .....	52
4.3 Alternative ways to address the problems .....	77
5 Comparison of scenarios .....	85
5.1 Scenario 0: Baseline .....	86
5.2 Scenario 1: purposeful illegal behaviour at a systems level – Fraud networks. 90	
5.3 Scenario 2: Purposeful illegal behaviour at an individual farmer level.....	93
5.4 Scenario 3: Non-purposeful illegal behaviour at an individual level. Lack of understanding of the definition. ....	96
5.5 Scenario 4: Lack of alternative to transporting .....	98
5.6 Scenario 5: short productive life for dairy cows and a high incidence of health and injury problems in end-of-career cows.....	100
6 Conclusions.....	103
Annexes	
Case Study 1: The size of the problem and trends in recent years .....	112
Case Study 2: Food fraud networks .....	119
Case Study 3: Social drivers for non-compliance in the handling and transportation of end-of-career dairy cows. ....	126
Case Study 4: Costs and benefits to prevent the transport of unfit cows.....	133
Case Study 5: Supply chain dynamics .....	139
Case Study 6: Controls and Sanctions.....	145
Case Study 6: Preventing the transport of unfit end-of-career cows: Mobile Slaughterhouses.....	157
Case study 8: Guidance and information sharing. ....	163

## **Abstract**

European law (Council Regulation (EC) No 1/2005 on the protection of animals during transport and related operations) requires that any 'unfit' animals shall not be considered for transport. This includes animals that are injured or that present physiological weaknesses or pathological processes. The regulation is intended to prevent injury or unnecessary suffering to animals when being transported between countries in the European Union (EU).

Nevertheless, some unfit end-of-career dairy cows are transported to slaughterhouses. This study has been undertaken to identify drivers for this practice and options to help improve the conditions and welfare of end-of-career cows. The study looks at the scale of the problem, identifies reasons for non-compliance, documents which mitigation measures have been put in place to address the issue and identifies best practices. This involved the following research tasks: desk review on a range of topics important to the assessment; exploratory interviews with experts to gather initial ideas regarding the study; two online surveys, targeting national competent authorities (NCAs) and industry representative organisations, to capture their views and gather data; 34 qualitative interviews with various stakeholder groups in nine Member States (MS) and at EU-level; case studies on nine key study themes affecting end-of-career cows and their transportation; and a validation survey, sent to stakeholders to confirm or dispute the evidence gathered throughout the study and included in the report.

The study finds that assessing the overall magnitude of the transportation of unfit end-of-career cows is difficult, due to data not being consistently collected and the illegal nature of the issue. Nevertheless, some evidence was collected indicating the issue does occur in the EU and several possible reasons for non-compliance were identified.

Evidence from the desk research, surveys and interviews indicated that economic factors are a major cause explaining why unfit cows are transported. The drivers here are numerous, working through several channels. This includes the lower cost of transporting cows to slaughterhouses, compared to slaughtering on-farm (where available); the financial gain from selling the carcass, exacerbated by low returns across the EU dairy sector; and many existing sanctions being insufficient to deter illegal activity. Furthermore, social factors are found to play a role, including peer pressure among stakeholders within the supply chain and expectations regarding dairy cow welfare and lifespan (the economic model). Issues with interpreting or understanding the definition of 'unfit' were also identified, with stakeholders incorporating different factors when making the decision whether to transport a cow.

In regard to mitigation measures, the study found best practice and transport guidelines are among the most common measures already in place and are viewed positively by stakeholders. Quality assurance schemes, which primarily focus on preventing cows from becoming unfit, could be further promoted by the dairy industry.

NCAs frequently use cautions, warnings, and fines when cows are found to have been transported but this is uneven. Sanctions must be sufficiently large and well enforced so that stakeholders believe they will be imposed, to deter poor practice and illegal activity. There is evidence to suggest industry initiatives could be effective if combined with more stringent controls, including more frequent investigations that are not pre-warned. These actions need to work alongside better awareness and training for farmers and widespread access to slaughtering on-farm. Mandatory CCTV systems could support this, although such initiatives are relatively new so evidence on their effectiveness is limited.

Wider actions to address systemic issues such as the low margin economic model for milk production and a lack of information for consumers on the welfare of dairy cows should also be seen as part of addressing the problem of transporting unfit cows at end of life.

## **Executive Summary**

### ***Introduction***

Transport of unfit end-of-career dairy cows is a particular area of concern in terms of dairy cow welfare. Cows may be considered as end of career because they are no longer productive, but they may also be lame, injured, or sick. Some are unfit for transport to slaughterhouses, yet they are transported, in violation of the European Union (EU) legislation.

This study has been carried out to inform options for improving the conditions for and welfare of end-of-career dairy cows. The outputs will be disseminated to stakeholders in dairy producing Member States (MS) with a view to changing practices, including information about policy options (incentives, information campaigns), and implementation of regulations (enforcement campaigns) that stakeholders in the target populations may emulate.

The study's objectives were to:

- 1) ascertain the extent of the problem of illegal transport of unfit dairy cows and improve knowledge about the factors that underpin this;
- 2) document which mitigation measures have been put in place to address the plight of unfit end-of-career cows being transported to slaughterhouses; and
- 3) identify best practices among mitigation measures, as well as best practices for preventing the issues identified (including practices that could improve the longevity of the cows or reduce the prevalence of health issues).

The study was contracted to ICF by the Directorate-General for Health and Food Safety (SANTE) of the European Commission. ICF worked in collaboration with Laura Boyle (Teagasc University), Wilma Steeneveld (University of Utrecht), Heleen Van der Weerd (Cerebrus Associates Ltd), Jaap Boes (UniBrains) and Agnieszka Paczynska.

### ***Method***

The study involved the following research tasks:

- desk research on a range of topics important to the assessment, including relevant EU legislation and international standards, and resources from a range of sources, such as EU publications and statistics, information from non-governmental organisations (NGOs) and relevant academic studies;
- exploratory interviews with four individuals particularly knowledgeable about the subject of the study, in order to:
  - gather initial views regarding the study;
  - explore emerging ideas about the research questions;
  - discuss current economic models; and
  - identify any potential data sources and examples of good practice.
- data collection and analysis, including:
  - two online surveys, one targeting national competent authorities (NCAs) and one targeting industry representative organisations within the EU, to capture data on the scale of the problem, the drivers of the problem and any current measures in place to address them;
  - further desk research, primarily reviewing scientific articles or documents from media outlets, supplemented by some additional data on the scale of the issue from NCAs in Belgium, Italy, Poland and Denmark;
  - 34 qualitative interviews with various stakeholder groups in nine MS and at EU-level; and
  - case studies on nine key study themes that affect end-of-career cows and their transportation, some at EU-level and some focusing on a few MS.

- data validation:
  - a validation survey, sent to stakeholders invited to, and / or taking part in the research, to confirm or dispute the evidence of the report.

### **Findings**

#### ***The magnitude of the issue of illegal transportation of unfit end-of-career cows and the reasons for any possible non-compliance.***

The surveys and interviews indicated illegal transportation does take place, although the scale of the problem is relatively unclear, even to stakeholders in the industry. The research identified evidence of breaches, particularly in Poland and Spain, but there is insufficient data available to comprehensively understand the magnitude of the problem. This is due to the data not being consistently collected by NCAs and the fact that operators are unlikely to share information about non-compliant behaviours, or of those of their partners in trade.

Several possible reasons for non-compliance were identified. Economic factors appear to be a major driver, through several possible routes. Firstly, the decision not to treat unfit cows ahead of slaughter is due to the perceived lack of cost-effectiveness of doing so. When the decision is taken to slaughter the cow, it is generally more expensive for farmers to slaughter unfit cows on-farm than transport them to a slaughterhouse. This relates to the higher costs of on-farm slaughter. Further, there is a financial gain from selling the carcass to the slaughterhouse. The economic model of the dairy sector may contribute to this, as low margins across the EU dairy sector place financial pressures on farmers to maximise returns from each cow place. This emphasis on economics often results in low cow longevity and more intensive systems (specialist breeds, increased indoor housing, higher yields and management practices) that can increase the incidence of disease and injury. However, the study found no consistent evidence that particular production systems lead to a higher prevalence of unfit or illegally transported cows, and data is too limited to know the compliance costs for farmers across all MS.

The study found that current sanctions generally do not act as a deterrent to prevent poor practice and/or illegal activity, as stakeholders perceive them to be too low and not properly enforced. It was found that these economic factors are also a likely driver of food fraud networks forming, although the secretive nature of these networks means it is difficult to know the scale at which they operate.

Additionally, the study found that social factors can play a role in the illegal transport of unfit cows. The survey results and interviews indicated some peer pressure among stakeholders within the supply chain to transport unfit cows, to protect longstanding relationships and reputation, and a level of social acceptance regarding dairy cows' short lifespan. However, the evidence regarding whether farmers prioritise other factors over animal welfare was inconclusive.

A lack of understanding, or different interpretations, of the definition of 'unfit' may contribute to cows being transported that should not be. Respondents to the surveys and interviews reported the definition of 'unfit' provided by NCAs to be consistent with EU legislation. However, stakeholders frequently referred to other factors being considered when deciding whether to transport a cow. For example, the cow's mental wellbeing. Furthermore, these results may be influenced by social desirability bias, as NCAs are unlikely to reveal their rules are different to those that should be complied with under EU law. Similarly, as 'borderline' cases lack a legal definition, the study found stakeholders took varying judgements about what could be considered borderline. Factors considered include whether the cow is lame and journey distance. Finally, it is often the farmer making the sole decision about whether to transport a cow, despite veterinarians likely having the most knowledge about the issue.



***Measures put in place by the dairy industry or by competent authorities to prevent any non-compliance.***

The industry survey highlighted several measures undertaken by the dairy industry to prevent non-compliance. These include raising awareness of the issue, for example, by publishing guidelines, developing tools to support decision making and initiatives to improve dairy cow wellbeing, such as quality assurance schemes. The interviews indicated that best practice guidelines are among the most common measures already in place, yet the survey responses found increasing awareness of the issues only has limited effectiveness.

The NCA survey indicated that cautions, warnings, fines and raising awareness of issues are the most common measures put in place by competent authorities when cows are found to have been transported. Measures include checks on arrival in slaughterhouses and training for farmers to improve farming practices. The survey also indicated that NCAs view fines on farmers and transporters as being the most effective deterrent of illegal transportation. Mobile slaughterhouses have also been piloted in several MS, but the qualitative interviews revealed this can be difficult to implement in some contexts, such as in hard-to-access rural areas. Furthermore, understanding the effectiveness of both industry and competent authority's measures is difficult due to the limited data on the scale of illegal transport.

***Alternative ways to address the problem of illegal transportation and any best practices***

Systematic implementation and monitoring of controls and enforcement can deter illegal transport, if penalties are sufficiently large and enforced. This may include sanctions and fines on stakeholders that transport unfit cows within the supply chain and / or inspections of farms, slaughterhouses, or transport vehicles. For example, if controls and enforcement are stringent enough to stop slaughterhouses from accepting unfit cows, this essentially results in there being no marketplace for unfit cows and the farmer is forced to make the least-cost decision to slaughter on-farm.

Mandatory CCTV in slaughterhouses could support this by providing a constant observation of activity, particularly as resource constraints in veterinary offices may limit the number of in-person inspections that can be carried out. However, the research found that monitoring captured footage is key for CCTV systems to be effective. The study found this approach has been effective in Italy, evidenced by the increase in emergency slaughters which is the most likely alternative to transporting unfit cows.

The study identified quality assurance schemes as a possible best practice that could be promoted by the dairy industry. The schemes can support cow health and welfare generally, preventing them from being unfit in the first instance. However, there is insufficient evidence to compare the various schemes that operate. The study found guidance and training, provided either by the authorities or organisations, such as farmer organisations or NGOs, are viewed positively by stakeholders and as being somewhat effective in deterring illegal transport. This may include transport or best practice guidelines.

***Scenarios***

Six scenarios were formulated to communicate the identified key drivers of the illegal transport of unfit cows and the potential mitigation measures. The purpose of these scenarios is to focus on the specific drivers and their relationships and to communicate clearly and graphically the complexity of the data collected throughout the study. The scenarios are based on illustrative drivers identified, and do not represent all of the EU or a single MS. A baseline scenario (scenario 0) is included, which focuses on the drivers associated with dairy cows becoming unfit by the end of their lives and their illegal transport.

The other five scenarios look at different levels of drivers, considering both purposeful and non-purposeful illegal behaviour:

- scenario one addresses the purposeful illegal behaviour at a systems level, considering the role of checks and penalties;
- scenario two focuses on the purposeful illegal behaviour at an individual farmer level, considering the role of checks and penalties, as well as feedback from across the supply chain;
- scenario three concentrates on the non-purposeful illegal behaviour at an individual level, including a lack of understanding of the definition of "unfit", and the role of information sharing as a mitigation measure;
- scenario four focuses on the purposeful illegal behaviour due to a lack of infrastructure or due to social drivers, considering how infrastructure improvements may mitigate this;
- scenario five addresses the system issue on the wider industry and the economics of production, and considers a range of mitigation measures, including assurance schemes, welfare labelling schemes and subsidies for on-farm slaughter.

Scenarios 1-4 focus on the illegal transport of unfit end-of-career cows, whilst scenario 5 focuses on preventing end-of-career cows from becoming unfit through an improved economics of higher welfare milk production. Each scenario includes the scenario description, key drivers, potential mitigation measures and a comparability table.

Across the EU, a wide range of mitigation measures have been implemented, both by NCAs and the dairy industry. These address general health and welfare in the sector as well as those targeted at reducing the transport of unfit end of life cows. Together they represent an effective toolkit but more effort is needed to resource implementation and share good practice. This study has highlighted a deficit of data on the magnitude of the problem and the effectiveness of individual options in different contexts. It is essential that this is remedied in order for NCAs to understand the key drivers for them and relevant mitigation measures (for different contexts). Further research at MS level is needed to characterise the problem and the establishment of robust systems for monitoring.

More systematic change, for example to the economic model within which the EU dairy sector operates, is more difficult to address but must be recognised as a contributing factor and considered in wider forums on farm support, the role of producer organisations and consumer labelling.

## **1 Introduction**

This is the final report for the “Study on economic models to prevent the transport of unfit end-of-career dairy cows”, as contracted by the European Commission’s Directorate General in charge of health and food safety - DG SANTE. This study was commissioned by the European Commission (DG SANTE) in April 2021 and has been undertaken by ICF, supported by a team of experts.

End-of-career cows are a particular area of concern in the wider subject of dairy cow welfare. Cows may be at the end of their career because they are no longer productive, but they may also be lame, injured, or sick. Some are unfit for transport to slaughterhouses, and yet they are transported, in violation of the EU legislation.

The purpose of this study is to improve the conditions of end of career cows by:

- ascertaining the extent of the problem of illegal transport of unfit dairy cows and improving knowledge about the factors that underpin this;
- documenting which mitigation measures have been put in place to address the plight of unfit end-of-career cows being transported to slaughterhouses;
- identifying best practices among mitigating measures as well as best practices for preventing the issues identified (including practices that could improve the longevity of the cows or reduce the prevalence of health issues).

Ultimately, the outputs from this project will be disseminated to stakeholders in dairy producing Member States. As such the project aimed to change practices through the provision of information, including information about policy (incentives, information campaigns) and implementation (enforcement campaigns) that stakeholders in the target populations may emulate.

The purpose of this final report is to synthesise and present the findings on each of the study questions, triangulating information from the desk research, interviews, targeted surveys, and case studies. The drafting of this report has been informed by:

Scoping phase:

- Preliminary desk research and a review of key data sources identified by ICF and provided by DG SANTE;
- Exploratory interviews with a selection of stakeholders;
- Exploratory stakeholder workshop and follow up calls;

Collection and analysis phase:

- Online survey with NCAs;
- Online survey with industry representative organisations at national level and EU level, and veterinarians through their representative organisations;
- Desk based research in 9 key Member States;
- In-depth qualitative interviews in 9 key Member States;
- Case studies.

Final Phase:

- Scenario comparison;
- Validation survey.

This final report is the third reporting requirement under the study contract. The report builds on the interim report with additions made:

- Abstract.
- Executive summary.
- Method for the research in the final phase.
- Additional triangulation and survey analysis for each research question.
- Scenarios and scenario comparisons.
- Conclusions.

A study matrix (*Table 1*) was developed as part of the scoping phase and shared as part of the inception and DG SANTE in June and December 2021 respectively. The matrix sets out details on the analysis of data collection and study questions.

*Table 1 Revised Study Matrix*

Questions	Sub-questions	Method
<p>1. What are the problems encountered by operators in relation to handling of unfit end of career cows? What are their drivers (economic, cultural, institutional etc) and their consequences? What is the scale of the problems?</p>	<p>1.1 What do stakeholders consider as an “unfit end-of-career cow”? Is there any difference between: stakeholder groups, NCAs or between stakeholders in different Member States (MS)?</p> <p>1.2 What social norms and attitudes (particularly amongst farmers, veterinarians and in interactions between both groups) contribute to the transportation of unfit end-of-career cows?</p> <p>1.3 How are drivers prioritised when deciding on the transportation of unfit end-of-career cows? (E.g., trade-offs between welfares and revenue).</p> <p>1.4 What are transport conditions like in each Member State for borderline cases of unfit end-of-career cows? (E.g., space allowances, temperature)</p> <p>1.5 Are social/psychological (e.g., suicidal farmers) conditions a driver to the transportation of unfit end of career cows?</p> <p>1.6 How does food fraud relate to the issue of the transportation of unfit end of career cows?</p> <p>1.7 How does the structure of the industry impact the transportation of unfit end of career cows?</p>	<ul style="list-style-type: none"> <li>• Stakeholder view on problems handling</li> <li>• Secondary evidence on problems identified in health terms.</li> <li>• Comparative assessment of problems encountered across cultural, institutional</li> <li>• Stakeholders’ view</li> <li>• Stakeholder view on scale of the problem</li> </ul>
<p>2. What is the scale of the problem relating to the transport of unfit end of career dairy cows to slaughterhouses in the EU? Are there regions where the problem is more acute? Why competent authorities have not been able to prevent the occurrence of such problems?</p>	<p>2.1 Are competent authorities lacking resources, knowledge, competence, organisation, tools to address the issues?</p> <p>2.2 Are there examples of breaches of legislation, when, why and how did the breaches take place?</p>	<ul style="list-style-type: none"> <li>• Number of dairy cows transported in the EU per MS and per region.</li> <li>• Number of unfit end of career cows by slaughterhouse and per region.</li> <li>• Estimated number of unfit end of career cows at slaughterhouses</li> </ul>

Study on economic models to prevent the transport of unfit end-of-career dairy cows

Questions	Sub-questions	Method
3. What are the compliance costs for farmers to prevent such transport? Who is benefitting from existing practices?		<ul style="list-style-type: none"> <li>Views from stakeholders on limitations of official controls to address the issue of unfit dairy cows being taken to slaughterhouses.</li> <li>Views from stakeholders on limitations of official controls to address the issue of unfit dairy cows being taken to slaughterhouses.</li> <li>Examples of breaches of legislation related to the transport of unfit end of career cows to slaughterhouse, understanding when, why and how the breaches took place.</li> <li>Levels of:</li> <li>Emergency slaughter and euthanasia,</li> <li>Killing on farm vs killing at the slaughterhouse,</li> <li>The size and distance to slaughterhouses that accept dairy cows.</li> </ul>
4. Do current economic model(s) contribute to the problem of illegal transport? To what extent?	<p>3.1 What are the costs to the farmer of arranging for the killing and disposal of end-of-career cows on farm?</p> <p>3.2 Who in the supply chain are drawing revenue from the transport of unfit end of career dairy cows to slaughterhouses?</p>	<ul style="list-style-type: none"> <li>Estimated cost of arranging for slaughter on-farm</li> <li>Equipment (pen, stunning gun)</li> <li>Cost of mobile abattoir (where such abattoirs exist)</li> <li>Biosecurity</li> <li>Carcass disposal</li> <li>Cleaning</li> <li>Views from stakeholders on who is benefitting from the transport of unfit dairy cows.</li> </ul>
5. Which measures have been taken by the dairy industry to reduce the number of unfit dairy cows at the end	<p>4.1 To what extent is illegal transport of unfit end-of-career dairy cows associated with pasture-based/confinement-based, intensive/extensive models of dairy production?</p> <p>4.2 To what extent is illegal transport of unfit end-of-career dairy cows associated with suitability of cattle breed for the system/environment. Including the suitability of the farm practices used for the type of breed and its environment, for example, additional nutrition and resources.</p> <p>5.1 How do industry stakeholders define and identify unfit cows? Which are the rationales for mitigation measures? Which stakeholders have promoted the</p>	<ul style="list-style-type: none"> <li>Association observed/confirmed between pasture-based/confinement-based systems, intensive/extensive systems and problems associated with illegal transport (reduced longevity, lameness, illness, other reasons for culling).</li> </ul>
		<ul style="list-style-type: none"> <li>Description of measures/practices.</li> </ul>

*Study on economic models to prevent the transport of unfit end-of-career dairy cows*

Questions	Sub-questions	Method
<p>of their career and to prevent their transport to slaughterhouses?</p>	<p>adoption of these measures (including assurance schemes and supply chains) Why? (explore motives)</p>	
<p>6. Which measures have been taken by the authorities to fight illegal transport of unfit end-of-career dairy cows to slaughterhouses and to monitor the situation? What are the measures adopted in slaughterhouses? What are the practices at slaughterhouses to sort animals at arrival?</p>	<p>n/a</p>	<ul style="list-style-type: none"> <li>Description of measures/practices at the different stages.</li> </ul>
<p>7. Amongst the identified measures, including mitigation measures, are there any best practices which could be promoted? How do they address the problems?</p>	<p>7.1 What measures taken by the dairy industry are best practices that could be promoted? 7.2 What measures taken by authorities are best practices that could be promoted? 7.3 What measures adopted in slaughterhouses are best practices that could be promoted?</p>	<ul style="list-style-type: none"> <li>Study team's judgment on the measures identified and how they qualify/perform against set criteria.</li> <li>Stakeholders' and experts' views on the study team's qualification of measures identified.</li> </ul>
<p>8. What are the most effective incentives for farmers and traders to address the problems?</p>		<ul style="list-style-type: none"> <li>Evidence from any independently evaluated incentive programmes</li> <li>Stakeholder views on the effectiveness of incentives</li> </ul>
<p>9. Which best practices could better respond to improving the quality of the handling of end of careers dairy cows from the perspective of animal welfare?</p>		<ul style="list-style-type: none"> <li>Answers to question 8.</li> <li>Study team's judgment on best practices identified under question 8 from an animal welfare perspective.</li> <li>Stakeholders' and experts' views on the study team's qualification of measures identified</li> </ul>

The remainder of the report is structured as follows:

- [Section 2](#): Definitions.
- [Section 3](#): Methodology.
- [Section 4](#): Findings.
- [Section 5](#): Scenarios.
- [Section 6](#): Conclusions.
- [Section 7](#): Annexes.

## **2 Definitions**

The following terms have been defined for this study. Where available terms have been defined in line with EC regulation definitions.

### **End-of-career cows**

There is no official definition for the term end-of-career cows. Cows may be at the end of their career because they are no longer productive, but they may also be lame, injured, or sick.

### **Emergency Slaughter**

'Emergency slaughter relates to the slaughter of an otherwise healthy animal who has suffered an accident, that prevents them from being transported.' Provided some conditions listed in the legislation are respected.<sup>1</sup> Animals that have become lame over time cannot be eligible for emergency slaughter.

### **Transport**

The movement of animals effected by one or more means of transport and the related operations, including loading, unloading, transfer and rest, until the unloading of the animals at the place of destination is complete<sup>2</sup>.

### **Unfit cows**

As per Council Regulation (EC) No 1/2005, Annex 1, Chapter 1, art.2:

"Animals that are injured or that present physiological weaknesses or pathological processes shall not be considered fit for transport and in particular if:

- they are unable to move independently without pain or to walk unassisted;
- they present a severe open wound, or prolapse;
- they are pregnant females for whom 90% or more of the expected gestation period has already passed, or females who have given birth in the previous week;
- (...)"

And art. 3:

"However, sick or injured animals may be considered fit for transport if they are:

- slightly injured or ill and transport would not cause additional suffering; in cases of doubt, veterinary advice shall be sought;
- transported for the purposes of Council Directive 2010/63 if the illness or injury is part of a research programme;
- transported under veterinary supervision for or following veterinary treatment or diagnosis. However, such transport shall be permitted only where no unnecessary suffering or ill treatment is caused to the animals concerned;
- animals that have been submitted to veterinary procedures in relation to farming practices such as dehorning or castration, provided that wounds have completely healed."

---

<sup>1</sup> Regulation (EC) No 853/2004, Annex III, Section I, Chapter VI, Paragraph 1 to 6

<sup>2</sup> COUNCIL REGULATION (EC) No 1/2005 of 22 December 2004 on the protection of animals during transport and related operations and amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) No 1255/97



### **3 Methodology**

#### **3.1 Scoping Phase**

##### **Preliminary desk research**

As part of the scoping desk research, ICF has identified resources available on the topics of relevance to this assignment. These include:

- relevant EU legislation and international standards;
- EFSA's scientific opinions related to the welfare of dairy cows;
- relevant academic studies bringing different perspectives on end-of-career cow welfare;
- EU publications (e.g., animal welfare studies, FVO audit reports, reports from the European Parliament and by the Joint Research Centre - JRC) and statistics (e.g., TRACES, EUROSTAT and RASFF datasets);
- publications by international organisations (e.g., World Organisation for Animal Health – OIE; Food and Agriculture Organization – FAO) and authorities in third countries;
- relevant information available from NGOs (e.g., CIWF, Four Paws International and Animals' Angels) and EU associations of farmers, the dairy industry and veterinarians;
- additional resources listed in the terms of reference (Point 9.1) or identified during Task 1.

The full protocol for data collection and data capture template can be found in annex 1.

In total 66 resources were reviewed, as summarised in *Table 2*. The availability of relevant official statistical datasets was limited. The majority of sources were at EU level (25). Relevant country-level sources were included as well. The countries with the largest number of sources are Poland (4), Sweden (4) and Spain (4).

*Table 2 Resources reviewed by type of source.*

<b>Type</b>	<b>N. of sources</b>
EU legislation	5
EFSA scientific opinion	6
Farmers association	3
Scientific article	9
EU publication	12
Professional information	8
Animal welfare NGO	10
International organisation	1
Official statistical dataset	1
Media outlets	7
Other	4
Total	66

### **Exploratory interviews**

ICF's method included exploratory calls to:

- introduce the study aims, methods and timeline to stakeholders, and encourage stakeholder engagement in the research;
- gather initial views of different stakeholder groups regarding the study;
- explore emerging themes and challenges associated with the research questions;
- discuss existing economic models and how these affect practices regarding the handling of end-of-career dairy cows;
- identify potential data sources and key contacts of experts/organisations to be consulted later on; and
- identify initial examples of good practices to ensure the welfare of end-of-career cows.

Four exploratory calls with individuals particularly knowledgeable about the subject of the study were made via Microsoft Teams to help shape the preliminary research and stakeholder workshop. Stakeholders consulted at this stage were an individual from the European Commission, two academic experts and two leaders of a working group on downer cows from the French NCA. The calls were unstructured and lasted from between 30 minutes and one hour.

### **3.2 Collection and analysis phase**

Data for the study was collected through four stages of research:

- Two online surveys – one with NCAs and one with industry representative organisations
- Desk research and qualitative interviews in nine Member States
- Case studies on 9 key study themes

#### **Online surveys with NCAs and industry representative organisations**

Two surveys were carried out: one targeting NCAs in EU Member States and one targeting industry representative organisations within the EU. National veterinary authorities were included in the sample for the NCA survey and professional associations representing veterinarians in Member States were included in the survey of industry representative organisations, to ensure the views of this stakeholder group were also captured. The surveys captured data on the scale of the problems affecting industry operators and NCAs in relation to end-of-career cows, the drivers of these problems and any measures that currently exist to address them. A key element of the surveys was the ability to triangulate selected data points with information collected through other research activities.

Both surveys were launched on 1 September 2021 and were live for just over 7 weeks, closing on 25 October 2021. In addition to the initial invite email, five sets of reminders were sent out at regular intervals to contacts who had not responded to the survey.

#### **Survey with NCAs**

Contacts for the NCA survey were identified through documentation containing national food fraud contact points, the NCA Animal ID list and the NCA Veterinary list. Supplementary desk research was also carried out to find further contacts to increase the reach of the survey and boost the response rate. In total, invitations were sent to 106 email addresses, including a mixture of personal and departmental general enquiry addresses.

The total number of responses to the NCA survey was 25. This includes all respondents who answered all questions up to and including Q11 (*Compared to five years ago, the*

proportion of dairy cows which are unfit for transport at the point they are slaughtered or euthanised has...). The reason for this is that the initial set of questions in the survey aimed to define the problem by asking respondents for their opinions on the factors that contributed to end-of-career dairy cows becoming unfit and being transported. To maximise the base sizes at these opinion-based questions and given the relatively high level of dropped responses at different stages in the survey, respondents who answered all of these questions were included in the analysis. Therefore, six of the 25 survey responses used for the analysis are incomplete due to dropping out of the survey at various stages between Q11 and the final question.

Table 3 shows an overview of the responses received from contacts of different sources. It also shows the responses at Member State level. Survey responses were not received from any NCA in nine of the 27 Member States. One response was received from each Croatia, Estonia, Germany, Ireland, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Slovenia and Spain, while multiple responses (two or more) were received from Belgium, Czech Republic, Denmark, Finland, Malta and Sweden. In these cases, sometimes respondents were from within the same public authority while in other cases a response was received from separate entities (for example, a ministry as well as a veterinary authority or two different regional authorities). The responding Member States represent 69% of total EU milk production and include eight of the top 10 EU milk producers.<sup>3</sup>

Table 3 Summary of NCA survey responses

Source	No. contacted	No. responses	Response rate
National food fraud contact points	37	11	30%
NCA Animal ID list	12	3	25%
NCA Veterinary list	27	4	15%
Desk research / other	30	7	23%
<b>Total individual contacts</b>	<b>106</b>	<b>25</b>	<b>24%</b>
<b>Total Member States</b>	<b>27</b>	<b>18</b>	<b>67%</b>

### Survey with industry representative organisations

Sample for the survey of industry representative organisations was compiled through a review of known industry contacts and desk research. In total, invitations were sent to 142 email addresses across 97 organisations, including both EU-level and Member State organisations. These organisations included agricultural associations, representatives of farmers, other industry actors from the dairy sector and professional veterinary associations.

The total number of responses to the industry representative organisations survey was 21. As with the NCA survey, the low response rate meant that it was necessary to maximise the base sizes where possible, particularly at the initial questions which were opinion-based and reflected those used in the NCA survey. As such, all respondents who answered questions up to and including Q16 (*Compared to five years ago, the proportion of dairy cows which could be unfit for transport at the point they are slaughtered or*

<sup>3</sup> Based on raw cows' milk delivered to dairies, where responding MS account for 99,271,330 tonnes out of an EU total of 144,116,340 tonnes in 2020. The 10 MS producing the greatest amount of raw cows' milk in 2020 (in order of production) were Germany, France, Netherlands, Poland, Italy, Ireland, Spain, Denmark, Belgium and the Czech Republic (Eurostat data [apro\_mk\_cola]).

ethanised has...) were included in the analysis. Therefore, of the 21 responses, five which were incomplete due to dropping out of the survey at various stages between Q16 and the final survey question.

Table 4 shows an overview of responses received at organisation-level, and a comparison in the responses of EU-wide and national organisations. The 17 national-level organisations that responded were from 14 Member States.

Table 4 Summary of industry survey responses – individual organisations

Stakeholder type	No. contacted	No. responses	Response rate
EU-wide industry representative organisation	15	4	27%
National industry representative organisation	82	17	21%
<b>Total</b>	<b>97</b>	<b>21</b>	<b>22%</b>

### Desk based research and in-depth qualitative interviews in 9 key Member States

There are nine key Member States which have been targeted through desk research and interviews. Supporting qualitative interviews have also been carried out with EU-level stakeholders.

#### Desk research

The desk research carried out included searches in the native languages of the Member States of interest. The majority of the documents identified were either scientific articles or from media outlets. Availability of relevant literature varied across the individual Member States, as illustrated in Table 5.

Table 5 Summary of sources reviewed for each key Member State

Country	Sources reviewed by type					Total
	Scientific article	EU publication	Media outlets	Animal welfare NGO	Other*	
Belgium					1	<b>1</b>
Denmark	2					<b>2</b>
France		1	1		3	<b>5</b>
Germany	5	1	5	3	5	<b>19</b>
Ireland	2				2	<b>4</b>
Italy	2				3	<b>5</b>
Netherlands	2		2	1	1	<b>6</b>
Poland		2	4			<b>6</b>
Spain			2	1		<b>3</b>
<b>Total</b>	<b>13</b>	<b>4</b>	<b>14</b>	<b>5</b>	<b>15</b>	<b>51</b>

\*Other includes documentation from farmer associations, public authorities, professional / commercial information and guidance / information supplied by stakeholders via email.

To support the desk research, NCAs were approached for data to inform our understanding of the scale of the issue. NCAs in Belgium and Italy signposted to publicly available data and the Danish NCA shared a report on animal welfare controls carried out. For Poland, data on the number of cows transported and the number found unfit for

transport was provided based on transport monitoring reports for 2018, 2019, 2020. No data has so far been obtained from other NCAs. The German NCA also shared a report on cow health as part of their survey response.

### Qualitative interviews

In each country, industry representatives, business operators, public authorities and other relevant stakeholders were invited to take part in an interview. Additionally, EU-level stakeholders were also approached. Some stakeholders did not want to take part in an interview but instead agreed to supply a written response. Others did not respond to the invite or stated that they did not wish to take part. Reasons for non-participation, where provided, were primarily related to having already taken part in the online survey, or because they intended to complete the survey in the future, and having a lack of time or capacity to participate.

Progress to date is recorded in [Table 6](#).

*Table 6 Summary of interviews carried out in each key Member State*

Country	Interviews carried out per stakeholder group						Total
	Business operators	Industry representatives	Public authorities	Academia	Animal rights NGOs	European Commission	
Belgium		2	1				<b>3</b>
Denmark		2					<b>2</b>
France	1	3					<b>4</b>
Germany		1			1		<b>2</b>
Ireland		2		1			<b>3</b>
Italy	1	1	1				<b>3</b>
Netherlands	1	1	1				<b>3</b>
Poland		2	1		1		<b>4</b>
Spain	1	1		1			<b>3</b>
EU-level		1		1	2	3	<b>7</b>
<b>Total</b>	<b>4</b>	<b>16</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>34</b>

### Case studies

Nine in-depth case studies have been carried out, exploring themes which affect end-of-career cows and their subsequent transportation. This includes assessing the extent of the problem, reviewing drivers of non-compliance and exploring methods of preventing the transportation of unfit end-of-career cows/ Some case studies focus on a few (between two and four) Member States, whereas others are EU-wide. Table 7 shows a summary of the case study subjects and the countries that they each cover.

*Table 7 Summary of case studies*

<b>No.</b>	<b>Subject</b>	<b>Countries covered</b>
1	The size of the problem and trends in recent years	All EU MS
2	Food Fraud Networks	Netherlands, Germany, Poland
3	Social drivers for non-compliance in the handling and transportation of end-of-career dairy cows	All EU MS
4	Costs and benefits to prevent the transport of unfit cows	Germany, Italy, Ireland, Poland
5	Stakeholder dynamics in the supply chain	All EU MS
6	Controls and sanctions	All EU MS
7	Preventing the transport of unfit end-of-career cows: Mobile Slaughterhouses	France, Netherlands
8	Preventing cows becoming unfit for transport: Guidance and best practice documents	Germany, Ireland, Italy
9	Preventing cows becoming unfit for transport: Supply chain initiatives	Netherlands, Italy, Ireland

### **Validation survey**

In order to confirm or dispute the evidence of the report, a validation survey was carried out. The main results of the report were pulled out and placed into excel. Using this data, closed questions were created, to ask stakeholders whether they agree or disagree with the results. All stakeholders who had been invited to, and / or took part in, previous research were sent a survey link.

The total number of responses to the validation survey was 39. This includes all respondents who answered all questions up to and including Q5 (*Do you agree or disagree with the following statements: Definitions of "unfit for transport" used by...*), which was the first question referring to the results of the survey. Table 8 shows an overview of the respondents' organisation. Responses were received from organisations representing 20 Member States, with three responses from organisations that are EU-wide. The Member States represented were Austria, Belgium, Croatia, Republic of Cyprus, Czech Republic, Denmark, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Romania, Slovenia, Sweden and Spain.

*Table 8 Summary of validation survey responses*

<b>Source</b>	<b>No. responses</b>
Academic / research institution	7
Business or professional association / industry representative organisation	8
Individual company or business	2
Non-governmental organisation (NGO)	6
Public authority	16
<b>Total responses</b>	<b>39</b>

### **3.3 Data collection challenges**

Several challenges have arisen during the data collection. In the case of the NCA survey, the industry survey and validation survey, uptake was slow. Numerous steps were taken to address this:

- Additional desk research was carried out to identify new contacts as well as alternative contact email addresses for organisations that had not responded. In total, 20 new individual contact addresses were found for NCAs (increasing the total number of individual contacts to 106) and 39 new contacts were found for the industry representatives survey (increasing the total number of contact addresses to 142).
- Multiple tailored reminders were sent at regular stages of fieldwork to the NCA and industry survey contacts who had not responded to the survey invite (five reminders were sent in total, in addition to the initial invite email).
- The deadlines for the surveys were extended to enable all interested stakeholders to participate and, when stakeholders expressed difficulties in meeting the deadline, the survey remained open until they had completed their response, to better enable their participation.
- Where relevant, the results of questions common to both surveys have been combined in the analysis to provide an indication of the overall response with a more substantive base size.

There were also challenges in gathering data from the nine key Member States to indicate the scale of the problem of end-of-career cows and their transportation in that country. Several NCAs (Belgium, Poland & Spain) advised that data to specifically indicate the scale of the problem of transportation of unfit end-of-career cows was either unavailable or only partially captured in their country. The NCA in the Netherlands and an industry association in France stated that any information which was not already available in the public domain could not be shared. In France, an industry association noted that only slaughterhouses would have information on unfit animals and this was too sensitive to be shared. In regard to the data received, it is inconsistent across Member States and ranges from studies on avoiding lameness in cattle (Belgium) to the outcomes of transport controls from monitoring reports (Poland). Data from France, Ireland and Germany has been requested and we will follow up if no response is received.

## 4 Research findings

The technical offer submitted by ICF provides a project rationale and a strategic context for the work, including a study matrix. The research questions set out in the study matrix were used to structure the preliminary findings. The high-level research questions are:

- Assess the magnitude of the problem and the reasons for any possible non-compliance, including the associated costs and benefits for the concerned actors. Explain whether/to what extent the current business plan(s) have contributed to the problems.
- Identify measures put in place by the dairy industry or by the competent authorities (in charge of animal welfare or/and slaughterhouses' inspection) in order to prevent any non-compliance and identify best practices.
- Gather information and evidence on alternative ways to address the problems (e.g., programmes to increase longevity of dairy cows, programmes to increase resilience to diseases, private or public funding to kill and collect unfit animals)

The aim of this section is to highlight current findings and data analysis from this research, alongside an assessment of the robustness and the extent to which it addresses the research questions with a discussion on gaps and limitations.

### 4.1 Magnitude of the problem

**Objective: Assess the magnitude of the problem and the reasons for any possible non-compliance, including the associated costs and benefits for the concerned actors. Explain whether/to what extent the current business plan(s) have contributed to the problems.**

This objective provides evidence which respond to the following research questions and sub-questions:

#### **1. What are the problems encountered by operators in relation to handling of unfit end of career cows? What are their drivers (economic, cultural, institutional etc) and their consequences? What is the scale of the problems?**

- 1.1 What do stakeholders consider as an "unfit end-of-career cow"? Is there any difference between: stakeholder groups, NCAs or between stakeholders in different Member States (MS)?
- 1.2 What social norms and attitudes (particularly amongst farmers, veterinarians and in interactions between both groups) contribute to the transportation of unfit end-of-career cows?
- 1.3 How are drivers prioritised when deciding on the transportation of unfit end-of-career cows? (E.g., trade-offs between welfares and revenue).
- 1.4 What are transport conditions like in each Member State for borderline cases of unfit end-of-career cows? (E.g., space allowances, temperature)
- 1.5 Are social/psychological (e.g., suicidal farmers) conditions a driver to the transportation of unfit end of career cows?
- 1.6 How does food fraud relate to the issue of the transportation of unfit end of career cows?
- 1.7 How does the structure of the industry impact the transportation of unfit end of career cows?

#### **2. What is the scale of the problem relating to the transport of unfit end of career dairy cows to slaughterhouses in the EU? Are there regions where the**



**problem is more acute? Why competent authorities have not been able to prevent the occurrence of such problems?**

- 2.1 Are competent authorities lacking resources, knowledge, competence, organisation, tools to address the issues?
- 2.2 Are there examples of breaches of legislation, when, why and how did the breaches take place?

**3. What are the compliance costs for farmers to prevent such transport? Who is benefitting from existing practices?**

- 3.1 What are the costs to the farmer of arranging for the killing and disposal of end-of-career cows on farm?
- 3.2 Who in the supply chain are drawing revenue from the transport of unfit end of career dairy cows to slaughterhouses?

**4. Do current economic model(s) contribute to the problem of illegal transport? To what extent?**

- 4.1 To what extent is illegal transport of unfit end-of-career dairy cows associated with pasture-based/confinement-based, intensive/extensive models of dairy production?
- 4.2 To what extent is illegal transport of unfit end-of-career dairy cows associated with suitability of cattle breed for the system/environment. Including the suitability of the farm practices used for the type of breed and its environment, for example, additional nutrition and resources.

**4.1.1 What do stakeholders consider as an “unfit end-of-career cow”? Is there any difference between: stakeholder groups, NCAs or between stakeholders in different Member States (MS)?**

<b>Findings</b>	<ul style="list-style-type: none"> <li>• The definition of an “unfit end-of-career cow” provided by NCAs is reported to be consistent with EU legislation.</li> <li>• Additional factors, such as the cow’s stability or mental health, are considered by several stakeholders, indicating divergence with the official definition and inconsistencies in interpreting the EU rules.</li> <li>• Who should interpret the definition of “fitness” was the main difference highlighted between stakeholder groups. Most believe the interpretation often falls on the farmer or transporter.</li> <li>• There is limited evidence on the difference between how stakeholders within MS interpret the definition.</li> </ul>
Extent to which question can be answered	<ul style="list-style-type: none"> <li>• Data available is sufficient to answer the question “What do stakeholders consider as an “unfit end-of-career cow”?”.</li> <li>• Data available is somewhat sufficient to answer the question “Is there any difference between: stakeholder groups, NCAs or between stakeholders in different Member States (MS)?”</li> </ul>

**Summary**

MS NCAs report that the way they define a cow’s fitness for transport in their national legislation as consistent with EU legislation. However, this is likely influenced by social desirability bias: NCAs are unlikely to reveal their rules are different to those that should be complied with under EU law. Additionally, interviews suggested there were inconsistencies in the way stakeholders interpreted the EU rules.

### **Overview of evidence**

Initial research suggested that stakeholders may have different views on what is considered an unfit end-of-career dairy cow for transport. As per Council Regulation (EC) No 1/2005, Annex 1, Chapter 1, art.2 unfit for transport is defined as:

'Animals that are injured or that present physiological weaknesses or pathological processes shall not be considered fit for transport and in particular if:

- they are unable to move independently without pain or to walk unassisted;
- they present a severe open wound, or prolapse;
- they are pregnant females for whom 90% or more of the expected gestation period has already passed, or females who have given birth in the previous week;

(...)'

And art. 3:

'However, sick or injured animals may be considered fit for transport if they are:

- slightly injured or ill and transport would not cause additional suffering; in cases of doubt, veterinary advice shall be sought;
- transported for the purposes of Council Directive 2010/63 if the illness or injury is part of a research programme;
- transported under veterinary supervision for or following veterinary treatment or diagnosis. However, such transport shall be permitted only where no unnecessary suffering or ill treatment is caused to the animals concerned;
- animals that have been submitted to veterinary procedures in relation to farming practices such as dehorning or castration, provided that wounds have completely healed.'

There was general consensus<sup>4</sup> from the quantitative survey with the NCAs and Industry stakeholders that the definition provided by all NCAs on cows unfit for transportation was in line with EU legislation. This was fairly consistent with in-depth interviews across the countries and consolidated by the findings in the validation survey<sup>5</sup>.

However, it is probable that at least some of these responses exhibited a degree of social desirability bias (i.e. the tendency for individuals to provide the answer they deem most socially desirable). This likely stems from unwillingness on the part of NCAs to indicate divergences between their own policies and the EU rules they should adhere to. For example, one NCA indicated in an interview that the guidance they had on defining fitness for transport was inconsistent with EU legislation. Likewise, discussions with key stakeholders across different MS showed that their interpretations of the EU definition varied. While stakeholders mentioned a lack of ability to stand or move without assistance or pain,<sup>6</sup> generalised phrases around weakness and sickness were also used. Comments were also made on general fitness, decrease in feed consumption and size of the cow. Some interpretations were vague - a German industry representative stated

---

<sup>4</sup> Majority of stakeholders responded yes to the question "In your opinion, does the criteria used in your country by the competent authority (official services) to decide whether an end-of-career dairy cow is fit for transport match with the EU legislation?" (n=43/46 with 3 selecting "don't know")

<sup>5</sup> 61.5% (n=24) agreed with the statement 'Definitions on "unfit for transport" used by EU NCAs are consistent with [Council Regulation \(EC\) No 1/2005 on the protection of animals during transport](#), Annex 1, Chapter 1, art.2 and art.3.' 23.1% disagree (n=9).

<sup>6</sup> (13 respondents from 35 qualitative interviews)

that 'the animal should be in good general condition to be fit for transport'. Additionally, it was noted that it is difficult to consider internal diseases which were not visible.

A number of stakeholders<sup>7</sup> mentioned the mental wellbeing of the cow and/or the cow displaying unnatural behaviour being an important part of the assessment in deciding if a cow is fit for transportation. This was confirmed in the validation survey; however, the results were not completely conclusive<sup>8</sup> with comments suggesting this is only the case in some circumstances *"It is not black or white. Some farmers do take this into account but in my experience is many do not."*

Cows under stress or displaying unnatural behaviour may find their state exasperated due to transportation but could also have an impact on the other cows in the vehicle. There was recognition from some stakeholders that this is not part of the official definition; however, many considered it good practice to also take this dimension into account. A farm representative discussed this in further detail and felt that decisions were dependent on the unnatural behaviour/ stress observed and how it impacts on the 'general condition for the cow to survive transport unharmed' when deciding if a cow should be transported. A number of stakeholders felt actions to reduce or prevent the unnatural behaviour by other management measures were considered before deciding if the cow is unfit for transport.

A small number of stakeholders commented that interpretation of whether the cow should be considered as unfit can include the length of time the cow will be transported for. However, journey length is included in the Council Regulation (EC) No 1/2005 definition, as Chapter 1, Annex 1, art.1 states 'no animal shall be transported unless it is fit for the intended journey'. Therefore, no matter the length of time the cow will be transported for, it should not be transported if it is unfit and journey length should not be a determinant of the decision as to whether it is unfit.

Other considerations on fitness for transport which are not part of the Regulative definition were mentioned by stakeholders:

- Decreasing the percentage of gestation for the cow to be considered "unfit" to less than 90%.
- The stability of the cow to stand over a long period of time.<sup>9</sup>
- The ability of the cow to enter or leave the transport vehicle independently. This can cover both physical and mental conditions.<sup>10</sup>
- Qualitative interviews mentioned considering when cows are in their heat periods, as they might be prone to injury from mounting. However, participants in the validation survey disagreed<sup>11</sup> with this statement and felt that they had either not heard of this previously or the difficulty in identifying a cow in heat.

---

<sup>7</sup> (5 respondents from the qualitative interviews, Spain, Poland, Ireland)

<sup>8</sup> Validation survey: 'Although not part of the Directive definition, when deciding if a cow is unfit for transport farmers in the EU have been known to consider 'unnatural behaviour or visible stress from the cow' (N=37), **43.2% agree** (N=22), 27% disagree (N=8), 29.7% don't know (N=7).

<sup>9</sup> Validation survey: Farmers consider 'the stability of the cow to stand over a long period of time' when deciding if a cow is unfit for transport (N=37). **59.5% agree** (N=22), 21.6% disagree (N=8), 18.9% don't know (N=7).

<sup>10</sup> Validation survey: Farmers consider 'the ability of the cow to enter or leave the transport independently' (N=37). **70.3% agree** (N=26), 16.2% disagree (N=6), 13.5% don't know (N=5).

<sup>11</sup> Validation survey: Farmers consider 'if the cow is in heat' (N=37). 16.2% agree (N=6), **48.6% disagree (N=18)**, 35.1% don't know (N=13).

- Cows that are not eating or have not eaten for a prolonged period of time and will likely appear slim and bony as a result<sup>12</sup>.

One of the primary differences highlighted between stakeholders was on who made the interpretation of the definition of fitness. The majority of stakeholders<sup>13</sup> who discussed this felt that the interpretation often fell to the farmer or transporter, while veterinarians are likely to have more extensive training on measuring the fitness of the cow and interpreting the definition more accurately.

There was little information on the difference between how stakeholders within MS interpret the definition and no obvious differences highlighted in the responses from different MS in our fieldwork<sup>14</sup>. However, a couple of the European stakeholders interviewed felt there were some differences between the interpretation of the definition by stakeholders (particularly transporters and farmers making the decision if a cow should be transported or not). This was most obvious where a cow was defined as unfit to transport if they had a leg fracture, which in France can still be transported if the cow can bear weight on three other legs.

*'Animals with fractures in their limbs, I mean they're definitely unfit for transport but some Member States transport them. Obviously if it has fractures, every bump and turn is causing pressure to the body of the animal and more pain where the fracture is. A cow can have a fracture and still walk on three legs - something on it that is causing pain to the animal that even though it's walking on four legs, I mean it's not fit for transport.'*  
EU Institution stakeholder interview.

This was also confirmed by several participants in the stakeholder workshop. In addition, the workshop and qualitative interviews highlighted that the interpretation of the definition is linked closely to the societal norms, which can differ between MS.

---

<sup>12</sup> Validation survey: 'Cows who have not been eating well and may appear slim and bony' is considered by farmers (N=37). **43.2% agree (N=16)**, 32.4% disagree (N=12), 24.3% don't know (N=9).

<sup>13</sup> (7 respondents from the qualitative interviews)

<sup>14</sup> Validation survey: 'Interpretation of the definition "unfit for transport" was more varied between stakeholders within Member States' (N=39). **53.8% agree (N=21)**, 10.3% disagree (N=4), 35.9% don't know (N=14).

**4.1.2 What social norms and attitudes (particularly amongst farmers, veterinarians and in interactions between both groups) contribute to the transportation of unfit end-of-career cows?**

<b>Findings</b>	<ul style="list-style-type: none"> <li>• Social acceptance regarding dairy cows' short lifespan, attitudes to the point that farmers' care ends, and peer pressure between the supply chain, were identified as contributing to the transportation of unfit end-of-career cows.</li> <li>• Evidence on the role of farmers' prioritisation of other factors over animal health and welfare, farmers' attitudes and beliefs towards on-farm slaughter and the role of sanctions is mixed.</li> </ul>
<b>Extent to which question can be answered</b>	<ul style="list-style-type: none"> <li>• Data available is sufficient to answer the question.</li> </ul>

**4.1.2.1 Summary**

Several social drivers are identified as contributing to the transportation of unfit end-of-career cows. There is social acceptance amongst farmers regarding dairy cows' sub-optimal welfare standards and short lifespan, compared to their natural lifespan. Furthermore, loading animals onto the transporter wagon is seen as the natural order of the farm, and the final step in the lifespan of the animals. The evidence is mixed regarding whether farmers prioritise other factors over animal welfare. Diverging views on this issue may suggest that transporting unfit end-of-career cows is an unintended consequence of economic priorities, rather than farmers actively pursuing low welfare standards. Similarly, farmers' attitudes regarding on-farm slaughter received a mixed response. A major social driver within the supply chain appears to be pressure on veterinarians and transporters to transport unfit cows, to protect their relationships and business with farmers. In some countries, where sanctions are too low, easily avoided, or inconsistently enforced, beliefs towards sanctions are potentially an additional social driver contributing to the transportation of unfit end-of-career cows.

**4.1.2.2 Overview of evidence**

**Attitudes towards dairy cow welfare**

Exploratory research indicates that there are differences in beliefs among veterinarians and dairy farmers about disease prevalence associated with different conditions, which can be a barrier to improving animal welfare (Summer 2018)<sup>15</sup>. Additionally, farmers often describe animal welfare as a straightforward, integral part of their identity and practices, in contrast to animal welfare legislation which they can view as excessively bureaucratic and not focussed on the welfare of the animals (Veissier 2020).

Stakeholders felt there was an overall social acceptance around cows being kept at a less than optimal welfare standard. For example, there are expectations that a level of lameness and mastitis would always be found in the herd. Moreover, stakeholders felt that the industry takes for granted that dairy cows have a short lifespan in comparison to their natural lifespan. Reduced lifespan was thought to be less of an issue in Ireland and the Netherlands.

---

<sup>15</sup> Validation Survey: 'Farmers, transporters and slaughterhouses have a different opinion on whether an end-of-career cow is fit than others in the industry (e.g. vets, government)' (N=36). **52.8% agree (N=19)**, 27.8% disagree (N=10), 19.4% don't know (N=7).

Study on economic models to prevent the transport of unfit end-of-career dairy cows

*'Their life span is shorter in Europe than other countries. Nobody culls just because of that reason that she's five years old. No, they want to keep her longer, but at five years old she has had a mastitis or two mastitis cases. During the lactation, it means [that at] the next lactation she's prone to get another mastitis, which costs a lot of money.'*

European academic stakeholder.

*'The life of a dairy cow on most farms in Ireland will be 10 years on average. Expect in Europe the life expectancy will be 3 or 4 years younger.'*

Irish farmer representative stakeholder.

Available published data is limited on the lifespan of dairy cows across different MS (*Table 9 Lifespan of dairy cows across MS*). Some difference is identified, but it does not highlight the large difference as outlined by stakeholders.

*Table 9 Lifespan of dairy cows across MS<sup>16</sup>*

MS	Life span
France	4.59 Years
Germany	5.67 Years
Italy	5.69 Years
Netherlands	5.88 Years
Poland	6.23 Years
Ireland	6.39 Years

A number of stakeholders, including academics, farm and veterinarian representatives, highlighted that it is beneficial for farmers to focus on animal welfare, as it can lead to an increase in milk productivity and an improved carcass. However, other stakeholders highlighted that even though welfare is important to farmers, they can often prioritise profit over welfare. This trade-off may be more salient at the end of the cow's career as the cow has already provided most of the economic benefits the farmer can draw from it through milk production. The sale of the carcass for meat is a lesser, secondary income. Therefore, the drive to keep the cow healthy may be less important than when it is younger.

These mixed views were also captured in the quantitative survey: 35% of respondents agreed or strongly agreed with the statement that "farmers prioritise other factors over the health and welfare of dairy cows", while 39% disagreed or strongly disagreed with the same statement (*Figure 33*). This most likely reflects stakeholder interests but highlights the challenge in making an objective judgement. No one has an interest in poor welfare, but this may be an unintended consequence of pursuing economic priorities.

*'Most of the farmers don't want to get their cows sick. They don't want the cows ill. They don't want to get their cows lame. So they want to keep their cattle healthy.'*

European academic stakeholder.

---

<sup>16</sup> Dallago, G.M.; Wade, K.M.; Cue, R.I.; McClure, J.T.; Lacroix, R.; Pellerin, D.; Vasseur, . Keeping Dairy Cows for Longer: A Critical Literature Review on Dairy Cow Longevity in High Milk-Producing Countries. *Animals* 2021, 11, 808. <https://doi.org/10.3390/ani11030808>

### **Peer pressure within the supply chain**

Farming communities can be small, with close interpersonal and professional relationships. By refusing to provide certification to transport an animal for slaughter and process it, a veterinarian may damage these relationships. This could, in turn, mean a loss of business and a damaged reputation within the community. For example, research indicates that private veterinarians have 'practical dilemmas', with concerns about reprisals, client confidentiality and loss of business, and the resulting financial implications (DAFM, 2018). Stakeholders at the workshop, the qualitative interviews, and the validation survey<sup>17</sup> confirmed this. Additionally, qualitative interviews suggest that the veterinarian may consider the distance and the transport conditions that a cow is transported in and allow borderline cases to be transported.

This reputational risk was also highlighted as being a concern for transporters who also typically had longstanding relationships with farmers, and who may worry that if they refuse to transport animals that are unfit, they will lose custom. Transporters were identified as transporting animals to the slaughterhouse that were able to walk on all four legs up the ramp onto the truck, but stakeholders stated that it can be difficult for transporters to see every single cow that walks up the ramp because they are loaded quickly, and the transporter often has multiple journeys to complete in a day. In Spain, it was identified that the transport industry is dominated by family businesses with longstanding relationships with farmers. Therefore, the transporter can face pressure from farmers to accept cows that could be perceived as unfit.

### **Lack of communication within the supply chain**

Another barrier to the effective abidance of rules on transportation is often the absence of communication between animal health professionals and National Competent Authorities, which can ultimately prevent progress in animal welfare (European Commission 2015). An institutional driver includes legislation on emergency slaughter that can be a cause for the problems seen, especially if it is being interpreted too strictly when there are borderline cases, for example if a relatively healthy older cow has an accident<sup>18</sup>.

---

<sup>17</sup> **Validation survey:** "Peer pressure between farmers, vets, transporter and slaughterhouses to agree to transport due to the threat of losing business/ reputation" (N=36). **47.2% agree (N=17)**, 25% disagree (N=9), 27.8% don't know (N=10).

<sup>18</sup> Interview with key expert.

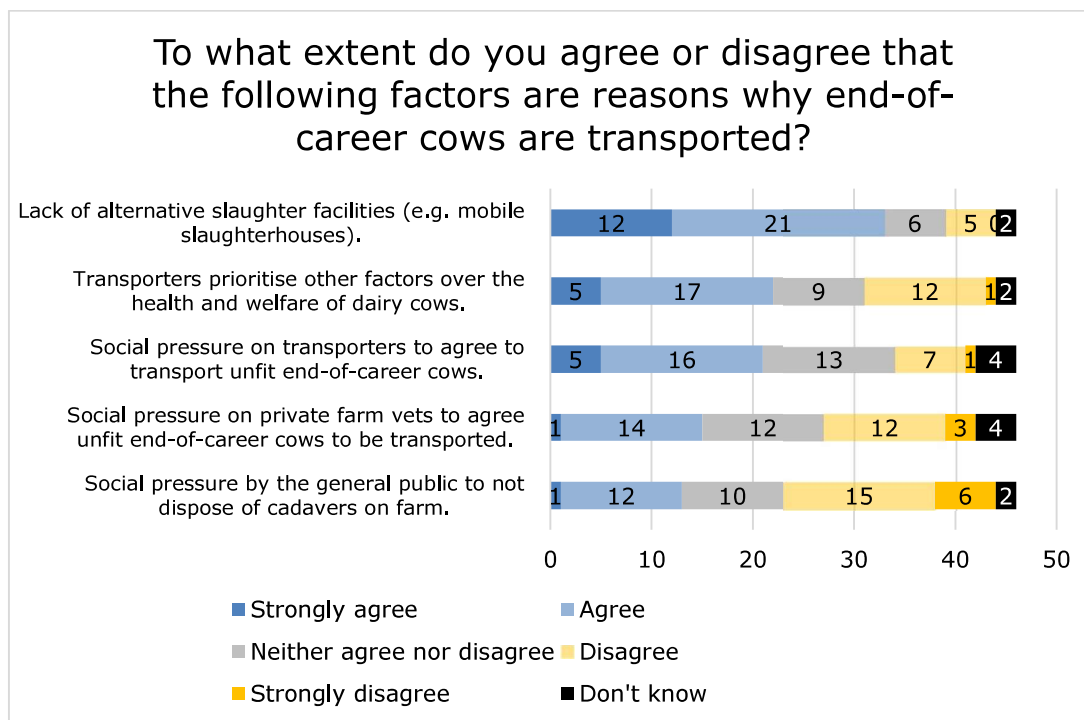


Figure 11 Social Drivers Survey Response

### Farmer attitudes and beliefs on-farm slaughter

Farmer attitudes and beliefs towards on-farm slaughter were considered by participants in the stakeholder workshop and in the qualitative interviews. The beliefs were focussed on the farmers' attitudes towards the destination of the slaughter animal and their attitudes towards the on-farm slaughter process. These attitudes tended to be assigned to older more, traditional farmers.

During the stakeholder workshop it was highlighted that on-farm slaughter could provoke a sense of shame in farmers, resulting from members of the public seeing cadavers on farm. This issue was viewed as affecting farms in more built-up areas, and smaller countries, such as the Netherlands, where it is heavily populated and rural areas are frequently visited. *'Social, especially in populated areas, dislike placing a cadaver by the road to be picked up for destruction. They fear scrutiny by [the] general public.'* Quotation from the workshop. When tested as part of the quantitative survey a minority agreed that social pressures by the general public not to dispose of the cadaver on farm was a driver of non-compliance<sup>19</sup>.

Exploring this further in the qualitative interviews, it was suggested that the social norms were more focussed on the natural order of the farm and the final destination of the end-of-career dairy cow. A stakeholder highlighted that farmers could feel as though they have 'failed' their animals if they are killed on farm, as opposed to being slaughtered in the slaughterhouse.

*'I think sometimes there is a mentality in farmers that if the animal goes to the factory, they didn't kill the animal, that they didn't fail, whereas if they feel they put the animal down on farm that they've failed the animal. It's felt more in older generations where*

<sup>19</sup> 13 out of 46 of the stakeholders agreed or strongly agreed with the statement "Social pressure by the general public to not dispose of cadavers on farm" In comparison, 21 stakeholders disagreed or strongly disagreed with this statement.



*they would have seen animals dying on farm as a bad thing whereas going to the factory and dying is a norm.'*

Quotation from an Irish Veterinarian representative Stakeholder.

Through the qualitative interviews it was also highlighted that on farm slaughter is viewed as 'bloodier' and messier than being able to send the cow to the slaughterhouse. This was reported as being distressing to the farmer and posing logistical problems relating to on farm slaughter. An example was highlighted that a farm had a mobile slaughterhouse truck, but they did not use it because of the blood and logistics of having to dispose of the carcass. If a farmer can transport the animal to the slaughterhouse, they can avoid encountering the unpleasant situation of slaughtering on farm, as well as saving on the higher costs of on-farm slaughter.

*'On-farm slaughters are very bloody. Given the high mortality rate in farms – there is the public shame of having this much blood and cow corpses around the farm. Also, this could result in more inspections from the vet'*

Quotation from a German Agricultural representative Stakeholder

### **Attitudes and beliefs towards sanctions**

Across Europe, sanctions are typically designed and enforced by the national authorities, often by a state veterinarian or an external company chosen by the authorities. The data highlights significant differences between countries across Europe. For example, the size of the country, the characteristics of the farm, e.g., intensive/extensive, grass-based, and milking systems, have led to inconsistencies in how controls and sanctions are enforced.

Interview evidence highlighted that farmers are typically not worried about enforcement actions from authorities for transporting unfit end-of-career cows. In smaller communities, it was identified that people often had informal relationships and farmers were unofficially pre-warned about inspections. Also, it was reported that farmers and transporters are often aware of the location of control points where animals will be inspected, and they were able to avoid these routes if they were unsure of the animal's health. A German stakeholder perceived the value of the fines as being too low and enabling the practice of transporting unfit end-of-career cows. It was stated that farmers can pay the fines and continue with transporting unfit animals. However, in Denmark and Italy, sanctions were reported as acting as an effective deterrent. Italy have increased their sanctions over the last few years.

However, there is a distinction between an animal being condemned as being unfit for consumption at the slaughterhouse and an animal being unfit for transport. It was reported that if a farmer repeatedly has animals condemned it could trigger further inspections. Farmers were keen to avoid these actions but as slaughterhouses receive animals once they have been transported and arrived at their destination, they usually are able to transport borderline cases without receiving a sanction.

### **Attitude to the point the farmers' care ends**

It was reported that farmers view loading the animals onto the transporter wagon as being the final step in the lifespan of their animals and the natural order of the farm. Stakeholders suggested that farmers typically did not have an in-depth understanding of actions that happen off the farm and there is a separation between the farmer and the death of their animals. This separation has reportedly led to farmers not being aware that they may have transported an animal that is unfit, due to them only being made aware if the animal was condemned for consumption at the slaughterhouse. Therefore, it could be seen as a gap in the knowledge of the farmer because they may be unknowingly transporting unfit cows, but because they are certified as fit for consumption, the farmer is not being made aware.

Often, when unfit cows are received at the slaughterhouse the slaughterhouse staff feel as though 'it is too late' to make a difference as the cow has already been transported. This can lead to a decrease in reporting at the slaughterhouse. Additionally, it can be difficult for slaughterhouses to determine if an animal has sustained injuries on the journey or if they were unfit when they were loaded.

**4.1.3 How are drivers prioritised when deciding on the transportation of unfit end-of-career cows? (E.g., trade-offs between welfares and revenue).**

<b>Findings</b>	<ul style="list-style-type: none"> <li>• Individual drivers (e.g. social norms, economic drivers) are discussed in detail in other sections. This section focuses on the prioritisation of factors and trade-offs between welfare and other factors/drivers.</li> <li>• Although a mixture of drivers combines to form a belief/attitude, which in turn becomes a behaviour, all strands of research highlighted economic drivers as the key driver which is most prioritised leading to the illegal transport of end-of-career cows.</li> </ul>
<b>Extent to which question can be answered</b>	<ul style="list-style-type: none"> <li>• Data available is sufficient to answer the question.</li> </ul>

**4.1.3.1 Summary**

A combination of economic, social, and cultural factors merge to drive end-of-career cows becoming unfit for transport as well as the practice of illegally transporting unfit end-of-life cows to slaughterhouses. However, economic factors were identified in all strands of the research as key and often the driver that is prioritised to make the definitive decision. Other key factors include knowledge and ability of stockman and farmer attitudes to welfare.

**Overview of evidence**

***Drivers of cows becoming unfit by the end of their career***

Drivers across countries were relatively consistent, explored in the top of [Figure 22](#), and relate to economics and a focus on productivity. This was consistent across all evidence collection, including the quantitative survey, with 73.91% of stakeholders agreeing or strongly agreeing with the statement '*Dairy cows are often pushed to be highly productive which can impact on their health*', and the validation survey<sup>20</sup>.

<sup>20</sup> **Validation survey:** 'Economics and a focus on productivity are the main drivers for dairy cows becoming unfit by the end of their career in your country' (N=36). **66.7% agree (N=24)**, 22.2% disagree (N=8), 11.1% don't know (N=4).

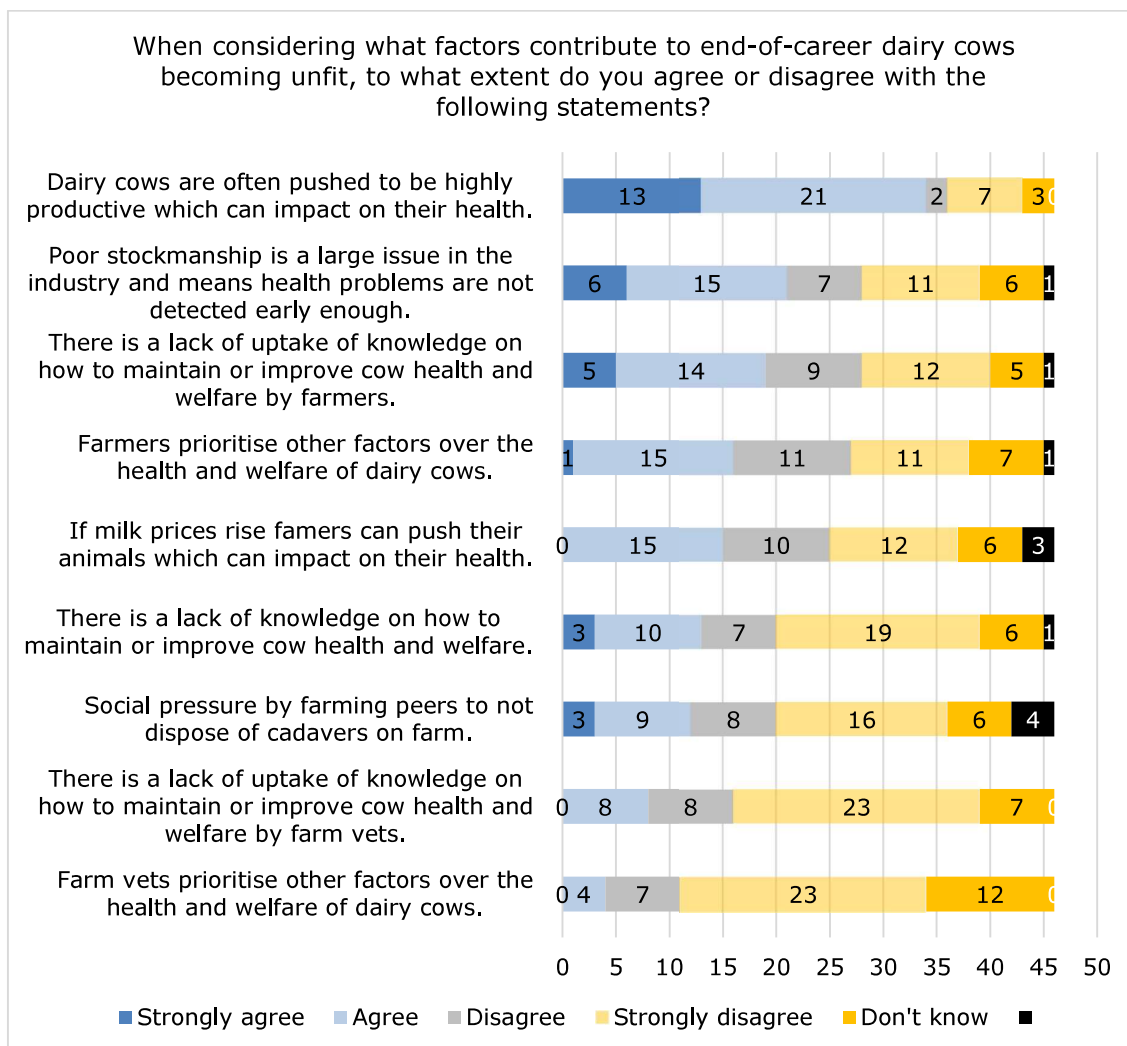


Figure 22 Factors that contribute to end-of-career dairy cows becoming unfit. (n=46)

*'It's a dairy cow so it's there to produce milk; if it doesn't produce milk then it's not worth keeping. If you have a high producer producing milk for 3-4 years and you push it to the limits, then you're going to drain it from its energy, you end up with this extremely weak animal which can't move.'*

European Institution stakeholder.

**Economic drivers that contribute to dairy cows becoming unfit for transport by the end of their career.**

The ToR references the extent to which current economic model(s) contribute to the problem of illegal transport. To answer this, it is necessary to consider the wider economic context for milk production and the structure of the industry across the EU.

At a very high level, it is important to consider that farms are generally private businesses that provide a means of income for the farming household and economic pressures can encourage people to make sub-optimal decisions, regardless of the farming system. EU farming is supported through the CAP but in the dairy sector, milk prices have remained largely unchanged in the last 20 years<sup>21</sup> while labour and

21 Milk Market Observatory Sep-2021 eu-raw-milk-prices\_en.pdf (europa.eu)

investment costs have continued to rise. Prices are also uneven, across and within MS, depending on the scale of farming, milk quality and links to processors. This is discussed further under the section "Q4. Do current economic model(s) contribute to the problem of illegal transport? To what extent?".

The prevalence of unfit end-of-career dairy cows can also be related back to the wider economic situation in a sector where breeding has focused on capacity to produce milk at the expense of other traits and the economics of production mean that cows work hard during their productive lifetime but are replaced if they fail to breed or have health problems that impact on production. If end-of-career dairy cows have a low value (for meat), there are conflicting short and medium-term drivers:

Short term: it is more economic to maximise milk production and pay less attention to cow condition, including welfare effects;

Medium-term: there is some incentive to improve the longevity of the cow, e.g., through breeding, system change or management, but this may also involve a relative decline in milk income.

### ***Knowledge and expertise on stockmanship and general welfare of the dairy cow***

Respondents to the survey generally agreed that poor stockmanship<sup>22</sup> and a lack of up-to-date information among farmers was a driver of the problem (See [Figure 22](#)).

Respondents in the validation survey<sup>23</sup> disagreed that a lack-of-up-to date information was a driver and felt the driver was more economic and willingness to treat the cow. Stockmanship in particular was seen as important in the stakeholder workshop and was raised in a number of qualitative interviews. Again, this did not seem to be related to a particular country or type of farm.

*'Stockmanship is the most important factor to reduce the number of cows that become unfit, more relevant than intensive/extensive farming aspect or other factors (for example, organic farming may prevent or reduce the use of antibiotics, which in turn can increase the chances of having downer cows because they have not received an optimal treatment).'*

Italian Institution Stakeholder.

Where farmers / stockmen do not have the ability or time to keep the herd in optimal condition, farm veterinarians and advisors become extremely important for sharing information.

---

<sup>22</sup> **Validation survey:** 'Health problems are not detected early enough due to poor stockmanship on farm' (N=36). **44.4% agree** (N=16), 30.6% disagree (N=11), 25% don't know (N=9).

<sup>23</sup> **Validation survey:** 'Farmers lack knowledge on how to maintain and improve cow welfare' (N=36). 30.6% agree (N=11), **44.4% disagree** (N=16), 25% don't know (N=9).

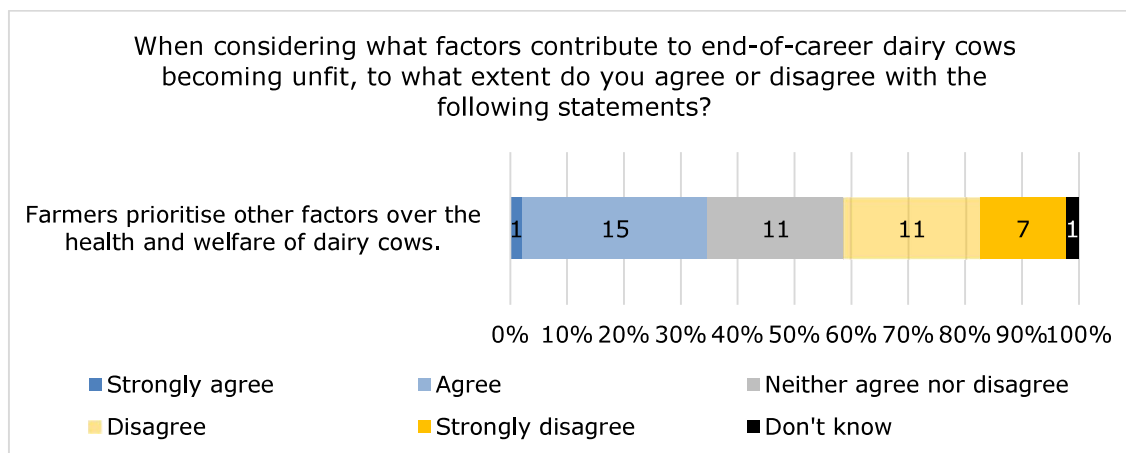


Figure 33 Farmer’s prioritisation of health and welfare of dairy cows

**Drivers of the transport of unfit end-of-career dairy cows**

**Knowledge and understanding of what constitutes as “unfit” for transport**

During the qualitative interviews, several stakeholders across MS noted that often the key decisionmakers are the farmer and transporters, who may not always be trained or have the most knowledge on whether cows are fit for transport.

However, as per Council Regulation (EC) No 1/2005, anyone transporting animals, in connection with an economic activity, must ensure animals are fit to travel and personnel handling the animals are trained. For journeys over 65km, transporters must hold a transporter authorisation, issued by a competent authority. This authorisation is granted if the applicants are established in the MS where they apply for authorisation, has no serious infringements of Community and/or national legislation on the protection of animals in the past three years, and if the transporter demonstrates sufficient and appropriate staff, equipment, and operational procedures to comply with this Regulation. Council Regulation (EC) No 1/2005, Annex IV, states that personnel handling animals must have completed training and passed an examination approved by the competent authority. Amongst other requirements, this training must include an understanding of the fitness for transport definition. Contrary to the qualitative interviews, this suggests transporters and those handling the cows should have some knowledge and training on whether cows are fit for transport.

**Financial advantages to transporting unfit end-of-career cows**

The economic drivers relating to the transport of end-of-career dairy cows are dictated by the potential value of the cow if sold for slaughter, compared to the cost of killing an animal on farm and disposal of the carcass<sup>24</sup>. Data has been gathered from case studies on some of these costs but the extent of the ‘compliance costs for farmers to prevent such transport’ will vary according to the following criteria:

*Income forgone*

- The potential value of the animal. Where the animal is fit for consumption but perhaps injured, this may be substantial, but where she is in poor condition or health, less so.

<sup>24</sup> **Validation survey:** 'Economic factors (cost of culling the cow on farm and financial gain of cadaver going into the supply chain) are the main driver for the transportation of unfit end-of-career dairy cows (in my country/in the EU)' (N=36). **58.3% agree (N=21)**, 19.4% disagree (N=7), 22.2% don't know (N=8).

- The availability of insurance that can offset the loss of the value of the animal for meat.
- The opportunity to transport unfit cows, either directly or through a third party (dealer) and the associated transport cost.

*Additional costs*

- The cost of treatment of the animal to the extent it recovers and can be legally transported, where feasible.
- The cost of killing the animal on-farm and transporting the carcass for rendering.
- The potential fine or sanction for transporting unfit cows and the likelihood of that being applied.

These costs will vary across and within MS but in most cases, preventing transport has a real economic cost for the farmer, which provides an incentive to transport the animal. This acts in tandem with other drivers (knowledge, social) to influence behaviour and practice. The risk of fines or sanctions and their scale can counter that economic incentive.

### **Farmer attitudes towards welfare**

During the workshop and qualitative interviews, stakeholders expressed different opinions regarding farmers attitudes towards welfare, as shown in *Figure 33 Farmer's prioritisation of health and welfare of dairy cows*.

A number of stakeholders highlighted that it is beneficial for farmers to have a focus on animal welfare. An increase in welfare can lead to an increase in productivity from their animals and an improved carcass when the cow reaches the end of its career. Additionally, farmers often have a strong emotional attachment to their cows because they work with their animals daily and rely on them to produce.

However, other stakeholders highlighted those farmers may not optimise the welfare of animals as they may prioritise profit. This may be exacerbated at the end of their career as the cow has already been profited by (through milk production) and the sale of the carcass is a lesser income. Therefore, the driver to keep the cow healthy is less important. Similarly, the low milk prices and small profit margins that farmers face was viewed as contributing to them prioritising profit over welfare. Unfit animals are an economic cost to the farmer and they can be prematurely culled to try and make some profit from the animal. The economic pressures that farmers are under can also lead to animals being farmed more intensively, which was typically reported as being worse for animal welfare than extensive systems. It was identified that there is a market for cull animals in some countries, and this can lead to them being traded at livestock markets, rather than being sent straight to slaughter.

The emotional attachment farmers have to their cows may lead them to want to end any suffering they perceive the end-of-career cow is going through by slaughtering the cow as soon as possible. Often the quickest way is to transport the unfit end-of-career dairy cow to a slaughterhouse.

*Study on economic models to prevent the transport of unfit end-of-career dairy cows*

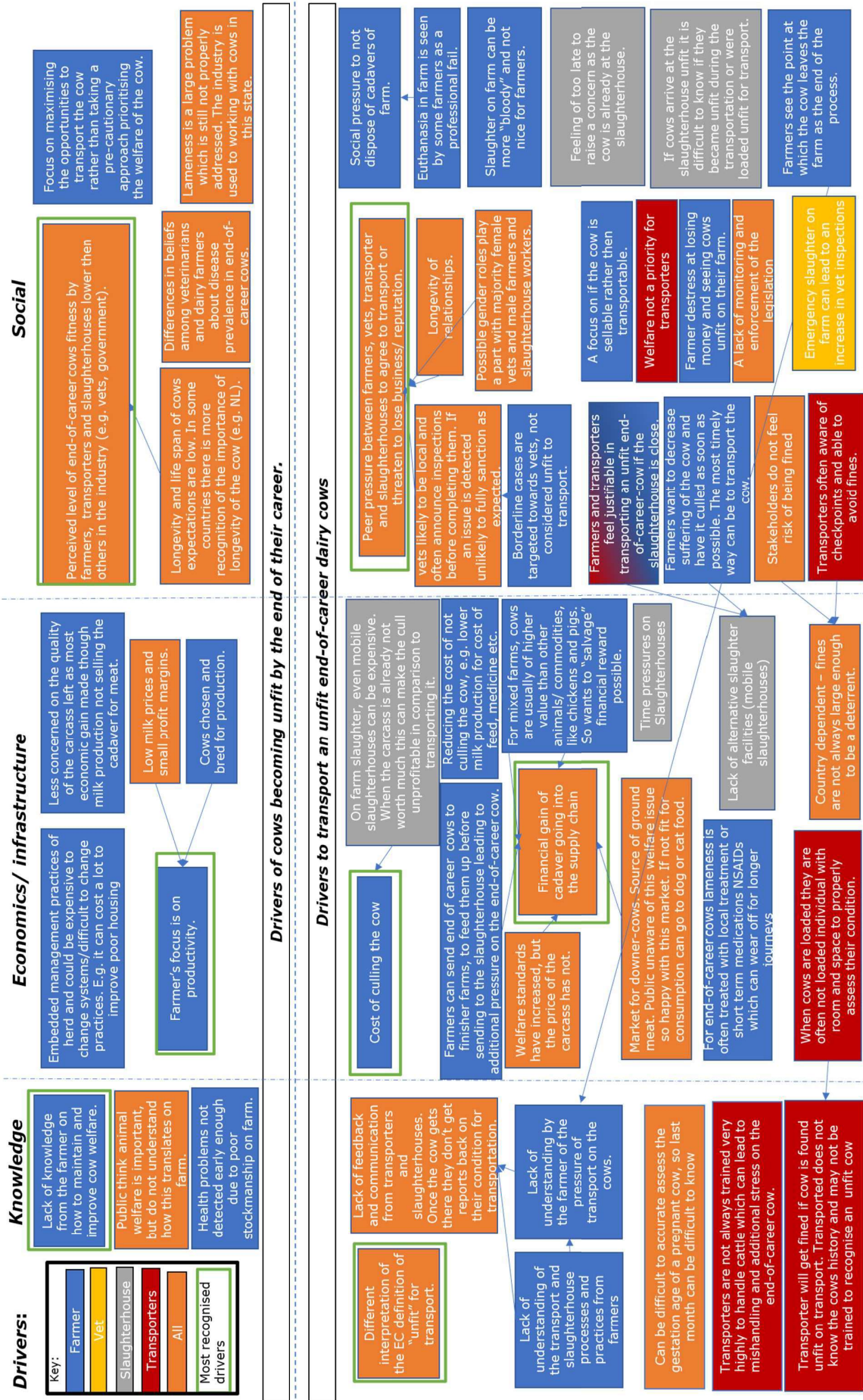


Figure 4 Drivers to the transport of end-of-career cows

**4.1.3.2 What are transport conditions like in each Member State for borderline cases of unfit end-of-career cows? (E.g., space allowances, temperature)**

<b>Findings</b>	<ul style="list-style-type: none"> <li>Lameness and irregular gaits were a commonly recognised indicator of what constitutes a 'borderline' case, despite the lack of legal definition.</li> <li>Transport conditions including distance travelled, loading density and bedding are sometimes considered in borderline cases.</li> </ul>
<b>Extent to which question can be answered</b>	<ul style="list-style-type: none"> <li>Data available is sufficient to qualitatively answer the question in the majority of MS.</li> </ul>

**Summary**

'Borderline' cases are those where the cow's condition does not deteriorate until transport or was invisible/undetected. Such cases were recognised in the majority of MS studied. However, there is not a legal definition. Thus, stakeholders took varying judgments about what could be considered 'borderline'. Examples provided include cows being able to stand on three or four legs, but having lameness, limping or an irregular gait. When 'borderline' cases are identified, the usual process is for a veterinarian to be called and asked to assess the cow, to decide if the cow is fit for transport. Stakeholders mentioned a number of transport conditions which are considered when deciding if a borderline cow is fit for transport including: loading density, distance of travel, bedding, adapted ramps and separation of cows in vehicles.

**Overview of evidence**

The inception stage indicated that additional transport conditions may be considered in the case of deciding whether to transport an end-of-career cow with 'borderline' status. This sub-question was answered mostly through the qualitative in-depth interviews.

'Borderline' cases were described by different stakeholders in five MS (see [Table 1010](#)). There was some commonality, particularly around the recognition of lameness/limping and irregular gaits often being associated with borderline cases<sup>25</sup>. These cows can often bear weight on all four legs. In addition, the difficulty in accurately dating gestational age was recognised as another common issue associated with borderline cases. In all MS, the usual process if a 'borderline' case arises is for a veterinarian to be called to decide if the cow should be considered fit for transport or not.

*Table 1010 Borderline case examples*

End-of-career cow borderline case examples	Country	Stakeholder who reported the example
Thin and bony. Mental weakness.	Germany	NGO
It can be difficult to get a precise estimation of gestational age; therefore, there can be	Germany	Agricultural representative

<sup>25</sup> **Validation survey:** 'End-of-career dairy cows which are considered borderline are often associated with lameness' (N=35). **62.9% agree (N=22)**, 17.1% disagree (N=6), 20% don't know (N=7).



uncertainty around if the cow is too far along to be transported or not.		
A cow that is steady on 3 legs, but not the fourth. Gestation age uncertain (as above).	France	Meat supply chain representative
Abnormal gait due to lameness or chronic illness. Foot injury on one out of four feet. Gestation age uncertain (as above)	France	Veterinarians' representative
Not walking properly, some limping.	Belgium	NCA
On-going lameness, but able to bear weight on all four legs.	Ireland	Veterinarians' representative
Limping.	Spain	Veterinarians' representative

The interviews highlighted that transport conditions in many MS are often similar for borderline cases and those of a fit dairy cow from the same farm. However, for borderline cases, farmers, veterinarians and transporters may consider the conditions a little more in their decision. There is not enough data to compare MS on the conditions which are sometimes considered, but a number were mentioned which were common across several MS. These included:

- distance.
- loading density.
- separation from other animals during transport.
- amount of straw bedding.
- lower ramps for loading and unloading.<sup>26</sup>

The quotes below consider transport conditions for borderline cases.

*'Legally she is fit for transport if she can walk on all four legs, but it wouldn't be ideal to put her in a lorry with loads of other cattle.'*

Irish Veterinarian representative

*'Animals might be separated so at least they're not going to get trampled if they fall. So the transport conditions should be taken into account. Is she going to be deep bedded?'*

Irish farmer representative.

<sup>26</sup> **Validation Survey:** 'When considering if borderline cases should be transported, the farmer, vet and transporter often consider transport conditions including the distance to be travelled, loading capacity and bedding' (N=35). **57.1% agree (N=20)**, 22.9% disagree (N=8), 20% don't know (N=7).

#### **4.1.4 Are social/psychological (e.g., suicidal farmers) conditions of individual farmers a driver to the transportation of unfit end of career cows?**

<b>Findings</b>	<ul style="list-style-type: none"> <li>• Social/psychological conditions may be a driver of the transportation of unfit end-of-career cows. However, not a key driver.</li> </ul>
<b>Extent to which question can be answered</b>	<ul style="list-style-type: none"> <li>• Data available is sufficient to answer the question.</li> </ul>

##### **Summary**

There is little evidence to suggest that social/psychological (e.g., suicidal farmers) conditions of individual farmers is a driver contributing to the transportation of unfit end-of-career dairy cows.

##### **Overview of evidence**

This question focuses on the mental health and psychological condition of individual farmers. Social drivers are captured in the previous section. No evidence was identified through the literature reviews at a European level or individual MS relating to answer this question. Social/psychological conditions were not raised during discussions of drivers for the transport of unfit end-of-career dairy cows as part of the stakeholder workshop. In addition, there was an opportunity in the quantitative survey for stakeholders to highlight other drivers to the transportation of unfit end-of-career dairy cows. Social/psychological conditions and mental health of the farmer were raised by one stakeholder only.

The qualitative interviews explored the question in more detail. However, the majority of those interviewed felt it was not a key driver. Discussions related to psychological drivers (covered in RQ1.2 and 1.3) and economic pressures (RQ1.9 and RQ1.10) as shown in the quote by Spanish business operator: *'a sense of desperation that could push smaller farms to send the cows no matter what to be able to get enough profit'*.

A participant in the validation survey noted *"The role of the farm veterinarian and/or advisors then becomes extremely important as some dairy farmers may lead isolated lives and have mental health issues, especially older ones."*

#### **4.1.5 How does food fraud relate to the issue of the transportation of unfit end of career cows?**

<b>Findings</b>	<ul style="list-style-type: none"> <li>• The scale of food fraud networks is difficult to measure as the actions are illegal.</li> <li>• Drivers for the food fraud networks are economic. The economic gains split between the main stakeholders tend to differ across networks.</li> <li>• Food fraud schemes generally engage most stakeholders. Transport companies in particular appear to play a crucial role.</li> <li>• Scandals and whistleblowing cases may help prevent the transportation of unfit end-of-career cows. However, the evidence is limited.</li> </ul>
<b>Extent to which question can be answered</b>	<ul style="list-style-type: none"> <li>• Data on the drivers, and several food fraud cases, is available.</li> <li>• Data on the scale across MS is not available.</li> </ul>

##### **Summary**

As is often the case with illegal actions, it is difficult to observe and measure the effects of food fraud networks and there is insufficient information to enable a robust

assessment of the scale of the transport of end-of-career cows. Economic incentives, particularly the difference in the value of meat of a healthy cow and an unfit cow, appear to be the major driver behind decisions of some stakeholders to engage in illegal activity. The sharing of excess profits is likely to differ between countries or between food fraud models, depending on the relative power and risk taken by each actor in the chain. Food fraud networks require cooperation between stakeholders, with evidence suggesting transport companies play a crucial role. Scandals and whistleblowing cases may help to develop a self-policing mechanism, whereby the industry takes action to avoid damage to their image. However, the relative strengths of various drivers likely differ between fraud networks and can change over time.

### **Overview of evidence**

Food fraud networks were identified through the desk research and interviews in three MS (the Netherlands, Germany and Poland). However, it was suggested that this could be an issue in other MS too. Case Study 2: Food fraud networks draws together findings from across the fieldwork to explore themes of the scale of the issue, drivers and structures of the networks, economic drivers, and selected whistleblowing cases.

Food fraud networks are, by nature, secretive. It is thus not surprising that there is little literature documenting them. Most of the evidence comes from interviews and media outlets. The latter predominantly report on uncovered cases of food fraud networks, which may or may not be representative of wider cases of food fraud. This is an important consideration for drawing conclusions and generalising based on existing evidence.

The key economic driver is a difference in the value of meat of a presumably healthy cow and the much lower value (possibly negative one if meat is not suitable for consumption) of meat from unfit cows. This difference in value at the end of the value chain translates upwards in the production chain. For example, in the cases unveiled by media investigations in Poland, the value of a healthy cow sold for meat was 5-6 times higher than the value of a downer cow. For slaughterhouses that could 'specialise' in unfit cows and able to monetise most of the profits at this stage of the value chain, this could translate into a massive profit boost. Example calculations for a mid-sized slaughterhouse carried by media that originally reported the case suggested a potential difference between some €80 000 annual profit and around €550 000 annual profit (TVN24, 2019; The Guardian, 2019). The sharing of excess profit created from the fraudulent scheme across the food production chain may differ between countries or specific fraud models used within the same country. This depends on the relative power and risk taken by respective actors in the fraudulent food production chain.

Food fraud networks usually require cooperation between several stakeholders. Typically, they appear to be composed of a farmer, a transport company, a slaughterhouse, sometimes veterinarians (bribed or not), and meat processing firms. Transport companies appear to play a crucial role in Germany and Poland, based on information on uncovered cases. In Germany, there are transport companies specialising in transporting unfit animals. One of these companies was still operating at the time of field research, despite an ongoing court case related to its illegal activity. In Poland, most restrictions and requirements concern transporting cows over distances of 60km. This makes it easier to arrange illegal transportation of shorter distances. Transport companies (usually small ones) are often connected to a small slaughterhouse where a veterinarian is not always on duty, and the unfit cows are slaughtered when she or he is absent. Such slaughterhouses may be linked to a meat processing firm. In these cases, the financial incentive of higher income seems to be the strongest driver. Transport companies also appear to be a weak link in the Netherlands, with drivers deciding to agree to take unfit cows from fear of losing regular business of transporting all other cows.

Scandals, whistleblowing cases and public opinion may act as a self-policing mechanism, whereby the industry itself acts and limits food fraud to avoid damage to their image. This gives some support to a hypothesis that the uncovering of food fraud networks, especially if accompanied by media reporting leading to scandals in some countries, is likely to be associated with an improvement of the situation in the following years. This hypothesis cannot be confirmed by hard data, which does not exist, but appears plausible.

A simplified exposition of the key drivers present at various points of a food fraud network are presented in Figure 5 below. The relative strengths of various drivers likely differ between fraud networks and can change over time, e.g., after strengthened regulations and controls at some points of the production chain.

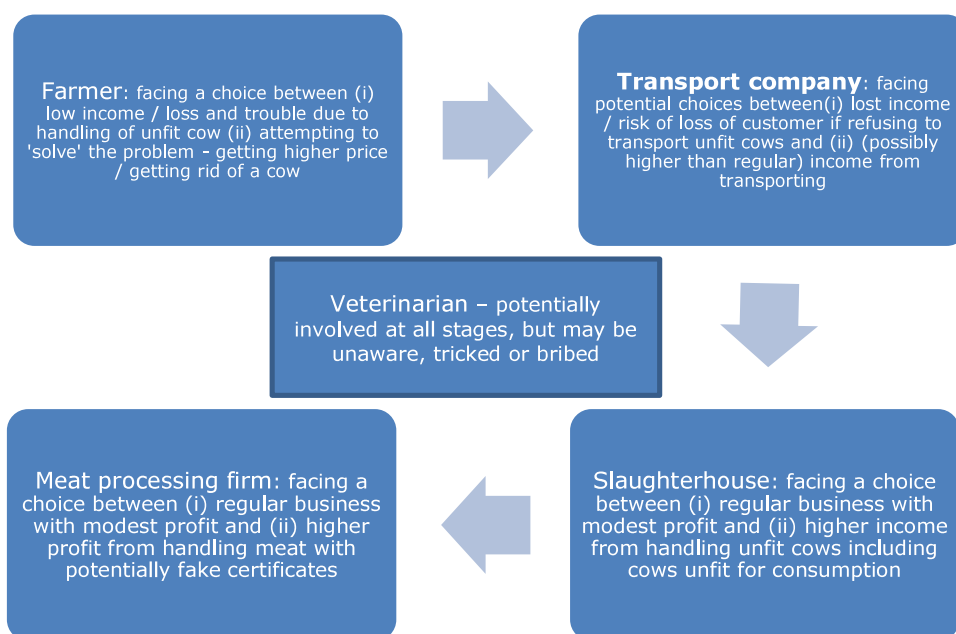


Figure 5 Drivers of food fraud networks

#### 4.1.6 How does the structure of the industry impact the transportation of unfit end of career cows?

<b>Findings</b>	<ul style="list-style-type: none"> <li>• The structure of the dairy industry may contribute to the transportation of unfit end-of-career cows by adding to economic pressures on farmers.</li> <li>• Farmers are also often alone in making the decision, due to a lack of highly integrated supply chains.</li> <li>• Further support and controls from NCAs could aid farmers in making this decision, whilst also ensuring the cows' welfare is prioritised.</li> </ul>
Extent to which question can be answered	<ul style="list-style-type: none"> <li>• Consistent data, to be able to make a correlation on cause and effect between sector structure and the transportation of unfit end-of-career cows, is limited.</li> <li>• Data is available to discuss wider issues of economics at sector level.</li> </ul>

## **Summary**

There has been significant restructuring of the EU dairy sector in recent decades, resulting in fewer farms with dairy cows and the remaining farms becoming specialised. The economic returns for milk production in the EU are often less than the cost of production, although they vary across and within MS. Thus, farmers must partly consider economic burdens and stresses, as well as trying to think about ethical factors, when making decisions on whether to transport unfit end-of-career cows. Furthermore, the structure of the industry, with a lack of highly integrated supply chains, means this judgment often lies solely with the farmer. NCAs providing information and professional advice (from veterinarians) could assist farmers when deciding whether to transport unfit cows, and sanctions and inspections could be used to ensure economic gain is not prioritised over the cows' welfare.

## **Overview of evidence**

The EU dairy sector is the second biggest agricultural sector in the EU, representing more than 12% of total agricultural output. Characteristics such as farm and herd size, yield and type of farming vary widely across Europe, from free-range farming in Alpine areas to large specialised dairy farms in the north-west and centre of Europe<sup>27</sup>. However, there is variation within as well as across MS and data on average herd size or organisation of markets does not readily explain the scale of the problem. In the absence of consistent data on the incidence of transportation of unfit end of career cows, it is not possible to make a correlation on cause and effect between sector structure and transport of unfit end of career cows. The assessment here instead points to wider issues of economics at sector level.

There has been significant restructuring in the sector in recent decades (farms with dairy cows fell by over 80% between 1983 and 2013), partly in response to milk quotas. The remaining farms have specialised, with average herd size and milk yield increasing to broadly maintain total milk production. The sector does not comprise highly integrated supply chains, such as with pig or poultry production, where small numbers of large processors manage their supply production units tightly, including issues of animal welfare. Instead, individual farmers generally make choices about production systems and judgements on welfare, including the transport of end-of-career cows.

The economic returns from milk production also vary across and within MS, depending on the structure of dairy farms and marketing arrangements (e.g. role of farmer cooperatives, product mix and markets) but across the EU economic returns for milk (including CAP support) are often less than the cost of production<sup>28</sup>.

This combination of economic pressures and reliance on farmers to make optimal judgements on whether to transport unfit cows, places an emphasis on the drivers for their decision, part ethical (is it the right thing to do for the animal's wellbeing?) and part economic (can I avoid the costs of on-farm slaughter and secure some value for the animal?). In this decision, they need to be supported with good information (on animal welfare, the definition of unfit cows and on fines and sanctions for non-compliance) and professional advice (from veterinarians) to make a good decision. Across Europe, stakeholders report a shortage of veterinarians and some that are compromised by their social relationships in farming communities. It therefore relies on NCAs to ensure a clear and effective system of inspections and sanctions to deter farmers, veterinarians, transporters and processors from prioritising economic gain over the cows' welfare. This reflects not only the structure of the dairy sector but the economic pressures that apply throughout the supply chain.

---

<sup>27</sup> European Parliamentary Research Service (2018) Facts and figures about the EU dairy sector. PE 630.345 – December 2018

<sup>28</sup> EMB (2021) What is the cost of producing milk? Third Edition

**4.1.7 What is the scale of the problem relating to the transport of unfit end of career dairy cows to slaughterhouses in the EU? Are there regions where the problem is more acute? Why competent authorities have not been able to prevent the occurrence of such problems?**

<b>Findings</b>	<ul style="list-style-type: none"><li>• There is a lack of consistent data available to provide a detailed understanding of the scale of the issue of the transport of unfit end-of-career dairy cows.</li><li>• The quantitative survey would suggest stakeholders and NCAs are unclear on the scale of the issue, with a large standard deviation in the data collection. In the survey, the mean estimate for the proportion of end-of-career cows transported that are unfit is 8-9%.</li><li>• The quantitative survey and more detailed data from Italy would suggest the trend of transporting end-of-career cows is decreasing in that MS, after increased mitigation measures have been put into place.</li></ul>
<b>Extent to which question can be answered</b>	<ul style="list-style-type: none"><li>• Data available is insufficient to answer the question.</li><li>• Data from all NCAs has been requested, but not yet received.</li><li>• The evidence on the scale of non-compliance is incomplete. That is because operators will likely not share information about their non-compliant behaviours or those of their partners in trade.</li></ul>

**Summary**

Data available on the scale of the transport of unfit end-of-career cows is limited and inconsistent across MS. This was recognised at the inception phase and was rehearsed in the field research. A large number of stakeholders who responded to the quantitative surveys and qualitative interviews highlighted that the scale and trend of the issue was unknown.

In general, the transport of unfit cows is still a relevant problem across the EU, with this issue found to be more significant in Germany and Poland. However, it is not possible to definitively conclude that the issue is of minor importance in other MSs, as, given its illegal denotation, data disproving this hypothesis is not readily available nor consistent.

**Overview of evidence**

The inception phase research identified many studies and evidence regarding a wide range of issues relating to the transportation of dairy cows, including transport conditions and standards of care (see, The Guardian, 2017; Eurogroup for Animals 2016; European Commission 2017; ABC News 2021, Eurogroup for Animals 2020). However, data on the scale of the transportation of unfit end-of-career dairy cows was not identified at that stage. Expert interviews suggested that carcass condemnation data are not a good source of evidence on this matter, given the many potential reasons for this. During the inception meeting, DG SANTE confirmed that data, especially consistent data, on unfit end-of-career dairy cows would likely not be available, but data on cows killed on farm should be available at MS level as the farm register has to indicate the destination of the animal and the age of the animal.

Considering a lack of direct data on the scale of the issue, data on the following issues were requested from all 9 MSs selected:

- emergency slaughter and euthanasia;
- killing on farm vs killing at the slaughterhouse;
- the size and distance to slaughterhouses that accept dairy cows;

- examples of breaches of legislation related to the transport of unfit end of career cows to slaughterhouse, understanding when, why and how the breaches took place.

In agreement with the inception phase research, the qualitative interviews in individual MSs recognised that there is a lack of published data, although in the validation survey (n=35) approximately half of the countries felt data was available from NCAs to understand the scale of the issue. In the case of Poland, data was shared from transport monitoring reports on the number of cows transported and the number which were found to be unfit for transport in each year from 2018 to 2020. However, an NGO stated that this data could be misleading because transport companies knew in advance where checks were made and would avoid these routes. They also noted that checks were only carried out on journeys of more than 60km and during prescribed inspectorate hours (8.00am to 3.30pm weekdays).

The quantitative survey identified a lack of consistency in stakeholder views on the scale of the issue (Figure 6, Figure 7). Due to the low sample size, it is difficult to know if this is related to differences in the scale of the issue between MSs or differences in the perceptions of stakeholders.

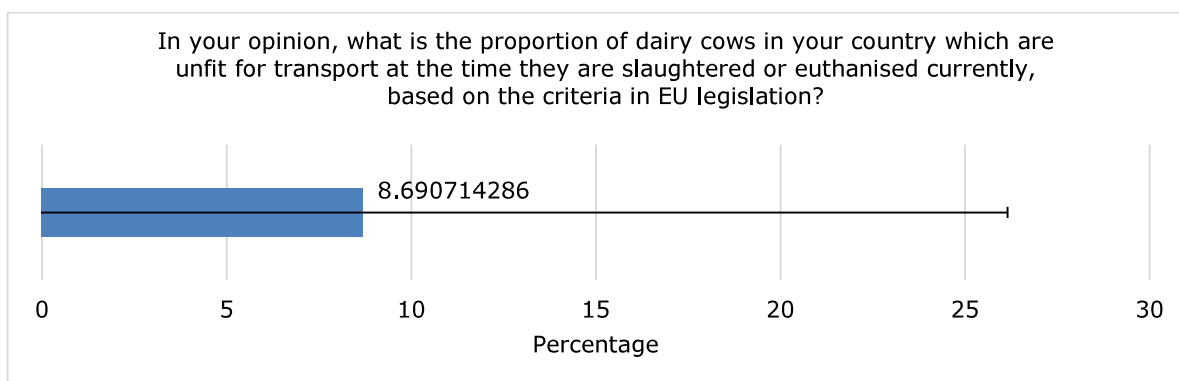


Figure 6 proportion of dairy cows in your country which are unfit for transport at the time they are slaughtered or euthanised. Error bars represent standard deviation, n=42.

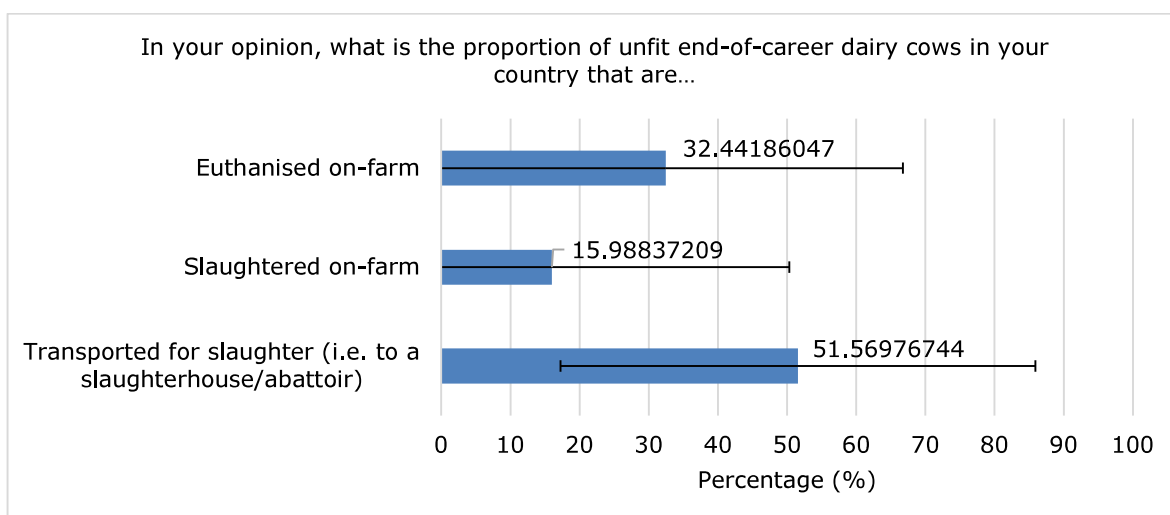


Figure 7 Final destination of the end-of-career cow. Error bars represent standard deviation, n=43.

Due to the lack of data, trends on the scale of transport of unfit end-of-career dairy cows have also been difficult to identify. Stakeholders who responded to the quantitative survey felt that the scale of the transport of unfit end-of-career cows and cows which are unfit for transport at the stage of slaughter or euthanasia was decreasing. NCAs were more likely than industry stakeholders to indicate that the trend had decreased. Again, the sample for the survey is relatively small and the number of respondents who reported that they did not know if the trend had increased, decreased or stayed the same (43%) indicates a lack of information available on the scale and trend of the issue.

The decreasing trend was also recognised in evidence reviewed and qualitative interviews in a number of countries including Italy and France. In Italy, the scale of the problem has been substantially reduced in the last decade due to the introduction of new national legislation and associated enforcement actions. The latest audit performed by DG SANTE in 2021 reported that the Italian legislative system fulfils the EU requirements to a large extent. Non-compliances are properly followed up by officials and enforcement measures (such as sanctions) are taken appropriately<sup>29</sup>.

The 2007 Legislative Decree (n. 151, 25<sup>th</sup> July 2007) established a new national regulation on animal protection during transport and related operations. This introduced sizeable fines on the transport of unfit animals and an increase in enforcement, effectively curbing the problem in the country. This is confirmed by the change in the number of emergency slaughters on farm which is the most likely alternative route for unfit end-of-career cows if they are not transported (Figure 8).

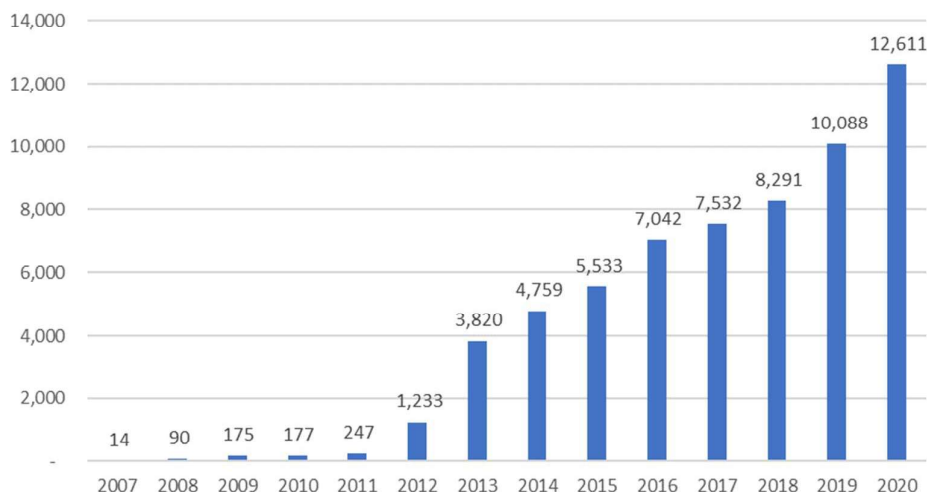


Figure 8 Number of emergency slaughters on farm in Italy, 2007-2020

Source: Italian National Zootechnical Register

([https://www.vetinfo.it/j6\\_statistiche/#/report-pbi/12](https://www.vetinfo.it/j6_statistiche/#/report-pbi/12))

In France, stakeholders felt that increases in standards in slaughterhouses were connected to a decrease in the transport of unfit end-of-career dairy cows, although this cannot be independently verified.

[15 years ago] *'transportability was a real problem and there was indeed what you describe in the question of slaughterhouses which were specialized on animals in poor*

<sup>29</sup> European Commission (2021), Final report of an audit carried out of Italy from 18 January 2021 to 29 January 2021 in order to evaluate the food safety control systems in place governing the production and placing on the market of bovine meat, including traceability (available at [https://ec.europa.eu/food/audits-analysis/act\\_getPDF.cfm?PDF\\_ID=15271](https://ec.europa.eu/food/audits-analysis/act_getPDF.cfm?PDF_ID=15271))



*condition, they bought cheap and, in the end, it suited the breeders because the euthanasia is expensive - today with the strict standards at the slaughterhouse, it has become counterproductive because the animal will be slaughtered at the breeder's expense with administrative fees.'* Quotation from French Academic stakeholder.

Compared to five years ago, the proportion of unfit end-of-career dairy cows which are transported for slaughter has...

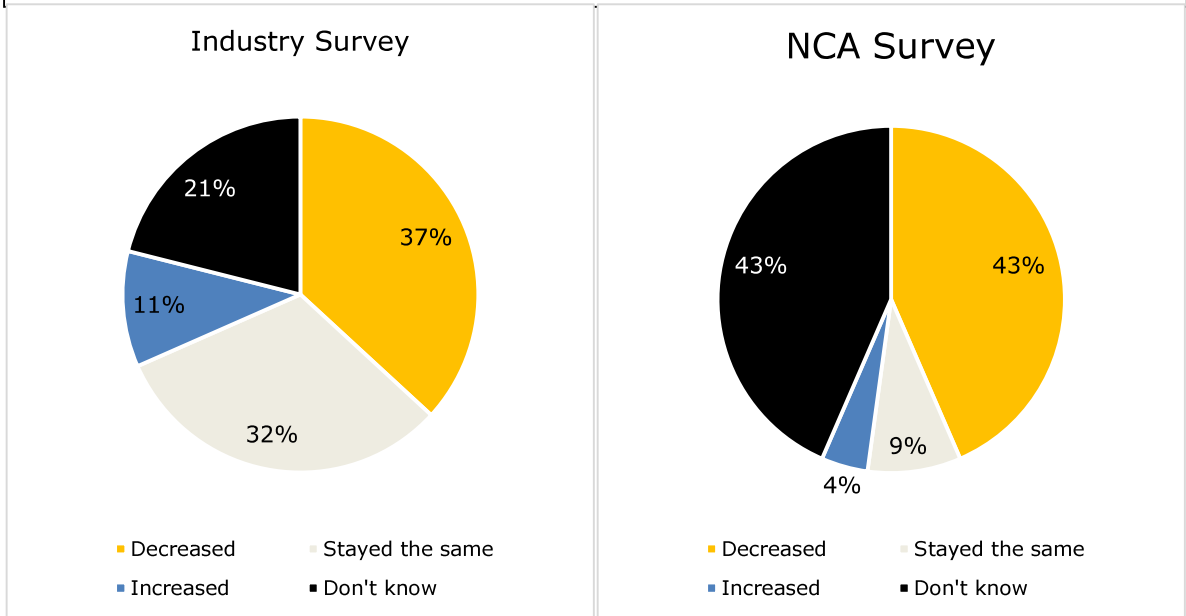


Figure 9 Trends in the proportion of unfit end-of-career cows which are transported for slaughter. Industry survey (n=19), NCA survey (n=23)

Compared to five years ago, the proportion of dairy cows which are unfit for transport at the point they are slaughtered or euthanised has...

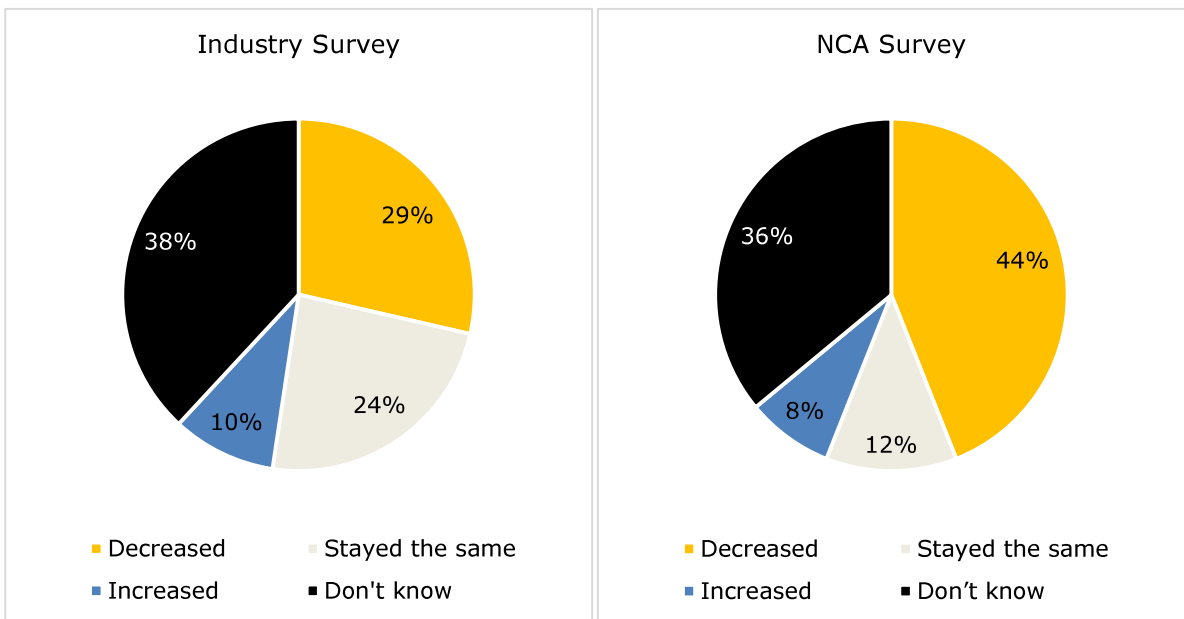


Figure 10 Trends in the proportion of dairy cows which are unfit for transport at the point they are slaughtered or euthanised. Industry survey n=21, NCA survey n=25

The validation survey (n=35) 60% of respondents were unsure if the problem was increasing or decreasing and the remainder were evenly split on the direction of change.

In Germany, views on the scale of the transport of unfit end-of-career cows were very varied across stakeholders. The German animal welfare NGO SOKO Tierschutz has recorded at least 20 slaughterhouses specialised in downer cows currently active across Germany. Five more were shut down since 2018 (four of these specialised only in downer cows). The largest, located in Bad Iburg, used to slaughter 200 cows per week (10% of all downer cows in Germany in 30 years of activity)<sup>30</sup>. Most of the slaughterhouses still active are estimated to process about 50 downer cows per week. Prior to 2018, about half of all downer cows were slaughtered in slaughterhouses owned by large corporations, while the other half ended up in these slaughterhouses specialised in downer cows (e.g., the one in Bad Iburg). Since 2018, these slaughterhouses have become more difficult to detect as they are not recorded in the official register of slaughterhouses, therefore there is a number of breaches assumed to go undetected<sup>31</sup>. SOKO Tierschutz claims that veterinary offices 'systematically look the other way', allowing such illegal activities to persist<sup>32</sup>.

However, the scale of the problem was not consistently reported by all stakeholders in Germany. For example, the German Livestock Association (Bundesverband Rind und Schwein - BRS) claimed the issue of illegal transport of unfit cows to be of minor importance, which is the reason for not undertaking extensive monitoring.

#### **4.1.8 Are competent authorities lacking resources, knowledge, competence, organisation, tools to address the issues?**

<b>Findings</b>	<ul style="list-style-type: none"> <li>• Overall, the evidence is mixed and inconclusive.</li> <li>• Some evidence of a shortage of resources in veterinary offices limiting the number of inspections that can be carried out, and an insufficient number of mobile check points for journey inspections.</li> </ul>
<b>Extent to which question can be answered</b>	<ul style="list-style-type: none"> <li>• Data available is sufficient to answer the question.</li> </ul>

#### **Summary**

A shortage of resources in veterinary offices, due to competing priorities and low wages, limits the ability of authorised veterinarians to maintain high-quality and impartial controls, and limits the number of inspections that can be carried out. One stakeholder added that these resource issues contribute to situations whereby a veterinarian is often not available to check a cow's post transport condition. Similarly, staff shortages at the Inspectorate of Road Transport result in insufficient numbers of mobile check points, contributing to a lack of inspections.

#### **Overview of evidence**

MSs have to send annual reports to the Commission on their animal welfare performance. Data is not complete, consistent, reliable or sufficiently detailed to draw conclusions on compliance at EU level (European Commission, 2017).

There was no evidence in the literature review at a European level of MS level or through the field research to suggest a lack of resource, knowledge, competence, organisation or tools was an issue. However, this conflicts with the view of stakeholders who report a perceived lack of enforcement (covered under RQ1). It is unclear whether this reflects priorities at MS level or a resourcing issue. An example below from Poland highlights some resourcing issues.

<sup>30</sup> The other 4 slaughterhouses shut in 2018 were located in the municipalities of Hohengoehren, Marezki, Selm and Mecke.

<sup>31</sup> Interview with SOKO Tierschutz

<sup>32</sup> Kreiszeitung Wochenblatt (2019), "Soko Tierschutz" deckt burtale Tierquaelereien auf Duedenbuetteler Schlachthof aud

A severe shortage of resources in veterinary offices, mainly due to low wages, poses a limit to the number of inspections that can be carried out. This, together with the need to deal with other priorities, significantly affects the ability of official veterinarians to properly supervise the work of private veterinarians. Additionally, a lack of central training for authorised veterinarians was perceived by some stakeholders to further reduce the quality, consistency and impartiality of controls<sup>33</sup>. In agreement with this report a Polish stakeholder identified that there is a shortage of veterinarians which can result in a situation where a veterinarian may not always be present when the animals are arriving to a slaughterhouse in order to check what is their post transport condition. The Inspectorate of Road Transport also face staff shortages which means that they have short working hours (usually until 15.30) and that there are not enough mobile check points.

There is compelling evidence from Italy that increasing the controls (and fines) for the transport of unfit cows, including inspection of slaughterhouses and transport vehicles, has been effective in changing perceptions of risk and has resulted in the number of emergency slaughters on farm increasing significantly as an alternative to transport of unfit cows. This relies on fully resourcing the approach at each stage.

#### **4.1.9 Are there examples of breaches of legislation, when, why and how did the breaches take place?**

<b>Findings</b>	<ul style="list-style-type: none"><li>• A number of breaches have been identified, particularly in Poland and Spain.</li><li>• In Poland, there is evidence to suggest scandals may result in improvements regarding the transportation of unfit end-of-career cows.</li><li>• Problems regarding on-farm emergency slaughter have been identified in Spain, such as a lack of performance monitoring of veterinarians performing inspections.</li></ul>
<b>Extent to which question can be answered</b>	<ul style="list-style-type: none"><li>• Data available is sufficient to answer the question.</li></ul>

#### **Summary**

Although quantitative data was not available across all MSs, a number of breaches, varying in notoriety, have been identified. In Poland, the evidence suggests the reporting of scandals may result in improvements regarding the transportation of unfit cows. However, there is still room for progress. Breaches of legislation in Spain seem to be more acute in international transport, and problems with on-farm emergency slaughter were identified by DG SANTE, such as the veterinarians carrying out inspections not being classified as officials nor being properly monitored.

#### **Overview of evidence**

Various instances of transport of unfit cattle have been uncovered in Poland in the past few years. Slaughtering of sick cattle was found in an abattoir near the city of Ostrow Mazowiecka (north-eastern Poland). The activities took place during the night to reduce the risk of being detected.<sup>34</sup> Similar cases were found near the city of Łódź (central Poland)<sup>35</sup> and in the region of Mazovia (central Poland), where no

<sup>33</sup> European Commission (2019), Final report of an audit carried out in Poland from 25 March 2019 to 05 April 2019 in order to evaluate the food safety control system in place governing the production and placing on the market of bovine meat, including animal traceability (available at [https://ec.europa.eu/food/audits-analysis/act\\_getPDF.cfm?PDF\\_ID=14729](https://ec.europa.eu/food/audits-analysis/act_getPDF.cfm?PDF_ID=14729))

<sup>34</sup> BBC News (2019), Poland alarmed by sick cow slaughter at meat plant

<sup>35</sup> The owner of the slaughterhouse in Łódź was sentenced to prison in 2018 for these activities.

veterinarians were present.<sup>36</sup> In general, the problem seems to be more acute in areas of the country where access to slaughterhouses is more limited (for example in remote areas).

The 2019 audit by DG SANTE reported that the situation regarding the transport of unfit cattle in Poland has improved after the scandals mentioned above, but there is still room for progress. In particular, the audit highlighted that on-farm emergency slaughter is not yet widely practiced, there is not sufficient awareness about animal welfare issues related to transport of unfit animals, and the assessment of both ante- and post-mortem findings in order to identify animal welfare issues are not sufficiently accurate.

Various reports have been filed in recent years about illegal transport of cattle from Spain to Middle Eastern countries for slaughtering, where some of these cows were unfit to travel due to injuries. Spain being the largest exporter of cattle in the EU, it is likely that many other similar instances go unnoticed.<sup>37</sup>

However, these breaches seem to be more widely spread in international transport, while very few of them emerge on the national territory.<sup>38</sup> The 2021 DG SANTE audit on Spain reported that the arrangements to deliver official controls and enforcement of animal welfare measures are satisfactory, with official veterinarians taking timely and suitable actions where animal welfare issues are identified. However, the audit identified issues regarding on-farm emergency slaughter: the veterinarians performing ante-mortem inspections are not classed as officials and the competent authority does not suitably monitor their performance. Another problem that emerged from the audit is that there is no satisfactory system to provide feedback to official veterinarians that reported animal welfare non-compliances related to cows unfit for transport, not enabling them to follow up on the consequences of their actions.<sup>39</sup>

#### **4.1.10 What are the compliance costs for farmers to prevent such transport? Who is benefitting from existing practices?**

<b>Findings</b>	<ul style="list-style-type: none"><li>• Detailed evidence is limited on compliance costs for farmers, but available data indicates that the decision not to transport unfit cows represents an immediate and tangible cost (for slaughter/disposal), which is balanced against an uncertain future fine or sanction if the cow is transported.</li><li>• Transporting the cow to a slaughterhouse is often cheaper than slaughtering the cow on farm, either via emergency slaughter or with a mobile slaughterhouse.</li><li>• There is limited data on the cost of treating diseases associated with unfit end-of-career cows. However, usually these costs, along with the cost of feed, stockmanship and income forgone from the space that could be used for a cow producing more milk, outweigh the case to retain the unfit cow on farm.</li></ul>
-----------------	---

<sup>36</sup> The Guardian (2019), Secret filming shows sick cows slaughtered for meat in Poland.

<sup>37</sup> Eurogroup for Animals (2020), How much is enough? New evidence shows the suffering of animals exported from Spain to Middle East for slaughter

<sup>38</sup> European Academic interview

<sup>39</sup> European Commission (2021), Final report of an audit carried out of Spain from 18 January 2021 to 29 January 2021 in order to evaluate the food safety control systems in place governing the production and placing on the market of bovine meat, including traceability (available at [https://ec.europa.eu/food/audits-analysis/act\\_getPDF.cfm?PDF\\_ID=15288](https://ec.europa.eu/food/audits-analysis/act_getPDF.cfm?PDF_ID=15288))

Extent to which question can be answered	<ul style="list-style-type: none"><li>• Data available gives an indication of compliance costs, however, it is too limited to respond to this question with full costs across all MS.</li></ul>
--	---

### **Summary**

If farmers do not transport unfit end-of-career cows, they may either slaughter or cull the cow on farm, or treat the cow and try to rehabilitate it. In the former case, it is often cheaper to transport the unfit cow to a slaughterhouse than slaughter it on farm. There were mixed views regarding the importance of the cost of slaughtering or culling cows on farm, and disposing of the carcass, among industry stakeholders in the survey. However, there was more agreement among NCA stakeholders that this is an important driver. Similarly, treating an unfit cow is often considered to be too expensive to retain the cow on farm, especially when combined with other necessary costs, such as the feed and stockmanship required to care for the cow. This suggests the compliance costs for farmers to prevent the transportation of unfit end-of-career cows are too high. However, the data available is too limited to respond to this question fully, across all MS.

While this question was not addressed directly by the evidence, it is likely that the supply chain (from farmer to processor) benefits from transporting unfit cows as they represent additional throughput and economic activity (see 4.1.10).

### **Overview of evidence**

Economic considerations have been identified across all evidence collected as a key driver. In particular the cost of culling the cow on-farm and the loss of financial gain from not selling the cadaver are the main drivers. Compliance costs were identified as:

- Cost of culling / slaughtering the cow on farm.
- Cost of treating the cow and trying to rehabilitate it.

#### **Cost of culling or slaughtering the cow on farm**

Just under a quarter of the sample of industry stakeholders (5 from 21) felt that the cost of culling the dairy cow on farm and disposing of the carcass was an important reason why end-of-career cows are transported. However, about as many disagreed (7 from 21). Eighty percent (20 from 25) of NCA stakeholders felt that the cost of culling the dairy cow on farm and disposing of the carcass was an important driver, while only one NCA stakeholder disagreed. It is unclear why NCAs see cost as a more significant driver than industry and difficult to assess which is most accurate.

If the cow is not transported to the slaughterhouse, it will be culled or slaughtered in one of the following ways:

- **Emergency Slaughter:** The cow is slaughtered on farm by a veterinarian as it is not fit for transport but is fit for consumption and goes into the supply chain. Usually, emergency slaughter is related to injuries in fit cows.
- **Euthanasia on farm:** The cow is not fit for transport or consumption. The cow is euthanised on farm by a veterinarian. The carcass is disposed of as waste.
- **Mobile Slaughterhouses:** The cow is unfit for transport but is fit for consumption. A mobile slaughterhouse visits the farm to slaughter the cow and the cow goes into the supply chain. In the majority of cases identified in this study, a veterinarian is present.

The cost of Emergency Slaughter is higher than the cost of transporting the cow to a slaughterhouse, in all MS.

Detailed data on the cost of emergency slaughter was not identified across all MSs, [Table 1111](#).

*Table 1111 Cost of slaughter or euthanasia on farm*

Country	Emergency Slaughter costs	Euthanasia costs
Poland	Emergency slaughter costs: 110 – 160 EUR Transport to slaughterhouse (inc veterinarian check): 50-70 EUR	Euthanasia cost (veterinarian): 130- 180 EUR Disposal of cadaver: 30-80 EUR
Germany	No data	Euthanasia cost: 80-100 EUR Disposal of cadaver: 20-75 EUR
Denmark	Emergency Slaughter cost plus transport to slaughterhouse (inc veterinarian check): 336 EUR	Euthanasia and disposal of cadaver costs: 100 EUR <sup>40</sup>
Italy	No data	Euthanasia cost: 100 EUR Disposal of cadaver: 20-75 EUR

Even with mobile slaughterhouses, the cost of slaughtering the cow on farm is increased as they process fewer cows than traditional slaughterhouses (5 to 12 slaughters per day against 500 to 800 animals per day for traditional slaughterhouses).<sup>41</sup>

#### **Cost of treating the cow and trying to rehabilitate it**

If the unfit for transport end-of-career cow is not culled or slaughtered on farm, the alternative may be to treat and try to rehabilitate the cow to fitness before transporting. The main disease associated with unfit end-of-career cows is lameness. There is no complete database on the cost to treat this disease. However, in France, Danone have estimated the cost of lameness to be from 8 euros to 400 euros, depending on the severity<sup>42</sup>.

The costs for treatment are also coupled with the cost of feed, stockmanship (if the cow is very unfit it may need to be fed and watered by hand) and income forgone from the space which could be utilised for a fitter cow producing more milk. Often these costs are deemed too much to retain the cow on farm as described by a German farmer representative in the qualitative interview *'Farmers do not make much money from downer cows, 20-50 euro per downer cow, but in most cases, this is more profitable than having to continue to look after the cow.'*

#### **4.1.11 Who in the supply chain are drawing revenue from the transport of unfit end of career dairy cows to slaughterhouses?**

<b>Findings</b>	<ul style="list-style-type: none"> <li>• The financial gain from slaughtering an unfit cow, especially if coupled with a low perceived risk of deterrence, can result in all stakeholders within the supply chain drawing revenue from the transportation.</li> <li>• If fines are sufficient to deter this activity, or the unfit animal is not accepted, there is no revenue to be shared.</li> </ul>
-----------------	---

<sup>40</sup> Converted from DKK

<sup>41</sup> [https://www.europarl.europa.eu/doceo/document/E-9-2020-006912\\_EN.html](https://www.europarl.europa.eu/doceo/document/E-9-2020-006912_EN.html)

<sup>42</sup> Danone, Programme bien-être animal - un guide pratique pour les producteurs

<b>Extent to which question can be answered</b>	<ul style="list-style-type: none"><li>• The question can be fully answered at a high level but there will be many variations across and within MS and individual supply chains that could not be captured.</li></ul>
---	--

### **Summary**

The financial gain from slaughtering an unfit end-of-career cow, combined with a low perceived risk of deterrence, appears to be a major driver contributing to the transportation of unfit cows. When sanctions are avoided, all stakeholders within the supply chain can draw revenue from the transportation. Ultimately, value is extracted from the market by the processor to provide a return and cover the costs of the animal, transport and slaughter; it is likely that processors retain the greater share of the revenue but there is no evidence to support this assertion.

If fines are sufficient to prevent transportation, or the abattoir or market does not accept the unfit animal, there is no revenue to share along the supply chain.

### **Overview of evidence**

Eighty percent (20 from 25) of NCA stakeholders felt that the cost of culling the dairy cow on farm and disposing of the carcass was an important driver, although a much lower proportion of industry stakeholders agreed (5 from 21). In contrast, over half of the sample of industry stakeholders (13 from 21) felt that the financial gain for slaughtering the cow and entering into the supply chain was an important reason why end-of-career cows are transported, and over ninety percent of NCA stakeholders (23 from 25) agreed. In practice it is the combination of these drivers that provides an incentive for some farmers, in collaboration with transporters and processors, to transport unfit cows.

All elements of the supply chain can gain from the illegal transport of unfit dairy cows, where this is organised. Abattoirs pay considerably less for cows, transporters secure a fee and farmers avoid the cost of on-farm slaughter, alongside a nominal value for the animal. If the abattoir or market does not accept the unfit animal, there is no revenue to share along the chain. Fines represent an additional disincentive but are contingent on rigorous and regular inspections.

Where fines are applied at farm level, these are commonly in the range of 1000-5000 euros (see [Table 1214](#)) and represent a reasonable deterrent, where the risk of sanction is high. It is the perception that this risk is low, where transporters and processors are benefitting from the trade in unfit cows, that provides an incentive for farmers to continue the practice. Where sanctions are avoided, all parties share in the economic gain from transporting and processing unfit end of career dairy cows.

#### **4.1.12 Do current economic model(s) contribute to the problem of illegal transport? To what extent?**

<b>Findings</b>	<ul style="list-style-type: none"><li>• Low returns across the dairy sector increases the risk of non-compliance, both in terms of the breeds used and the focus on milk production, and avoidance of costs associated with on-farm slaughter.</li><li>• Other factors, such as the trend towards increased indoor housing, may result in more cows being unfit. This, coupled with the financial aspect, may contribute to more cows being transported.</li><li>• There is no consistent evidence that high or low input systems, or pasture vs. house-based systems lead to higher prevalence of unfit cows <i>per se</i>.</li></ul>
-----------------	--



Extent to which question can be answered	<ul style="list-style-type: none"><li>• No empirical studies were available which considered the role of economic model(s) in contributing to the problem of illegal transport.</li><li>• The question cannot be answered.</li></ul>
--	--

### **Summary**

Economic models for milk production may contribute to the transportation of unfit end-of-career cows as the focus on milk production results in low carcass values, making it less economically viable to slaughter cows on farm due to low returns. Other aspects of the economic model may also include increased indoor housing, insufficient labour resources, and low cost in pasture-based systems leading to nutritional stress. All these factors can result in low animal welfare and a greater prevalence of unfit cows. This may incentivise illegal transport where those in the supply chain are prepared to risk non-compliance. However, there is a lack of data on the role of economic models and the transport of unfit cows.

### **Overview of evidence**

In answering this question, it is assumed that the 'economic model' refers to the milk production system, comprising the supply chain from farmer to retailer, but also including those stakeholders who influence the system, including advisers, veterinarians, NCAs and others. Fundamentally the model is a supply-demand relationship with processors and retailers setting the basis for buying milk, specifying standards for production, including animal welfare and milk quality and setting a pricing schedule accordingly. All farmers will be required to meet animal welfare standards set and enforced by the NCA but some buyers may opt to require higher standards. In all cases, farmers have a choice about how they wish to produce milk, including choices on cow breed, herd size and milk yields, housing and management but most will aim to make a living from farming. The milk price is critical in influencing the scale of economic returns and is effectively set by processors and retailers, who often compete with each other in their value offer to consumers.

There is no single economic model for milk production across the EU. The dominant model is for increasingly large herds of specialist dairy cows, bred to produce milk, with limited focus on other traits such as end-of-life value for meat, or longevity. In some MS there is also a trend to increased indoor housing, including all-year housing. While well-designed modern dairy units with adequate labour resources can deliver good animal welfare, many units have expanded in ageing infrastructure and without taking on additional labour. In the stakeholder workshop, one participant reported 'indoor housing issues - poor facilities for resting, concrete slatted flooring, dirty conditions 24/7 indoor housing'. In these circumstances, the risk disease or injury are increased. Even outdoors, larger herds require cows to walk further to the milking facilities and this can increase stress and injury incidence. Further, there is often an emphasis on low cost in pasture-based systems, which can put cows under nutritional stress.

Using dairy cows bred for milk with little emphasis on meat also means that the carcass value of the end-of-life cows is low, even where they are healthy. This has implications for the economics of on-farm slaughter and explains, in part, why that is uncommon.

Greater prevalence of unfit end of life cows (in the European herd) will contribute to the problem of illegal transport where farmers and others in the supply chain are prepared to risk non-compliance. Data on transport of unfit cows is limited and uneven across MS and there is no evidence to answer to what extent overall incidence has increased and if so, how the economic model has contributed.

#### **4.1.13 To what extent is illegal transport of unfit end-of-career dairy cows associated with pasture-based/confinement-based, intensive/extensive models of dairy production?**

There is considerable heterogeneity between seemingly similar production systems with the extremes being total confinement indoors year round to outside on pasture only year round. In total confinement systems, cows are housed indoors, have no access to pasture and are generally fed a total mixed ration (TMR) or zero-grazed. In semi-confinement systems, confinement indoors is combined with an outdoor area for part of the day but this may be a small area of pasture or a concrete pad, accessible by cows primarily for loafing or exercise. Confinement systems encompass tie-stall, cubicle (also known as freestall) and straw bedded loose housing systems. In pasture systems where cows are housed during the winter they are generally kept in the same types of housing.

Generally, milk production is higher in confinement systems; cows on pasture produce 19% less milk than those in confined housing (Fontaneli et al., 2005). Lower milk production at pasture is primarily driven by lower feed quality and quantity and therefore energy intake, as well as increased activity, confounded by differences in cow genetics. While there are considerable problems for cow welfare associated with high levels of milk production (Oltenucu and Broom, 2010) lower milk production in pasture based systems cannot be considered an indicator of good cow welfare (Mee and Boyle, 2020). Indeed, there is emphasis in pasture-based systems on maximising yield of milk solids per hectare by increasing stocking densities, so that even though milk output per cow may be reduced, milk production per hectare increases (Coffey et al. 2018). This shift in emphasis from maximising performance in the individual animal to the performance of a unit of area is a typical feature of intensive animal production (Fraser 2001) and is not without welfare considerations for dairy cows in pasture-based systems (Mee and Boyle, 2020).

Comparisons between all of these systems with regard to dairy cow welfare are confounded by differences in milk production, nutrition, genetic selection, breeding pattern, automation or precision dairy farming, stocking density, exercise, climatic exposure and herd size. There is no consistent evidence that high or low input systems, or pasture vs. house-based systems lead to higher prevalence of unfit cows *per se*. All systems can protect cow welfare if well managed. Some 70% of stakeholders agreed with this statement.

This was also reflected in the research conducted, including the quantitative survey. Where participants considered if pasture-based or housed systems had an impact on the extent of the illegal transport of end-of-career cows, a large percentage selected "don't know" (22%) or neither agree nor disagree (30%). This inconsistency in results was also true for the extent to which high density or low-density systems have an impact on the illegal transport of end-of-career dairy cows. A larger number of participants agreed (33%) than disagreed (13%) that housed systems have a larger proportion of unfit end-of-career cows.

In agreement with the mixed view from the quantitative survey, the qualitative interviews from French, Polish and European stakeholders, felt there was very little difference in the extent of illegal transport of unfit end-of-career cows in high density or low-density farms or housed or pasture-based systems.

*'In particular there is no clear evidence on systematic differences between pasture-based or confinement-based, intensive or extensive models of dairy production.'*

Polish industry representative.

A couple of examples were provided on how the systems may impact on the extent of illegal transport. An Irish farmer representative felt that more high-density farms could cause overcrowding or longer walks, which could increase lameness. In comparison, a European NGO and Polish industry representative felt the issue could be

more related to smaller farms, as the economic value of an individual cow is more significant to their overall business than in larger farms.

*'value for their animals, [they] have less contracts in place or less, you know, routine kind of agreements and so on...It's more kind of family owned so you know friend knows friend that says they can take the animal and so on.'*

European NGO stakeholder.

**4.1.14 To what extent is illegal transport of unfit end-of-career dairy cows associated with suitability of cattle breed for the system/environment. Including the suitability of the farm practices used for the type of breed and its environment, for example, additional nutrition and resources.**

<b>Findings</b>	<ul style="list-style-type: none"> <li>No context was highlighted as particularly relating to increased transport of unfit end-of-career dairy cows.</li> </ul>
Extent to which question can be answered	<ul style="list-style-type: none"> <li>The current evidence would suggest the different contexts explored do not have a significant impact on the extent to which illegal transport of end-of-career cows takes place.</li> <li>More detailed evidence with large scale data sets would be needed to understand the nuances of different contexts.</li> </ul>

**Summary**

No context was highlighted as particularly relating to increased transport of unfit end-of-career dairy cows. However, high density, and housed systems were raised as the systems where the issues of transport of unfit end-of-career cow may be more prevalent. In addition, the transport of unfit end-of-career cows may be associated with short distance travel.

**Overview**

Research sub-questions relating to the extent the illegal transport of unfit end-of-career dairy cows are associated with different contexts have been joined to provide an overview and allow for comparison. This includes the following elements of context:

- Size of slaughterhouses.
- Distances travelled.
- Breed of cow.

**Size of slaughterhouses.**

There is no evidence to suggest that the size of transporters of slaughterhouses is related to the extent of the illegal transport of unfit end-of-career dairy cows. There is not published evidenced that included this comparison. The quantitative survey with the NCAs and industry representatives (*Figure* ) highlighted that there was very little difference in the number of people who agreed or disagreed with the statement that 'unfit dairy cows tend to be transported to smaller abattoirs rather than bigger ones.'

During qualitative interviews the size of slaughterhouses was raised as a potential issue in Germany by one stakeholder who believed smaller slaughterhouses may be associated with higher levels of acceptance of unfit for transport end-of-career cows. by participants.

**Distances travelled.**

There is no published evidence that considers if the distances travelled to the slaughterhouse influence the extent to which unfit of end-of-career dairy cows are illegally transported. The quantitative survey for NCAs and industry stakeholders the majority selected that they neither agreed nor disagreed with the statement that 'unfit dairy cows tend to be transported longer distances than short distances'

Again, there was no overwhelming consistent agreement in qualitative interviews, however, three stakeholders interviewed at a European level felt that the illegal transport of unfit end-of-career dairy cows may be more associated with short distance transportation. This is in line with the evidence collected on borderline cases.

*'Problem with end of career animals is that normally they are transported in shorter distances and there's less control. When it's long-distance transport, they need to go and check animals during loading and unloading.'*

European NGO interview

### **Breed of cow.**

Initial interviews in the inception phase raised that often it was not the environment of the cow alone that had an impact on the cow becoming unfit by the end of their career, but the appropriateness of the environment to the breed of the cow. This was raised by a number of stakeholders who were interviewed. A German farm representative estimated that 90% of "downer cows"<sup>43</sup> are Holstein Friesian which are bred for milk productivity, although this is the dominant breed in any case. In addition another stakeholder described putting breeds such as Holsteins into conditions which were mountainous and sub-optimal for the breed would be the same as driving a "Ferrari" on poor roads, often leading to an increased level of health issues.

In addition to selecting the right breed of cow for the farm system, throughout the qualitative interviews drivers of unfit end-of-career cows included; poor stockmanship, prevention of wounds and supporting quick recovery of illness.

*'The issue is related to prevention, avoiding wounds. In order to value the animal at the end of career, farmers used fattening method by improving the food ration. it allows to keep the animal in better health.'*

French farming representative

---

<sup>43</sup> A colloquial term for unfit end-of-career cows.

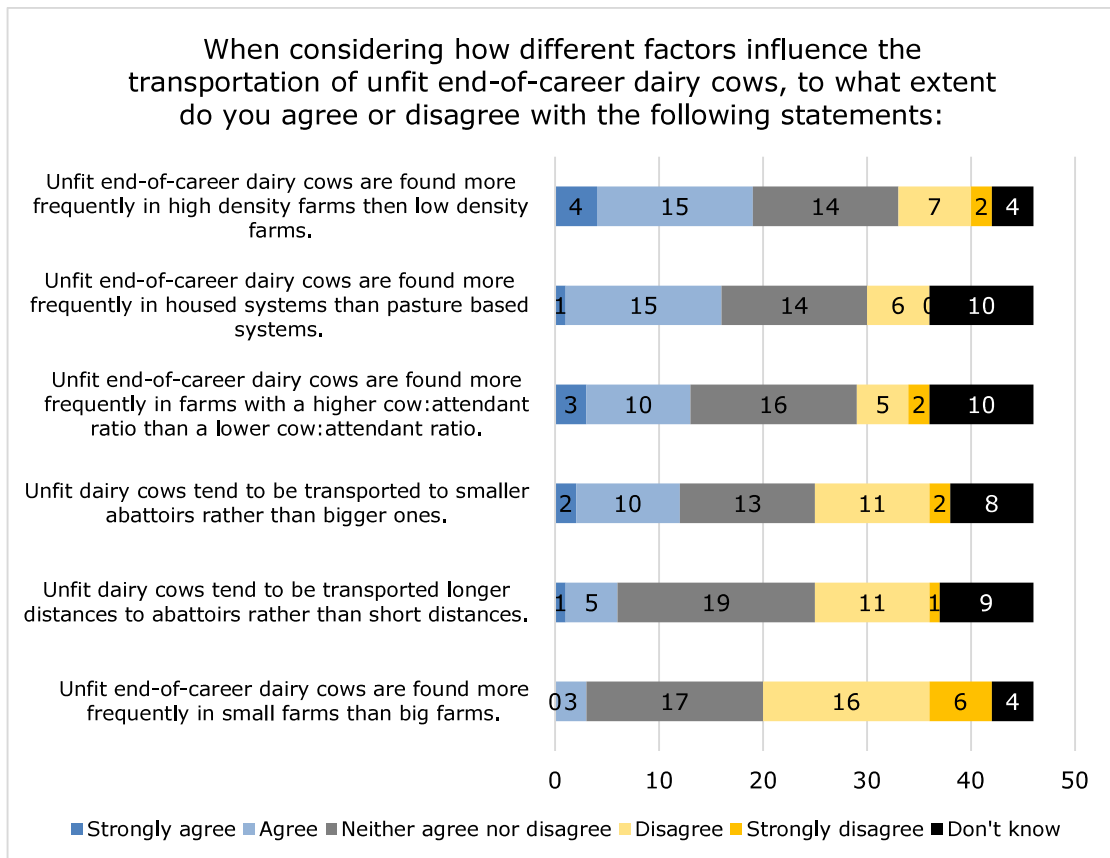


Figure 11 Factors which have an influence on the extent of the illegal transport of unfit-end-of-career dairy cows. N=46

## 4.2 Measures put in place

### 4.2.1 Which measures have been taken by the dairy industry to reduce the number of unfit dairy cows at the end of their career and to prevent their transport to slaughterhouses? Which are the rationales for mitigation measures? Which stakeholders have promoted the adoption of these measures (including assurance schemes and supply chains)? Why? (explore motives)

<b>Findings</b>	<ul style="list-style-type: none"> <li>Measures identified to decrease the number of cows becoming unfit for transport included initiatives to improve animal welfare and training for farmers and cow handlers.</li> <li>Quality assurance schemes may reduce illegal transportation as farmers must comply with the schemes' welfare conditions and welfare information is made available to all stakeholders in the supply chain.</li> </ul>
Extent to which question can be answered	<ul style="list-style-type: none"> <li>There is a lack of data on the scale of illegal transport of end-of-career dairy cows which makes understanding the effectiveness of actions difficult.</li> </ul>

#### Summary

Actions taken by the dairy industry to reduce the number of unfit dairy cows at the end of their career, and to prevent their transportation to slaughterhouses, tend to focus more broadly on the welfare of dairy cows and decreasing the number of cows that become unfit at the point of transport<sup>44</sup>. For example, quality assurance schemes, either run solely by the industry or with the government, may reduce illegal transport. Farmers can receive support and potentially increase their market in return for complying with the scheme's welfare conditions. The schemes may allow all stakeholders (including consumers) within the supply chain to monitor welfare information. Alternatively, measures to increase the awareness of the issues were frequently identified by industry stakeholders<sup>45</sup>. This may be done via best practice guidelines, which are some of the most widespread mechanisms already in place.

#### Overview

##### **Actions by industry to reduce the number of cows becoming unfit for transport by the end of their career.**

As highlighted in Section 3.2, Sumner. et al. (2018) suggest that cooperation and partnering between farmers and veterinarians is essential to improve and sustain welfare improvements. There is indicative evidence from exploratory interviews that this may have contributed to some progress in Italy and France. However, Sumner et al. also highlight a barrier pertaining to a lack of commitment (from stakeholders) to implementing action plans. Lundmark. et al. (2018) suggest frequent inspections, with frequency determined by a risk classification system, as a mechanism for tackling non-compliance.

<sup>44</sup> **Validation Survey:** 'Actions taken by the industry tend to focus more broadly on the welfare of dairy cows and decreasing the number of cows that are becoming unfit, for example through assurance schemes and awareness raising activities' (N=33). **63.6% agree (N=21)**, 2.1% disagree (N=4), 24.2% don't know (N=8).

<sup>45</sup> **Validation Survey:** 'The most common actions taken by the industry to address the problem of the transport unfit end-of-career cows include information sharing and assurance schemes' (N=33). **57.6% agree (N=19)**, 12.1% disagree (N=4), 30.3% don't know (N=10).

Early consultations with experts highlighted that they felt that NCAs may have limited flexibility to change things, but veterinarians/advisors and dairy firms have; success stories such as Italy's suggest that enrolling veterinarians in their initiative to decrease poor or fraudulent Veterinarian certificates made a difference. All experts consulted in the inception phase noted that national assurance schemes (usually run by the industry or a mix of the industry and government) and other programmes are likely to have some influence on dairy cattle animal welfare.

The Industry quantitative survey identified initiatives to improve animal welfare (47%), providing training for farmers and dairy cow handlers (47%) and developing tools to support farmers to maintain the fitness of dairy cows (42%), Figure 129.

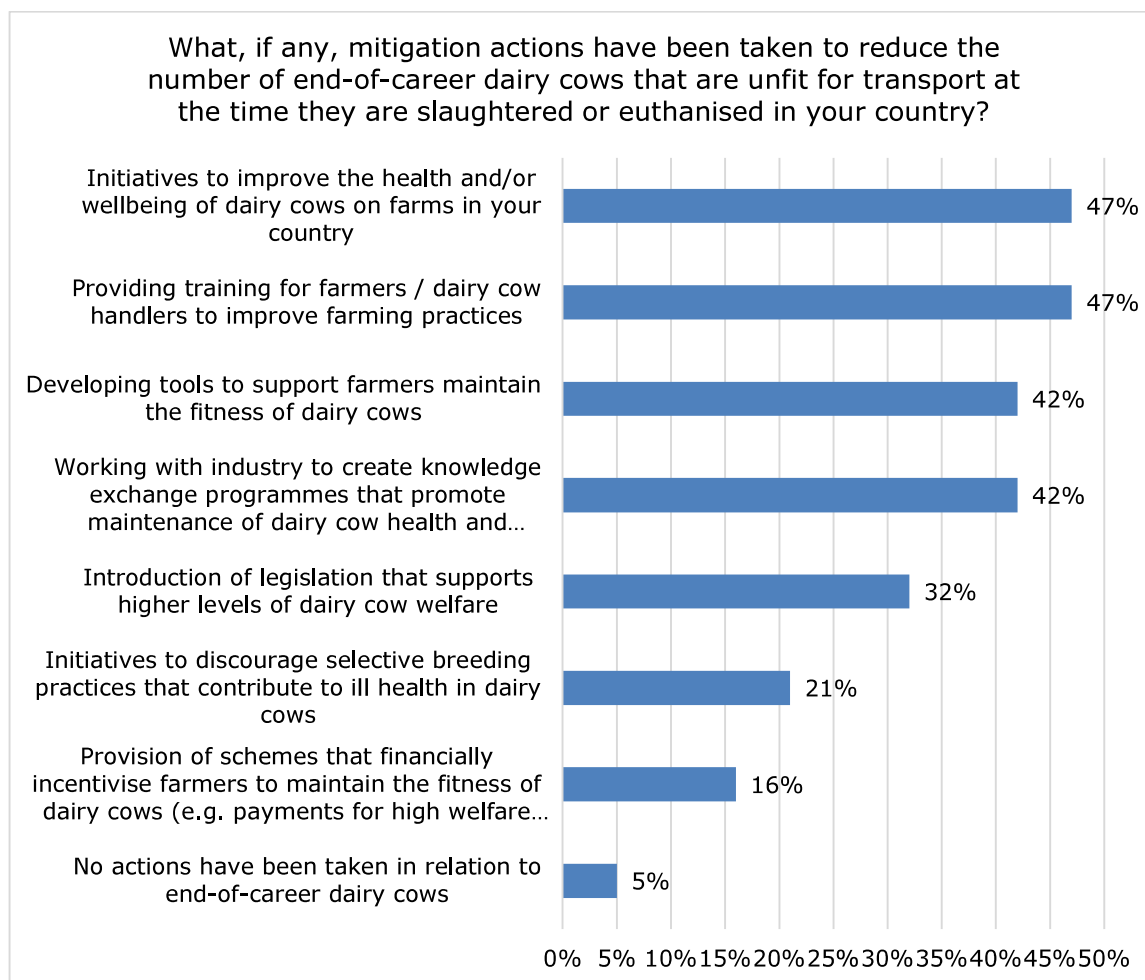
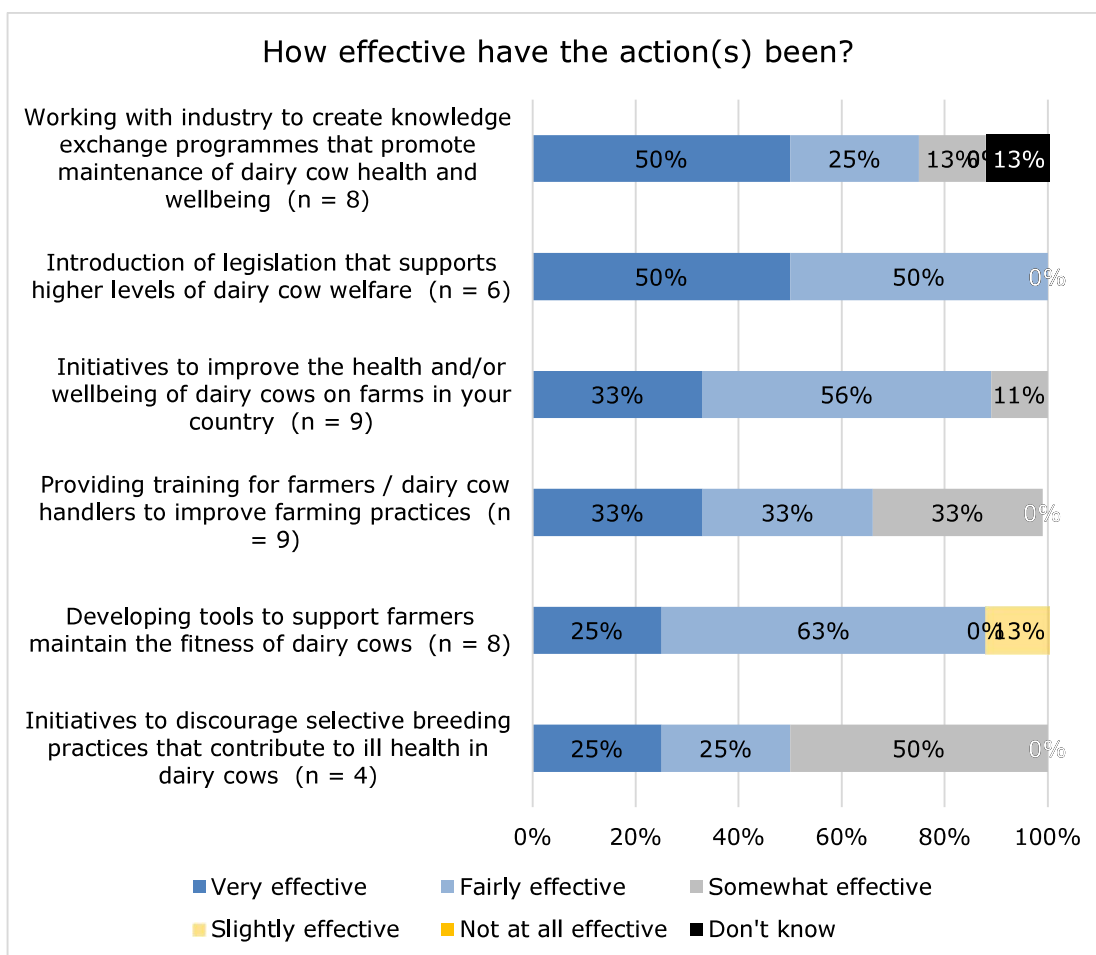


Figure 129 Mitigation actions taken by the industry to reduce the transport of end-of-career cows (n=19)

Quality Assurance schemes are optional for farmers but they can increase their market or market value by participating in these schemes. As part of their participation, they are required to comply with conditions identified in the scheme but they are likely to receive support from these programmes, either through advice or increasing the value of their product. Stakeholders highlighted that herd health plans are often promoted through Quality Assurance schemes and there is a significant opportunity for these schemes to increase their role in reducing the number of cows becoming unfit for transport by the end of their career. Private standards schemes having frequent communication with farmers and being able to easily collect relevant data from each farm. However, dairy farmers are often connected with dairy schemes, therefore the end-of-production meat is not their priority.



*Figure 13 10 Effectiveness of actions taken by the industry*

Similarly, Sumner et al (2018) in investigating farmer and veterinarian perspectives regarding dairy cattle welfare suggest increased cooperation between veterinarians and dairy farmers is crucial to align knowledge and incentives. McDermott & McKeivitt’s (2015) analysis of the operation of OFES of bovine animals in the Republic of Ireland also identifies gaps in knowledge among stakeholders regarding the process OFES.

#### **4.2.1.1 Assurance schemes and key industry initiatives**

The evidence review highlighted several schemes across different countries (Euroday 2019):

- Finland: Naseva Health. Naseva Health is a voluntary registry maintained at a national level by the dairy industry and slaughterhouses. This allows all the actors along the cattle supply chain – farmers, slaughterhouses, veterinarians and other partners – to develop and monitor information related to animal health and welfare and food safety. The initiative covers 75% of dairy farms in Finland.
- Italy: IZSLER-CReNBA. This welfare assessment system for dairy cattle was developed by the Italian National Animal Welfare Reference Centre (CReNBA). Veterinarians examine the cattle based on indicators for lameness, skin lesions and udder health.
- Austria: AMA and QS Kuh. This programme ran from 2015-2019 and focused on measures for welfare of dairy cows particular at birth. There is an assessment plus educational events and consultation.



- Sweden: 'Ask the cow'. The initiative was introduced in 2010 as one of Växa Sweden's advisory animal welfare services. It presents dairy farmers a reliable overview of the strengths and weaknesses of their management system, providing a starting point to improve both animal welfare and profitability. A random sample of cows are assessed by trained assessors, both at individual and group level. Parameters observed are for example cleanliness, body condition and lameness. The results are presented in a flower diagram where each petal represents a parameter. Based on the results of the assessment, the assessors provide the farmers with suggestions on potential improvements to the cattle condition.
- Netherlands: KoeKompas welfare monitor. This is a similar initiative to the Swedish 'Ask the cow' initiative; KoeKompas monitors the condition of the cows and displays the results of the assessment on a spider diagram.

Additional, examples were highlighted through the quantitative survey and qualitative interviews and discussed in more detail below. Assurance schemes are usually industry lead and encouraged by the intermediary or end supply chains, for example supermarkets. The motivation for these schemes is often public and consumer pressure and fear of animal health and welfare scandals. Although the main promotion is likely to focus on the end supply chain, assurance schemes are often encouraged by government bodies and advisors.

#### **Danone: Animal Welfare Assessment Tool**

Danone, a global food company specialising in dairy and water products, developed an animal welfare assessment tool that has been rolled out in over 14 countries globally. This includes, Belgium, France, Spain, Germany, Poland, Romania, South Africa, Egypt, Algeria, Russia, Mexico, Brazil, Argentina and the USA. , including the EU

Danone collaborated with Compassion in World Farming to help develop the tool. The assessment tool is aimed at improving dairy cow welfare. It is a digital tool that can be used on any tablet and it measures key inputs and welfare outcome measures, including lameness and mastitis, which are common conditions experienced by dairy cows. The tool creates an individual SMART action plan for improvement, based on the data that has been inputted. By the end of 2020, over 400,000 dairy cows had been assessed using the tool, which allowed farmers to implement welfare improvements and provided data to benchmark Danone farms against each other. Danone received a special recognition award for innovation in 2021<sup>46</sup>.

---

<sup>46</sup> <https://www.compassioninfoodbusiness.com/awards/marketing-innovation-awards/best-innovation-award-2021/>

Additionally, Danone have published a guide to animal welfare, which aims to raise farmers' awareness of animal welfare, to support farmers to gain recognition for improving animal welfare and to improve milk production. As part of this they have a focus on meeting animals' needs during transport section, including a section on the management of end of life and slaughter practices on farm, Figure 1411.

### MEASURES TO IMPLEMENT

In many cases animals need to be transported over short or long distances. In all cases, drivers and handlers should be well trained to avoid unnecessary stress during transport. The vehicles must be suitable, in good condition, regularly cleaned and disinfected.

#### DID YOU KNOW?

- ▶ The vast majority of cattle are bruised during loading and transport.
- ▶ Feed and water deprivation for 14 hours results in vigorous attempts by cattle to obtain feed and water.
- ▶ Cattle prefer to remain standing during transport.
- ▶ Sufficient head height for normal head position is very important.
- ▶ Mortality of cattle during road transport increases with the length of the journey.
- ▶ Cattle have considerable difficulty negotiating steep ramps. A maximum ramp angle of 11° would be best for cattle. A maximum of 20° is acceptable, provided the ramp has a non-slip surface.

#### Basic rules for transport

- ▶ Ensure that all domestic transport operations are compliant with national regulations or international (OIE) standards, as guidelines for both domestic and international animal transport.
- ▶ Ensure that vehicles used are appropriate and that animals are not over-crowded.
- ▶ Ensure that all animals selected for transport off the farm are fit enough to withstand the planned journey, without suffering unnecessary pain or distress.
- ▶ For longer journeys, allow sufficient feeding, watering and resting times.
- ▶ For sea journeys, use appropriate ramps or approved slings for loading and unloading.

#### Specific cases for transport

- ▶ Consider the animals' physiological state [e.g. female in peak lactation], as well as the method and duration of the trip when preparing and planning for transport.
- ▶ Transport pregnant animals close to calving with particular care and consideration for their condition. They should not be transported except in an emergency or to improve their welfare, e.g. moved to a different location:
  - To improve transitional nutrition.
  - For closer monitoring during calving.
  - For veterinary care.
- ▶ Prior to transportation, feed every unweaned animal to be transported off the farm at least half of its daily ration of colostrum or milk.
- ▶ Avoid transporting animals that are unable to stand. Emergency humane slaughter should be carried out on-farm.
- ▶ Ensure transport collection areas for young animals provide adequate shelter and comfort and facilitate their handling.

#### Taking delivery of new animals

- ▶ Keep them in a quiet environment with feed and water for an appropriate adaptation time.
- ▶ Pay careful attention to their behaviour.
- ▶ Introduce them into an appropriate group at the appropriate time.

#### STANDARDS ASSESSED DURING DANONE AUDITS

##### Criteria specific to Animal Welfare

- ✓ Animal comfort and unnecessary stress avoidance during transport.

Figure 1411 Danone – Measures to implement included in their Guide to Animal Welfare.

### BoviWell

BoviWell is a cattle welfare evaluation tool that was developed by Pilgrim's, who are an American multi-national food company. The tool was built in collaboration with academics, NGOs and scientific and technical experts.

The tool is rolled out in France and over one thousand dairy farms have been evaluated using the tool, with the ambition to evaluate all dairy farms in the next five years. BoviWell is included in France's National Charter for Good Agricultural Practices.

The tool aims to be completed within 2 hours on farm and collects information on farm profile, farming practices (dehorning, castration, time spent in pasture etc) and technical indicators (animal health, calving conditions etc). Measures are mainly animal based (body scoring, cleanliness, injuries etc) and completed by housing conditions observations, including the watering and area per animal. Results are converted into scores and then classified within the Animal Welfare Five Freedoms.

## Arla

The co-operative Arla have developed the ArlaGarden Farm Management Programme. All farmer owners in Sweden, Denmark, Germany, the Netherlands, Luxemburg, Belgium and the UK must adhere to the requirements of Arlagarden.

As part of the Arlagarden programme, farmer owners are required to complete a quarterly self-assessment form and they will receive an audit by a third party to verify the information provided. A basic audit is performed on all farms with a maximum of three years between audits. As part of the self-assessment form, one requirement is for the farmer to report information on the health and wellbeing of the cow by assessing four indicators: their mobility, cleanliness, body condition and ensuring there is an absence of lesions/abrasions.

This animal welfare initiative combines education, formal auditing and awareness raising. For example, the farmer must consider the welfare of their cows every quarter, at a minimum, and they face the possibility of being inspected based on the information they provide. Additionally, Arla have presented information on the importance for animal welfare and milk production, which helps to engage farmers and provides information on welfare indicators. It provides a selling point for Arla farmers and can increase potential markets.

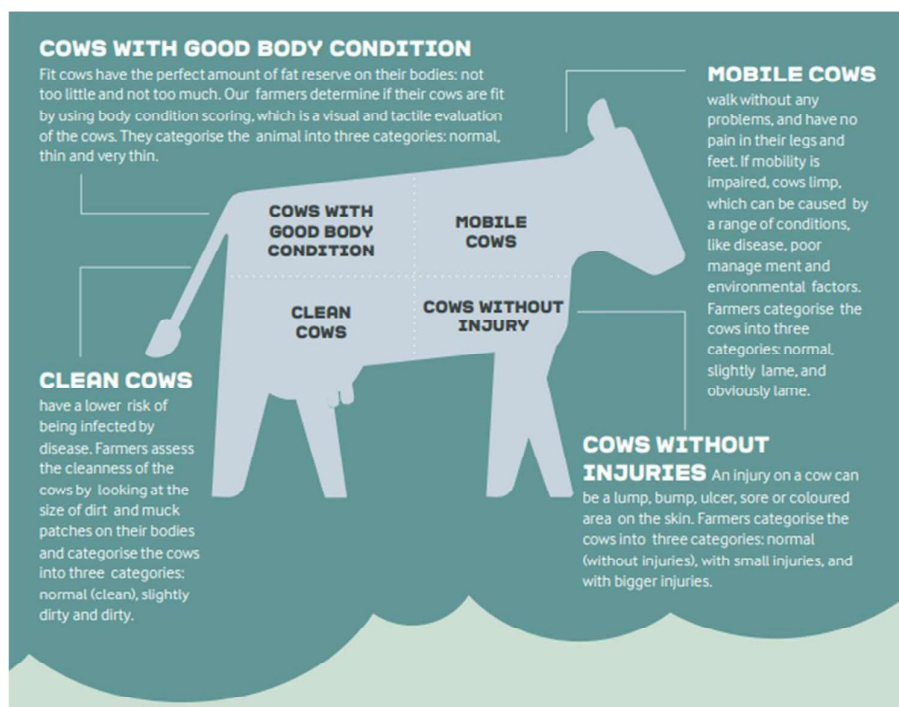


Figure 1512 Arlagarden – Farm Management Programme Animal Welfare Indicators

## Technology: CattleEye

CattleEye is a system that uses technology to monitor the health of cattle in an automated way. It uses AI powered video analytics from cameras set up in milking sheds to evaluate an animal's gait and body condition, to identify early signs of lameness. This reduces the need for human monitoring, as well as reducing the risk of human error. It can also be challenging for farmers to accurately identify lameness, as cows are prey animals and they hide signs of lameness accordingly.

The CattleEye system was developed in 2019 and covers around 20,000 cows, primarily in the UK and the US. Research carried out for CattleEye found that the AI was 80-90% in agreement with two experts when judging which animals were lame. Further, when the animals were checked, CattleEye was slightly more accurate in

identifying the lame cows than its human counterparts.<sup>47</sup> Another study on a farm trialling the CattleEye technology reported a reduction in cows with mobility issues from 25.4% to 13.5% over six months.<sup>48</sup> This suggests the technology can contribute to a reduction in lameness. In turn, this can reduce the number of cows that need to be culled due to lameness and its related impacts (such as lowering milk yield). It could therefore have implications for reducing the likelihood of a cow being transported when it is unfit.

#### **4.2.2 How do industry stakeholders define and identify unfit cows?**

<b>Findings</b>	<ul style="list-style-type: none"> <li>Industry stakeholders define and identify unfit cows differently in different MS.</li> </ul>
Extent to which question can be answered	<ul style="list-style-type: none"> <li>The data is sufficient to respond to the question.</li> </ul>

#### **Overview**

This is covered in section "What do stakeholders consider as an "unfit end-of-career cow"? Is there any difference between: stakeholder groups, NCAs or between stakeholders in different Member States (MS)?"

#### **4.2.3 Which measures have been taken by the authorities to fight illegal transport of unfit end-of-career dairy cows to slaughterhouses and to monitor the situation? What are the measures adopted in slaughterhouses? What are the practices at slaughterhouses to sort animals at arrival?**

<b>Findings</b>	<ul style="list-style-type: none"> <li>If unfit cows are found to have been transported, the most common measures taken by authorities include cautions, warnings, fines and raising awareness of issues with farmers and/or transporters.</li> <li>Measures to reduce illegal transportation include checks on arrival in slaughterhouses and training for farmers to improve farming practices</li> <li>Mobile slaughterhouses have also been piloted in several MS.</li> </ul>
Extent to which question can be answered	<ul style="list-style-type: none"> <li>Data on illegal transport of unfit dairy cows is lacking.</li> <li>Quality and comparable data collected by authorities, veterinarians, and slaughterhouses, is lacking.<sup>49</sup></li> </ul>

#### **4.2.3.1 Summary**

NCAs reported taking several actions on farmers and/or transporters to decrease the transport of unfit end-of-career cows<sup>50</sup>. The most common measures identified, in

<sup>47</sup> <https://www.bbc.co.uk/news/business-59635186>

<sup>48</sup> <https://businesswales.gov.wales/farmingconnect/news-and-events/news/cow-mobility-issues-nearly-halve-welsh-dairy-farm-after-video-monitoring>

<sup>49</sup> **Validation Survey:** 'Understanding the effectiveness of the actions can be difficult as the scale of the transport of unfit end-of-career cows is not readily available in the majority of MS' (N=33). **63.6% agree (N=21)**, 6.1% disagree (N=2), 30.3% don't know (N=10).

<sup>50</sup> **Validation Survey:** 'NCAs tend to focus on decreasing the transport of unfit end of career cows through by increasing monitoring activities, controls, sanctions and fines' (N=33). **54.5% agree (N=18)**, 21.2% disagree (N=7), 24.2% don't know (N=8).

circumstances when unfit cows are found to have been transported during inspections, were cautions or warnings, imposing fines and raising awareness of the issues<sup>51</sup>. However, these measures may be more difficult to impose in certain areas, such as hard-to-access rural areas. NCAs have also been involved in information sharing, particularly around how to identify an 'unfit' end-of-career cow. Additional measures taken by authorities to reduce illegal transportation include checks on arrival in slaughterhouses, the use of mobile slaughterhouses, and training for farmers to improve farming practices. Understanding the effectiveness of the actions can be difficult as the scale of the transport of unfit end-of-career cows is not readily available in the majority of MS. Italy provides an interesting case study where several actions have been put into place to decrease the transport of unfit end-of-career cows which are thought to have been effective.

### **Overview**

#### **4.2.3.2 Actions by authorities to reduce the transport of unfit end-of-career cow.**

The quantitative survey identified increasing awareness (38%), developing tools to support decision making (31%), increasing inspections/monitoring (31%) and providing training for veterinarian (31%), *Figure 1613*. Other actions identified including increasing technology and cameras in slaughterhouse which can facilitate better monitoring and accountability. The stakeholders' perceptions on the effectiveness of actions are captured in *Figure 1714*. However, for the majority of actions the sample was very low.

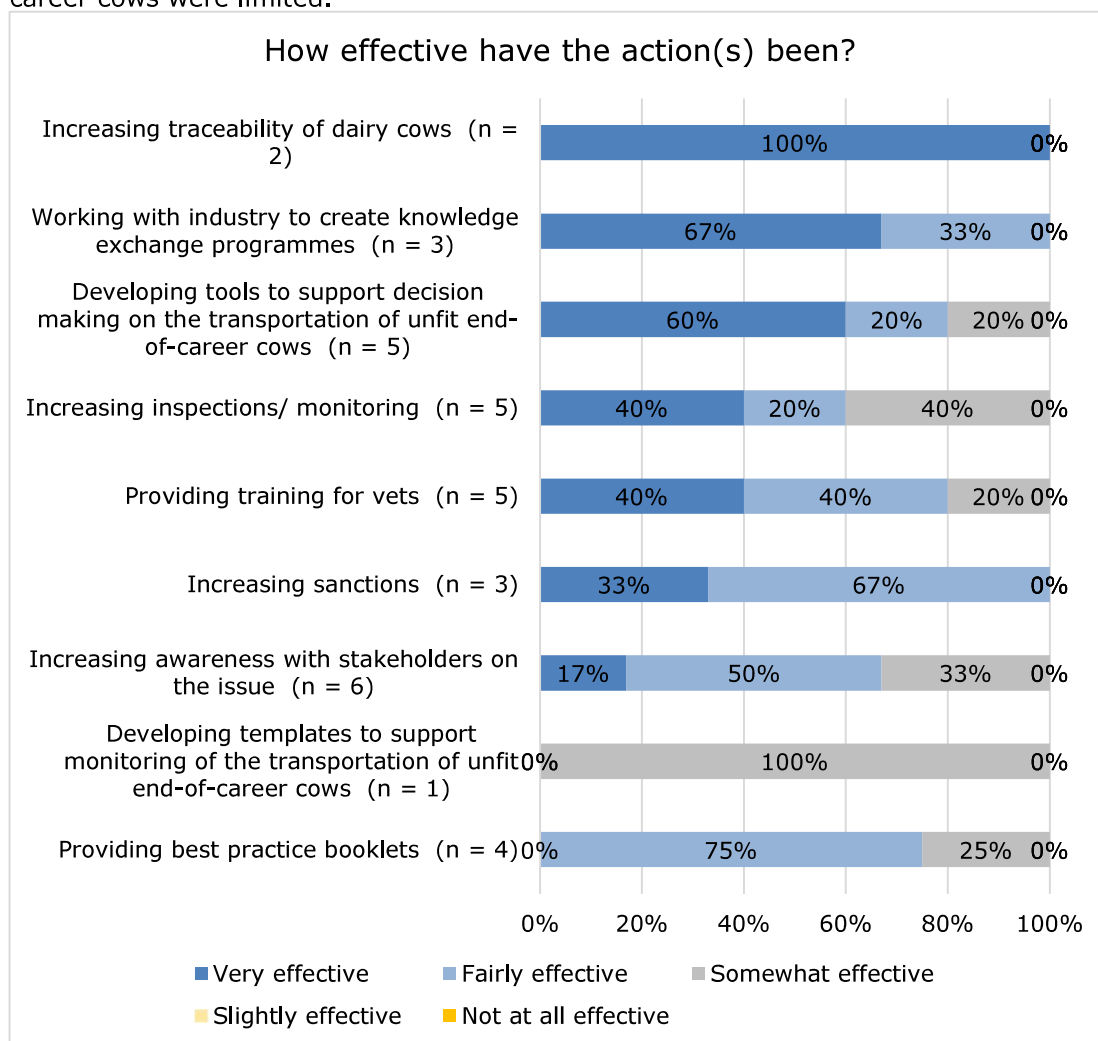
---

<sup>51</sup> **Validation Survey:** 'Understanding the effectiveness of the actions can be difficult as the scale of the transport of unfit end-of-career cows is not readily available in the majority of MS' (N=33). **63.6% agree (N=21)**, 6.1% disagree (N=2), 30.3% don't know (N=10).



*Figure 1613 mitigation actions taken to reduce the number of end-of-career dairy cows that are unfit for transport (n=19)*

Actions identified by industry directly related to reducing the transport of unfit end-of-career cows were limited.



*Figure 1714 effectiveness of industry actions to decrease the transport of unfit end-of-career dairy cows*

#### **4.2.3.3 Guidelines and toolkits**

Increasing awareness on the issues was the most frequently referenced action in the industry survey. Interestingly, it was not deemed the most effective action, however, the sample was very small (n=6) and therefore rating on effectiveness needs to be considered with caution. In agreement with the survey, the qualitative interviews, workshop and literature identified guidelines as the most commonly mechanism already in place.

The European Commission outlines recommendations, developed on the basis of audits conducted in various MS, in its 'Systems to Prevent the Transport of Unfit Animals in the EU' (2015). These recommendations include:

- Production of guidance on minimum conditions of fitness for transport of animals destined for the slaughterhouse;
- National procedures to assist official veterinarians to properly investigate and collect evidence from cases where animals suspected as unfit for transport at the start of the journey arrive at slaughterhouses;
- Use of post-mortem inspection to better identify animals that should not have been transported;

- Concrete procedures for follow-up action, in particular for data sharing so that the different authorities involved work closely together and establish better communication for enforcement action in each case (for notifying and for feedback). This includes standard forms for notifying the competent authorities responsible for sanctions and those responsible for the farm of origin. Equally standard forms should be available to facilitate feedback to the official veterinarian from these recipients;
- Use centralised databases for enforcement, to obtain a better overview of actions taken to address non-compliances and identification of recurrent offenders so that future controls can be better risk based;
- Provide guidance regarding OFES (on farm emergency slaughter) and find mechanisms to decrease farmers' burdens to slaughter unfit animals on farm;
- Good, documented procedures for the arrival of carcasses at slaughterhouses where the animals had undergone emergency slaughter on farm.

Multiple MS have produced guidance and guidelines regarding minimum conditions of fitness for transport of animals destined for the slaughterhouse as well as guidance regarding OFES and animal welfare more broadly. However, resources and procedures to assist and support investigations, follow-up action, enforcement and good documentation appear to be less well implemented.

The research has identified an example of a toolkit which aims to provide stakeholders with the appropriate information to make informed judgements and prevent cows becoming unfit for transport.

The Italian Society of Preventive Medicine published an operative manual on the 'fit-for-transport' conditions of animals with pathologies and the management of downer cows (cited in European Commission - DG Health and Food Safety, 2015). The manual presents:

Illustrations and tables to help identify whether the animals are unfit for transport;

- Suggests killing methods suitable to different levels of experience and of different costs; and,
- Includes a decision algorithm to assess the suitability for the food chain of the carcass of animals slaughtered on farm.

The AHDB operate in the UK and Ireland and they have developed a Mobility Scoring tool that provides farmers with information on how to score their cows mobility. This scoring sheet is part of their 'Healthy Feet' initiative, whereby farmers are encouraged to score their dairy herd once a month to reduce lameness. As shown in the image the information is communicated to farmers in a more narrative way than the German tool, and farmers may benefit from learning more about their animal welfare and assessing the fitness of their herd. Farmers often work in isolation and if they do not see another farmers cows they can be unsure of the level of fitness that is the standard.

It was suggested by stakeholders that tools such as the one shown below are able to educate farmers by providing them with an indication of different levels of unfitness for transport.



HEALTHYFEET AHDB

### Mobility score





Category of score	Score	Description of cow behaviour	Suggested actions
<b>Good mobility</b>			
	<b>0</b>	<ul style="list-style-type: none"> <li>Walks with even weight-bearing and rhythm on all four feet, with a flat back</li> <li>Long, fluid strides possible</li> </ul>	<ul style="list-style-type: none"> <li>No action needed</li> <li>Routine (preventative) foot trimming when/if required</li> <li>Record mobility at next scoring session</li> </ul>
<b>Imperfect mobility</b>			
	<b>1</b>	<ul style="list-style-type: none"> <li>Steps uneven (rhythm or weight-bearing) or strides shortened; affected limb or limbs not immediately identifiable</li> </ul>	<ul style="list-style-type: none"> <li>Could benefit from routine (preventative) foot trimming when/if required</li> <li>Further observation recommended</li> </ul>
<b>Impaired mobility</b>			
	<b>2</b>	<ul style="list-style-type: none"> <li>Uneven weight-bearing on a limb that is immediately identifiable and/or obviously shortened strides (usually with an arch to the centre of the back)</li> </ul>	<ul style="list-style-type: none"> <li>Lame and likely to benefit from treatment</li> <li>Foot should be lifted to establish the cause of lameness before treatment</li> <li>Should be attended to as soon as practically possible</li> </ul>
<b>Severely impaired mobility</b>			
	<b>3</b>	<ul style="list-style-type: none"> <li>Unable to walk as fast as a brisk human pace (cannot keep up with the healthy herd)</li> <li>Lame leg easy to identify – limping; may barely stand on lame leg/s; back arched when standing and walking</li> <li>Very lame</li> </ul>	<ul style="list-style-type: none"> <li>This cow is very lame and requires urgent attention, nursing and further professional advice</li> <li>Examine as soon as possible</li> <li>Cow will benefit from treatment</li> <li>Cow should not be made to walk far and kept on a straw yard or at grass</li> <li>In the most severe cases, culling may be the only possible solution</li> </ul>

Figure 18 The AHDB's Mobility Score Sheet

New Zealand offers a set of best practice guidance specific to the reduction of the problem of transportation of unfit end-of-career cows. The New Zealand Government provides guidelines for farmers, drivers and processors ensuring that good practice, accountability and responsibility is shared across the chain. For example, similar to the EU it is stated that the owner of the cows should check the planned journey. If there is any cause of concern for the animals' welfare, he/she can refuse the transport and request a new journey to be arranged. Drivers have the right, as well as the obligation, to refuse unfit end-of-career cows. Processors must assess the cows on arrival, in order to prioritise processing those at higher animal welfare risk (NZ Government, 2018).

Additionally, the New Zealand government has a website with multiple resources to help educate farmers and transporters. There is a 'Fit for Transport' mobile app that farmers, transporters, stock agents and veterinarians can use to help determine whether an animal is fit for transport. It can be used whilst the decision is being made on farm and it could help to clarify discussions that are ongoing to decide whether to transport animals or not. Figure 1915 below shows an example of three different screens of the app. As shown, the app displays the Animal Welfare Law. The user can select conditions from the list, e.g. eye conditions, and then they move onto information about the condition, shown in the right-hand side image. Also, the app includes contact information to further help the user if they require practical information regarding the decision.

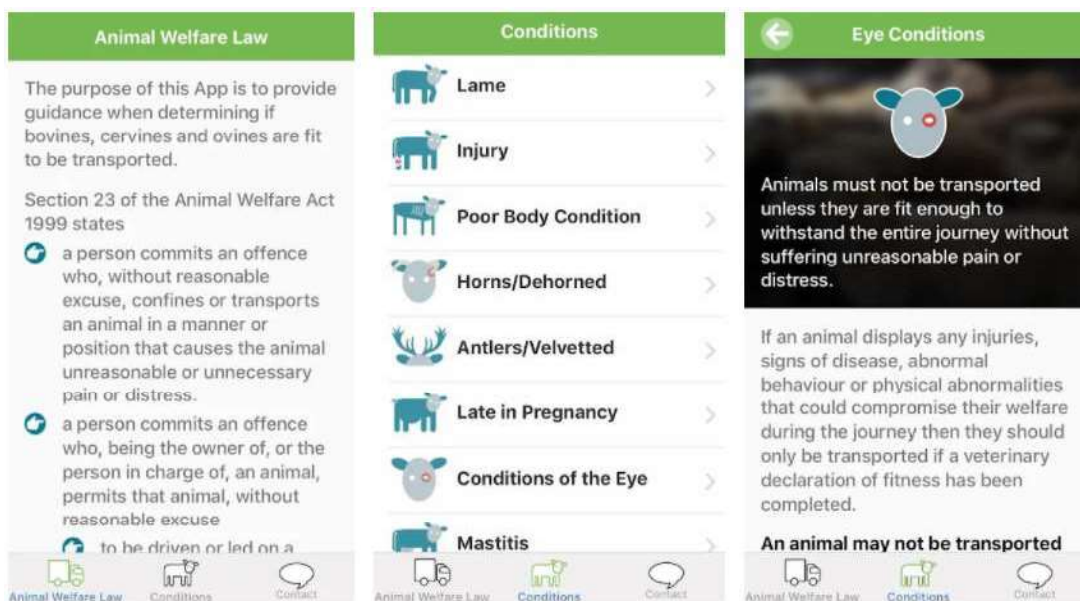


Figure 1915 Image of the 'Fit to Transport' mobile app

Furthermore, New Zealand have a brochure and a poster titled, 'Are your animals fit for Transport?'<sup>52</sup> Included in the brochure is a checklist for transport that the farmer needs to consider before animals are transported.

In Germany the organisation Landkreis Cloppenburg released a guide on how to assess the transportability of cattle. This shows photos of cows in various conditions with a table including a description, an indication of whether they are fit for transport and slaughter through a traffic light system, and what are the necessary measures to be taken<sup>53</sup>, see Figure 2016. A similar guide was published by the local government of the North-Rhine Westfalia region.<sup>54</sup>



Figure 2016 Examples of traffic light system developed by Landkreis Cloppenburg<sup>55</sup>

<sup>52</sup> <https://www.mpi.govt.nz/dmsdocument/1454-fitness-for-transport-guidance-brochure>

<sup>53</sup> Landkreis Cloppenburg (2018), Tierschutzgerechter Umgang mit kranken und verletzten Nutztieren

<sup>54</sup> Landwirtschaftskammer Nordrhein-Westfalen (2019), Leitfaden Transportfähigkeit und Schlachtfähigkeit von Rindern richtig bewerten

<sup>55</sup> Source: Landkreis Cloppenburg, 2018. Note: The headings in the tables translate into (from left to right): 'Findings/Diagnosis', 'Transport', 'Slaughter', 'Measure'.

Eurogroup for Animals, with European partners, produced the Practical Guidelines to Assess Fitness for Transport of Adult Bovines (2012). The purpose of the guide is to help all operators to decide the suitability of an adult bovine animal for transport with the objective of protecting Animal Welfare and Animal & Public Health. The guide provides:

- A summary of the EU legislation;
- Conditions prohibiting transport; and,
- Conditions where further assessment is needed before transport.

To make the guidelines easier to understand and to follow the guide relates only to the conditions under which adult bovine animals are transported; and some conditions described in the text are illustrated by photographs. This guide is cited in the EU Commission Consortium of the Animal Transport Guides Project (2017) Guide to good practices for the Transport of cattle (2017). Qualitative interviews identified that Denmark have a similar guide.

Case study 8 focuses in more detail on guidance provided.

#### **4.2.4 Monitoring, checks and enforcement**

In the event of non-compliance with the requirements (e.g. observed at check points or the animals' destination) of the transport Regulation, it is the NCA's role to enforce them. The Regulation states that immediate action to rectify animal suffering may include:

- changing the driver or attendant;
- temporarily repairing the means of transport so as to prevent immediate injury to the animals;
- transferring the animals or some of the animals to alternative transport;
- returning the animals to their place of departure or allowing the animals to continue to their destination - whichever is in the best interest of the welfare of the animals;
- unloading the animals and holding them in suitable accommodation with appropriate care until the problem is resolved;
- or, where there is no other means of safeguarding the welfare of the animals, they should be humanely killed or euthanised.

The Regulation holds transporters responsible for compliance and indicates that Member States should provide for 'effective, proportionate and dissuasive' penalties in response to infringements. Where infringements are observed, competent authorities should require transporters to remedy breaches and take action to prevent recurrence, subject the transporter to additional checks (including loading animals in the presence of a veterinarian) or withdraw the transporter's authorisation for animal transportation. Driver or attendants may also have any certificates of competence withdrawn. However, individual Member States may interpret and implement this as they see fit (for example, by holding farmers and transporters jointly responsible in scenarios when they are separate entities).

Official veterinarians are required to carry out ante mortem (prior to slaughter) and post-mortem (after slaughter) inspections of animals at slaughterhouses, as set out in Regulation (EU) 2017/625 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products (the official controls Regulation). These inspections are intended to check that the meat is fit for human consumption, that specified risk material has been safely removed, and that the health and welfare of the animal is adequate. In undertaking these inspections, official veterinarians have a role in the enforcement of EU animal welfare legislation, including the animal transport Regulation, as they must assess whether any non-compliances have taken place. Such controls are systematic as opposed to random controls on farm or during transport,

which means they have the greatest potential for detecting issues that would already be visible on-farm (Vanelle 2018).

Additionally, the official controls Regulation requires that inspections are carried out prior to loading animals for long, cross-border journeys to establish their fitness for travel. On such journeys, controls should be carried out to ensure the transporter's journey log is realistic and compliant with the animal transport Regulation, and that the transporter is authorised to carry out the journey. It also requires fitness checks of animals to be carried out at border control posts.

Where instances of non-compliance are identified during these inspections, the official controls Regulation requires that the relevant competent authority carries out an investigation, the controls are intensified for a suitable period and/or animals are detained or slaughtered (providing this is appropriate to safeguard human health and animal health and welfare).

In the Netherlands official controls can identify unfit animals for transport (including requesting video surveillance at slaughterhouses), record those on the system and deliver sanctions (European Commission, 2020a). In Slovenia Official veterinarians play a role through using specific checklists to control animal welfare at transport and at the time of slaughter (European Commission, 2020b).

Veissier (2020) draws attention to the negative perceptions of inspections resulting from disagreements on specific requirements, with both farmers and inspectors often considering the checklist used for inspections as being limited. Furthermore, this study found that some farmers question aspects of the legislated requirements. Resultantly, Veissier (2020) suggests that an increased understanding among farmers about all the requirements may increase compliance and incentives to adhere to them and as such an improved dialogue between farmers and inspection services is required. Through this increased dialogue between stakeholders, it is recommended that farmers should be made aware of the reasoning and evidence behind each of the requirements for the animal welfare. Veissier (2020) goes on to recommend:

Revision of inspection requirements and how they actually promote animal welfare - the negative perception of inspection often comes from disagreements on specific requirements;

- Dialogue between stakeholders to design inspection methods that better fit the purpose of ensuring animal welfare and promote compliance;
- Exchanges of experiences between inspectors and practical training could also reinforce confidence in the practice.

The majority of respondents (73%) from the NCAs who completed the quantitative survey selected that there was an official policy in their country which outlines the action to be taken in the event an unfit end-of-career cows are found to have been transported, *Figure 2117*. Case Study 6 focusses on sanctions and controls. The majority of official enforcement was not specifically for end-of-career cows, but more broadly associated with any unfit cow. The enforcement included:

- An official warning,
- Fixed penalty notice or compliance notice.
- Inspections on farm.
- Euthanasia of the cow.
- A cross-divisional Animal Welfare Report is completed and uploaded on a database which usually triggers an inspection on farm.

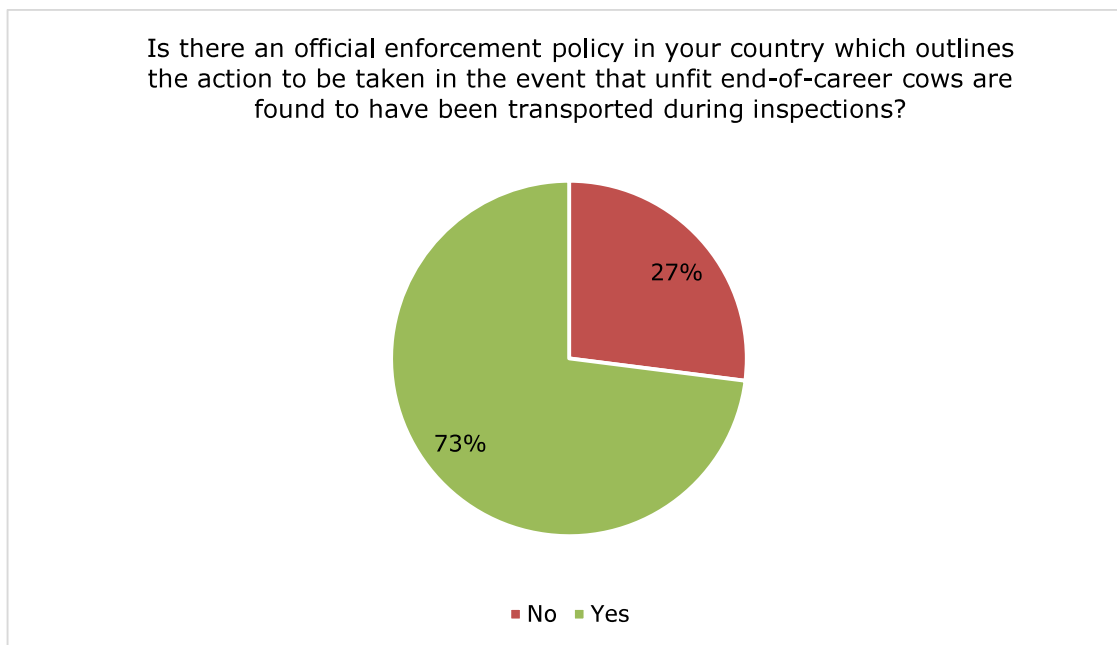


Figure 2117 Official enforcement policy across EU MS. n=21

Of the nine MS where more in-depth research took place, eight of the nine MS responded to the quantitative survey. Only Spain suggested they did not have an official enforcement policy which outlines the action to be taken in the event that unfit end-of-career cows were found, Figure 2117. However, when asked on the actions taken, they listed a number of actions. It is therefore difficult to know if the respondents replied focusing on if the country has a specific policy for unfit end-of-career or a more general policy for unfit cows.

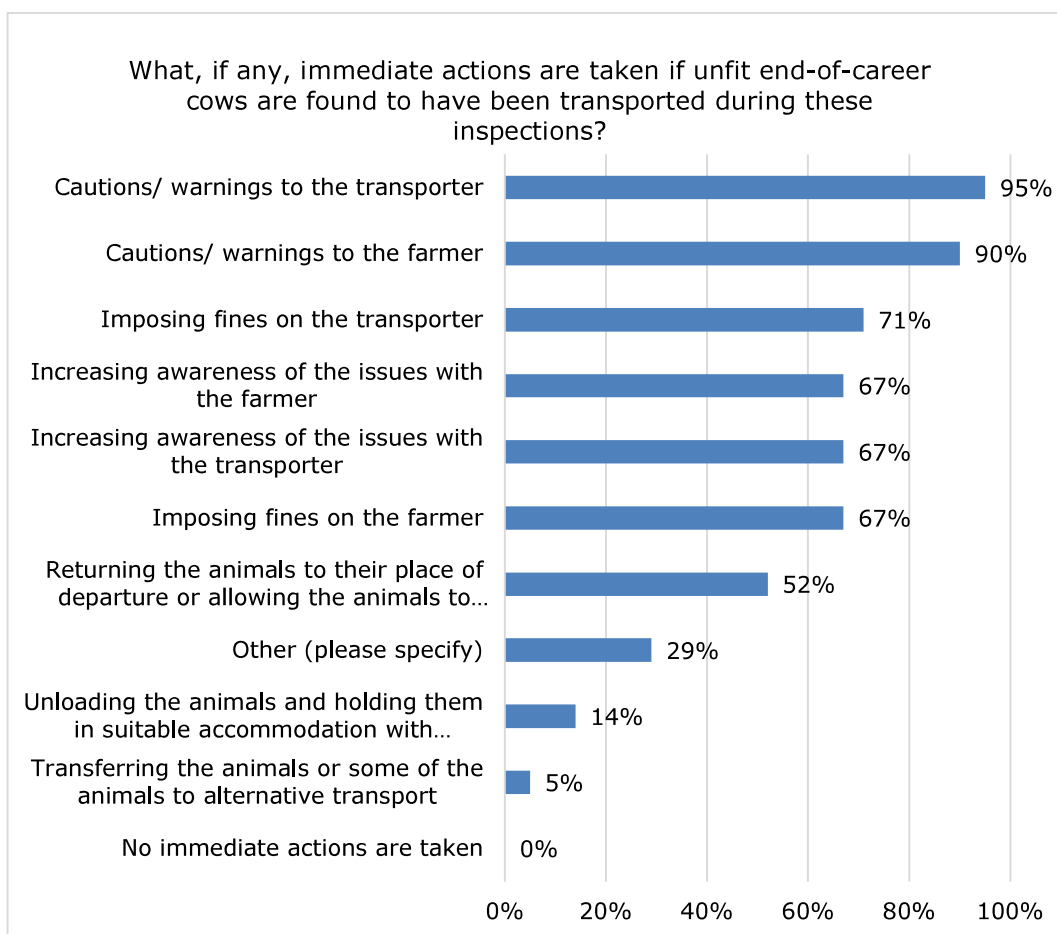
Table 12 Official enforcement policy across fieldwork EU MS

Is there an official enforcement policy in your country which outlines the action to be taken in the event that unfit end-of-career cows are found to have been transported during inspections?	Belgium	Denmark	Germany	Ireland	Netherlan	Poland	Portugal	Spain
No								✓

Survey findings suggest that the majority of MS NCAs use cautions and warnings to the farmer and transporter, raising awareness of the issues and imposing fines, Figure 2117. Over half of the NCAs also reported ordering the return of the cow to place of departure or to their destination, depending on what was best for the welfare of the cow. Other actions identified included:

- Immediate slaughter on route.
- Prioritised slaughter at arrival at slaughterhouse.
- Police reporting<sup>56</sup>.
- Sanction process initiated.

<sup>56</sup> The Stakeholder who supplied this response, did not suggest if this was reporting to the police or the police conducting reports.



*Figure 2218 Immediate actions are taken if unfit end-of-career cows are found. n=21.*

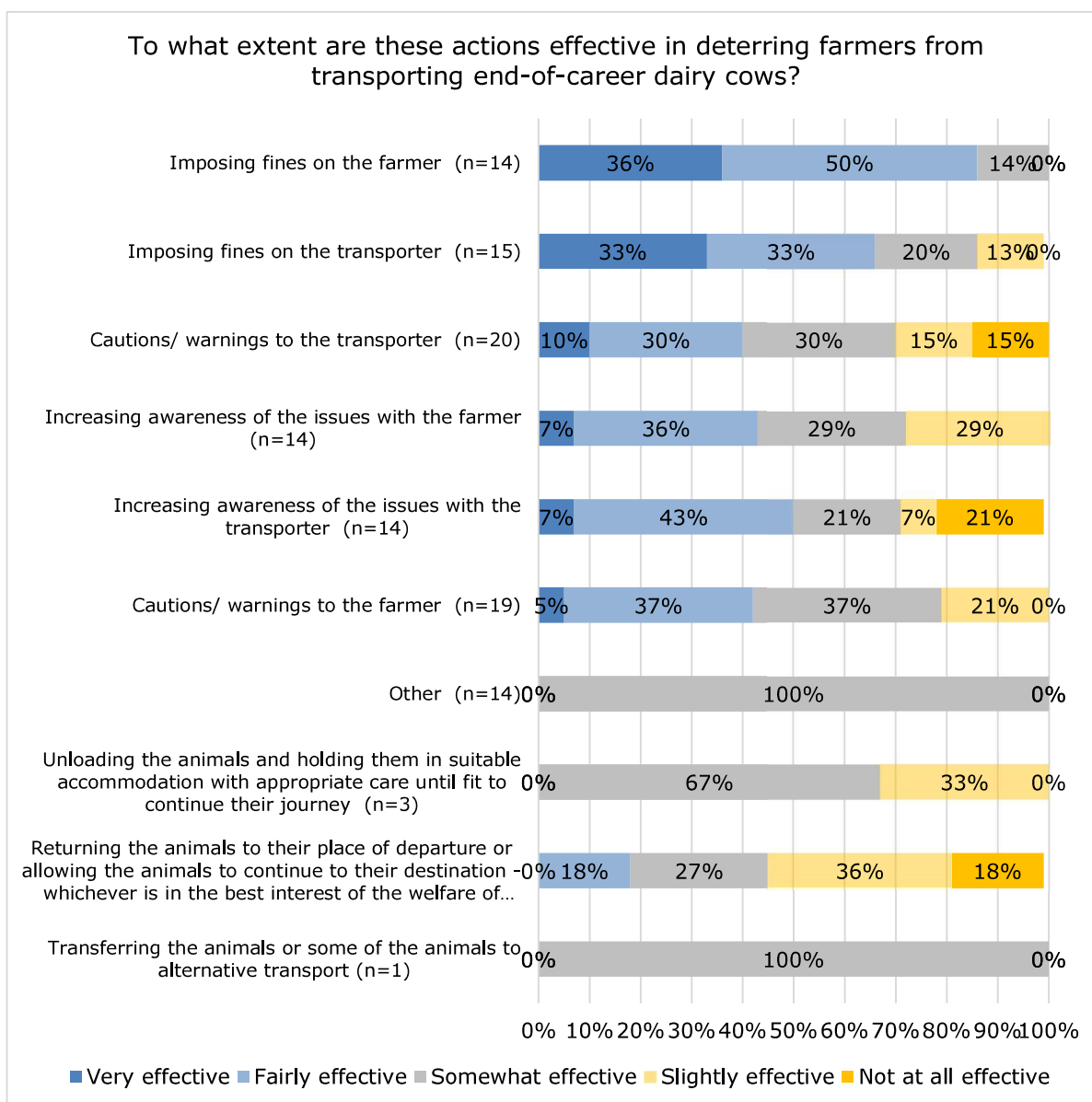
*Figure 2218* All MS where the more in-depth fieldwork took place had at least one immediate action, Poland took the fewest actions (3) and Spain took the most (9) (Table 1). In agreement with the data from the quantitative survey the qualitative interviews highlighted immediate actions including slaughter of the cow in transit in both Spain and France. When sorting cows at the slaughterhouse, the slaughterhouse is also more likely to slaughter cows in an unfit condition first.

*'If an animal arrives at the slaughterhouse with problems arisen during transport, it is stunned directly in the vehicle before any other movement.'*

French Farmer Representative.

Table 13 Immediate actions taken if an unfit end-of-career cows are found across fieldwork EU MS

<b>What, if any, immediate actions are taken if unfit end-of-career cows are found to have been transported during these inspections?</b>	<b>Belgium</b>	<b>Denmark</b>	<b>Germany</b>	<b>Ireland</b>	<b>Netherlan</b>	<b>Poland</b>	<b>Spain</b>
Transferring the animals or some of the animals to alternative transport							
Returning the animals to their place of departure or allowing the animals to continue to their destination - whichever is in the best interest of the welfare of the animals	✓	✓			✓		✓
Unloading the animals and holding them in suitable accommodation with appropriate care until fit to continue their journey	✓			✓			✓
Cautions/ warnings to the transporter	✓	✓	✓	✓	✓	✓	✓
Cautions/ warnings to the farmer	✓	✓	✓	✓	✓	✓	✓
Imposing fines on the transporter	✓	✓	✓	✓	✓		✓
Imposing fines on the farmer	✓	✓	✓	✓	✓		✓
Increasing awareness of the issues with the transporter		✓	✓	✓	✓		✓
Increasing awareness of the issues with the farmer		✓	✓	✓	✓		✓
Other (please specify)		✓	✓			✓	✓



*Figure 2319 Actions effective in deterring farmers from transporting end-of-career dairy cows*

The NCAs felt that fines and warnings were most effective at deterring the transport of unfit end-of-career cows (Figure 2319). However, during qualitative interviews the effectiveness of sanctions was described as different, dependent on the country. Controls and sanctions are seen as having an influence, as seen in countries like Spain and Italy, where increased controls and expectations from providers have been implemented. However, in some cases, these sanctions are either too low or controls and monitoring too limited, ultimately failing to deter stakeholders from engaging in the transport of unfit end-of-career cows<sup>57</sup>.

The qualitative interviews revealed that, in practice, these measures are sometimes difficult to implement across full territories, especially in hard-to-access rural areas. As

<sup>57</sup> **Validation Survey:** 'There is a need for committed resources and enforcement for sanctions to be effective' (N=33). **66.7% agree (N=22)**, 21.2% disagree (N=7), 12.1% don't know (N=4).



a result, controls are more likely to happen in bigger slaughterhouses, at borders, or high volume routes, leaving certain areas unattended. Distance also plays a role, as shorter trips might not even reach control points and longer ones might not provide the ideal conditions for the animals. When these measures are implemented efficiently and the ratio of sanction to profit for transporting unfit cows is not beneficial for the stakeholder, the incidence of illegal practices is lower.

Italy used to present problems with unreliable veterinary certificates in the past, but the evidence reviewed to date suggests that this has been addressed through the following measures:

- Informing all stakeholders (farmers, transporters, competent authorities, veterinarians, meat producers associations) on the DG Health and Food Safety audits;
- Discussing with the national federation of veterinarians the training of veterinarians issuing certificates;
- Increasing awareness on the issue of cattle unfit for transport;
- Creating a report template to be used by national authorities in order to notify the police of the detection of false certificates;
- Training traffic police by NGOs, allowing the police to write their own transport guidance book;
- Carrying out campaigns targeting cattle unfit for transport (650 transport vehicles examined in 30 days);

Moreover, in 2007 in Italy a decree was passed, which led to police and veterinarians conducting intensive controls on vehicles transporting live animals. For example, police were stationed for several hours per day at the largest slaughterhouse in Europe located in Lodi (Italy) to perform constant checks on incoming animals. Besides the police, public veterinarians can issue fines if they identify unfit animals during the ante mortem inspection upon arrival at the slaughterhouse (from 2020, only public veterinarians can do this ante mortem inspection, but prior to then also private ones could). This has been seen by the NCA and industry in Italy as very effective at decreasing the number of unfit end-of-career dairy cows being transported. An increase in monitoring and sanctions have also been increased in the last five years in France, Germany and Spain.

Italy have moved to using public veterinarians to conduct borderline inspections. This has also been trialled in Bavaria where the Bavarian Food Safety and Veterinary Control Authority (KBLV) conduct the controls, so the big farms and slaughterhouses are controlled by people from the local authority rather than local private veterinarians that need the slaughterhouses to have business but also are embedded within local structures. The stakeholder who raised this scheme felt that the system is working well, but there are pressures on the scheme from different stakeholders, notably the meat industry.

In Poland after the scandals in 2019 described in the earlier section on food fraud networks, the Veterinary Inspectorate enforced more controls. This included that each slaughterhouse had to check the condition of the animal on arrival, and if the cow was found to be unfit it should be slaughtered in the vehicle. However, this was not deemed very successful as the checks are not done often.

*'Even though there is law there are no measures of executing it as there is shortage of staff in the slaughterhouses. The shortage of veterinarians results in the situation that a veterinarian may not always be present at the moment when the animals are arriving to a slaughterhouse in order to check what is their post transport condition. The Inspectorate of Road Transport also faces staff shortages which means that they have short working hours (usually till 15.30) and that there are not enough mobile check points.'*

Polish NGO stakeholder.

In the Netherlands there is a strict check on arrival at the slaughterhouse, with a veterinarian checking all cows that walk off the ramp. If a cow is deemed unfit for transport, it is euthanised and the farmer and transporter can get a fine. In the Netherlands, cattle traders and slaughterhouses have been prosecuted for transporting and slaughtering sick cattle, but in 2019 there was evidence that this issue was still prevalent and meat unfit for human consumption was entering the food chain<sup>58</sup>. The Netherlands' approach offers a strong example of domestic policy, with robust enforcement of legislation and criteria (McDermott & McKeivitt, 2015) by the NVWA (the Netherlands Food and Consumer Products Safety Authority). In Italy, after identifying an animal welfare risk related to transport of unfit cows from farm to slaughterhouse, a regional authority allocated a dedicated resource to the detection of unfit cattle transport and the enforcement of sanctions for the offenders (European Commission - DG Health and Food Safety, 2015).

In France, work on the transportability of animals has led to changes to the mandatory *Certificat Veterinaire d'Information (CVI)*, which needs to be produced for either the transport to the slaughterhouse of mildly injured animals or the transport to a slaughterhouse of an animal that has been slaughtered on farm and is yet to enter the food chain. In particular, the CVI for animals that are mildly injured needs to be co-signed by the farmer/owner, the veterinarian on farm, the driver of the transport vehicle and the veterinarian at the slaughterhouse. Evidence on the impact of this initiative on the issue of transport of unfit end-of-career dairy cows is not available at this stage. However, evidence published in audit report 2021-7249 to France suggests that official veterinarians may have the opinion that an end-of-career cow may suffer additional stress if transported (for example if the cow had a fractured leg) but would not always identify these as unfit for transport contrarily to Points 1, 2(a) and 3(c) of Chapter I, Annex I to Regulation (EC) No 1/2005 and therefore may not enforce these corrective measures.

The table below provides an overview of specific sanctions in each of the studied Member States. It must be noted that these sanctions mostly refer to Council Regulation (EC) No 1/2005, which refers to animals in general and not cows specifically. However, these measures are an important indication of the direction Member States are taking towards animal welfare. They include the following sanctions:

- Financial/administrative sanctions (fines)
- Withdrawal of transport permits
- Supervision sanctions (France, for example)
- Veterinarian controls at the slaughterhouse, either upon arrival or post-mortem
- Border controls
- Some transit checks at non-border points (depends on the country)

McDermott & McKeivitt (2015) suggest a more robust enforcement of the rules should be undertaken, mirroring the Netherlands' (see *Alternative Mechanisms* examples) on transport of welfare compromised animals, with the aid of professional veterinary associations.

*Table 1214 Summary of sanctions*

Member State	Sanctions	Practices
--------------	-----------	-----------

---

<sup>58</sup> The Guardian (2019). Secret filming shows sick cows slaughtered for meat in Poland.

Denmark	Fines range from €2000 to €13000.	Fines range from €2000 to €13000, cases against drivers and transport companies are handed over to the police and prosecution services and can lead to prison sentences.
France	Punishable with one-year imprisonment and a €15000 fine.	A legislation from 2018 extends the offence for animal abuse in rearing to transport and slaughter activities, punishable with one-year imprisonment and a €15000 fine. There might be other sanctions resulting from transporting unfit animals.
Germany	Fine of up to €25000.	Germany has defined around 35 offences in accordance with Council Regulation (EC) No 1/2005, which can be punished with fines that go up to €5000. Inflicting significant pain on an animal without reasonable cause is also punishable by a fine of up to €25000.
Ireland	Withdrawal of licenses	Ireland tends to opt for administrative sanctions such as withdrawal of licenses.
Italy	Fines go between €1000 and €6000.	Fines go between €1000 and €6000. Severe fines concern the fitness of animals and their mistreatment, but also vehicle requirements for transport or the lack of authorisations. The fines usually go to stakeholders involved (farmers, drivers, organisers, etc.). Animals and vehicles can be seized as well.
Netherlands	€1500- €3000, removal of permits, criminal prosecutions.	Violations are usually processed through administrative law. The base fine for violations of Council Regulation (EC) No 1/2005 is €1500. In severe cases, violations can lead to a doubling of fines (€3000). But the fines can also be halved if risks are minor. Repeated violations might end up with higher fines. Other sanctions include removing permits and criminal prosecution (when very severe), but withdrawals are practically impossible, as they are considered disproportionate.
Poland	Fines and arrests.	The Polish Animal Protection Act provides advice when there are violations to animal welfare. Fines and arrests are mentioned as some of the punishments for violating the provisions in the act.
Belgium	Administrative fines and removal of permits.	The procedures are slightly different from region to region regarding who deals with the violation report. However, they mostly end in administrative fines. There are also possibilities to remove a transporter's permit.
Spain	€150-€600	Each autonomous community has rules dating from before the creation of Council Regulation (EC) No 1/2005. Violations are generally minor will not exceed €600 or a warning. Violations to local rules can be fined at €150 or €300

Source: European Parliamentary Research Service, Animal Legal and Historical Centre, and World Animal Protection

### **Mobile slaughterhouses**

Mobile abattoirs or slaughterhouses are defined as facilities constituted by containers equipped and mounted on trailers. These modules are transportable and could be temporarily used or permanently used. Usually, the mobile slaughterhouses are composed of 3 modules: one for the slaughterhouse, a second truck for the cooling and conservation of animal's carcasses, and the third serves as office for slaughterers and veterinary services to conduct properly sanitary controls. Some semi-mobile units allow the slaughter of animal and bleed them on site; however, the carcass will be transported then to a fixed slaughterhouse for the evisceration.

Emergency Slaughter legislation in Member States prohibits animal slaughtering on the farm (excepting euthanasia for injured animals), this often excludes low level illness or unfit end-of-career cows. Consequently, the stakeholder workshop and qualitative interviews highlighted that both public authorities and industry see mobile slaughterhouses as a solution to this issue. Mobile slaughterhouses are perceived as an effective measure in the reduction of transportation of unfit livestock, reducing the need for animals to be transported over long distances and therefore potentially contributing to the safeguarding of animal welfare (European Council, 2009, Environment and Forestry Directorate, 2020).

A number of MSs have launched pilot projects/programmes on mobile slaughterhouses among them Ireland, Germany, Netherlands and France.

The initiatives tend to be run in cooperation between Industry and Competent National Authorities. For instance, the Netherlands have a longer experience back to 2010-2011 when the government mandated the research centre of Wageningen University (WUR) to carry out a feasibility study on the use of mobile slaughterhouses.<sup>59</sup> According to the study semi-mobile units are feasible and profitable. In 2018, a pilot programme was launched in the northern part of the country. Currently, the programme implementation is supervised by the Office for Risk Assessment & Research (BuRO), which published a guideline on work protocols and preconditions for the deployment of a Mobile Slaughter Unit in the Netherlands.<sup>60</sup> The office indicated that Mobile Slaughter Unit should be used only to slaughter animals on a farm; animals that are fit for slaughter, but not fit for transport. Some private initiatives have emerged offering mobile slaughterhouse solutions for cattle and pigs, which seems to have encouraged other stakeholders in neighbouring countries like France and Germany. In the cattle sector, ongoing pilot projects, such as Mobielslachthuis, are implemented with the collaboration of the Dutch Food and Consumer Product Safety Authority (NVWA) and will be deployed in other regions.<sup>61</sup>

#### **4.2.4.1 France**

In France, the law EGAlim adopted in October 2018 included provisions for mobile slaughtering solutions. In February 2020, the French Court of Auditors even considered that this mobile slaughter could replace public slaughterhouses whose management is considered too expensive. The Ministry of Agriculture in collaboration with the private sector under the 'France Relance' plan launched a mobile slaughterhouse pilot in July 2021. The project is currently implemented in the Côte d'Or region (West France) and aims to meet strong economic and social expectations from farmers, improving the territorial coverage and thus increase slaughter capacities

---

<sup>59</sup> <https://www.wur.nl/en/project/Feasibility-of-mobile-slaughterhouses.htm>

<sup>60</sup> <https://english.nvwa.nl/documents/animal/welfare/buro/documents/advice-from-buro-on-the-mobile-slaughter-unit-pilot-project-in-the-north-of-the-netherlands>

<sup>61</sup> [https://www.eurogroupforanimals.org/files/eurogroupforanimals/2020-12/Eurogroup-for-Animals\\_A-strategy-to-reduce-and-replace-live-animal-transport.pdf](https://www.eurogroupforanimals.org/files/eurogroupforanimals/2020-12/Eurogroup-for-Animals_A-strategy-to-reduce-and-replace-live-animal-transport.pdf)

as well as protecting animal welfare.<sup>62</sup> From an economic perspective, the project aims as well to ensure farmers a better remuneration of animal carcasses. However, a number of risks were identified. There is an increased risk when using mobile slaughterhouses of the dairy cow regaining consciousness after stunning and potential for incorrect bleeding. The pilot study revealed that there is a higher risk of microbiological contamination of the tissue around the cut, which could lead to the transmission of animal pathogens between farms (if the unit is used by multiple farmers). In addition there is a higher risk of delayed eviscerations of the animal carcass and the risk of incorrect disposal of waste water, especially the high quantity of blood.

During the qualitative interviews in this study stakeholders from the Netherlands, Germany and France felt on-farm solutions such as mobile slaughterhouses can have a positive impact, but it does come with a number of risks highlighted below:

- Providing a mobile slaughterhouse may facilitate ongoing issues with low welfare in end-of-career dairy cows and encourage farmers to keep cows longer.
- Mobile slaughterhouses are usually more expensive than transporting injured dairy cows. A French stakeholder suggested that this solution is very expensive because very few animals are slaughtered at once. In addition, it can be difficult as it requires the presence of a veterinarian.
- Farmers are reluctant to use mobile slaughterhouses due to hygiene aspects such as the volume of blood released.
- There is an increased risk of contamination around the neck, as well as a risk of cross-contamination if the mobile infrastructure is used by multiple farms.

***Mitigation measures taken by the authorities to decrease the number of cows becoming unfit for transport.***

Providing training for farmers and dairy cows to improve farming practices was highlighted by NCAs who responded to the quantitative survey as the most widespread mitigation measure implemented (52) *Figure 2420*. Relatively common measures included; introduction of legislation that supports higher levels of dairy cow welfare (38%) and initiatives to improve the health and/or wellbeing of dairy cows (38%). Focussing on the MS where in-depth fieldwork took place, *Table 1315*, there was a large disparity between MS, with Spain, the Netherlands and Poland reporting the fewest number of mitigation measures. Other measures included a recent change in national transport regulation in Germany (enabling local authorities to implement fines in case of transport of lame animals).

---

62 <https://agriculture.gouv.fr/plan-abattoirs-un-nouveau-plan-ambitieux-pour-des-resultats-concrets>

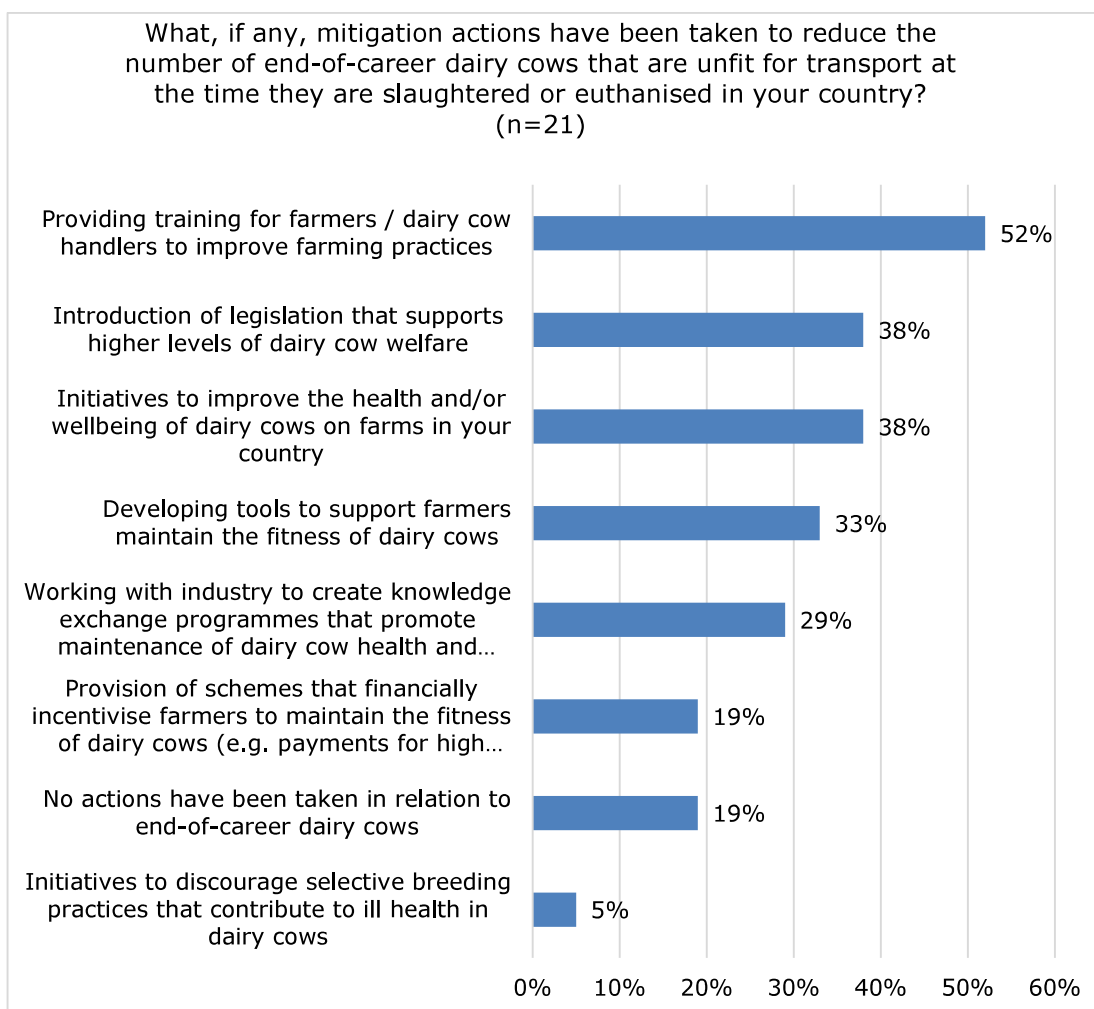


Figure 2420 Mitigation actions have been taken to reduce the number of end-of-career dairy cows that are unfit for transport at the time they are slaughtered or euthanised in your country (n=21)

What, if any, mitigation actions have been taken to reduce the number of end-of-career dairy cows that are unfit for transport at the time they are slaughtered or euthanised in your country? Please select all that apply.	Belgium	Denmark	Germany	Ireland	Netherlands	Poland	Portugal	Spain
Providing training for farmers / dairy cow handlers to improve farming practices	✓	✓	✓	✓			✓	
Initiatives to improve the health and/or wellbeing of dairy cows on farms in your country	✓	✓		✓			✓	
Introduction of legislation that supports higher levels of dairy cow welfare	✓	✓						
Initiatives to discourage selective breeding practices that contribute to ill health in dairy cows				✓				
Working with industry to create knowledge exchange programmes that promote maintenance of dairy cow health and wellbeing	✓	✓		✓				

Developing tools to support farmers maintain the fitness of dairy cows	✓	✓	✓					
Provision of schemes that financially incentivise farmers to maintain the fitness of dairy cows (e.g. payments for high welfare standards)	✓						✓	
Other (please specify)		✓	✓		✓	✓		

*Table 1315 Mitigation actions taken across fieldwork EU MS*

Initiatives to improve health and/or the wellbeing of dairy cows have been explored more in Case Study 8 and 9.

### 4.3 Alternative ways to address the problems

#### 4.3.1 What measures taken by the dairy industry are best practices that could be promoted?

<b>Findings</b>	<ul style="list-style-type: none"> <li>Best practice measures taken by the industry include assurance schemes and advancements in technology</li> </ul>
<b>Extent to which question can be answered</b>	There is sufficient data to respond to this question.

#### **Summary**

Mitigation measures have been identified in previous sections. Quality assurance schemes have been identified as useful for increase animal health and welfare standards and decrease the number of cows which become unfit by the end of their career. Assurance schemes are particularly affective when they are science-based with animal-based measures, benchmarking and ongoing programme-level metrics and measurements. In addition, advancements in technology could support the early identification and treatment of underlying health issues in the herd.

#### **Overview**

There are several private assurance schemes and programmes administered by the dairy industry. Some of these are described in section 4.2. They include quality schemes and health and welfare monitoring and assessment tools. Often, these schemes do not include criteria that apply to end-of-career cows or their transportation because their focus is on the dairy product as opposed to end-of-production meat. However, they can support cow health and prevent them from becoming unfit in the first instance. This was recognised by a few stakeholders: one NCA commented that some internal schemes implemented on farms contributed to a reduction in unfit animals. An industry representative similarly noted a benefit of some programmes was the training they provided for farmers and handlers. An EU-level stakeholder noted that a benefit of these schemes was quality assurance schemes were in closer contact with farmers which helped to mitigate against risk factors.

There was insufficient evidence to compare the various schemes identified in section 0 to establish the models which were most effective. However, an evaluation of four private animal health and welfare standards and associated quality assurance programmes for dairy cow product by More et al. (2021) identified the features of such assurance programmes which represented best practice. These were:

- Use of **science-based evidence** to inform the scheme standards and welfare measures used;

- **Separation of risk assessment** (science) **and risk management** (policy), so that there is a clear, impartial scientific position which feeds into the programme development and policies;
- Use of **animal-based measures** (e.g. body condition, lameness), rather than using exclusively resource-based measures (those referring to an animal's environment and living conditions);
- **Farm benchmarking** which allows farmers to compare their farm performance with their peers, thereby encouraging improvements, as well as enabling schemes to monitor this performance and respond accordingly (e.g. developing training or advice for farmers, or methods for assessing of animal health);
- **Ongoing programme-level metrics and measurement**, to monitor the programme's progress towards defined objectives; and,
- **Ongoing programme review** that supports the continuous development and improvement of the programme.

This suggests that assurances programmes reflecting these criteria are likely to offer the most significant benefit to reducing the number of dairy cows that are unfit at the end of their career. An example provided by an EU-level stakeholder similarly recognised the importance of farm benchmarking, stating that some schemes had high quality data on lameness, collected over an extended period from its farmers. This was shared with the farmers so they could benchmark their progress.

### **Advancements in technology**

Another area where measures have been taken by the dairy industry is in relation to precision livestock farming (PLF) technologies that can be used for sensor-based welfare assessments in dairy cattle. These technologies are primarily used on the farm, but there is potential to increase their use during transport and at slaughterhouses for the monitoring and surveillance of animal welfare. They can help to prevent end-of-career cows from becoming unfit, but they could also help to reduce the number of unfit cows being transported by assisting in the identification of non-compliance and therefore act as a deterrent.

Data to indicate how successful PLF technologies are in reality is limited. This is recognised in a review of these technologies by Stygar et al. (2021), which found only 14% of the 129 sensors used to monitor animal health and welfare during dairy production had external validation trials available. Nevertheless, the study finds that use of these tools for collection of farm monitoring data 'has high potential to assess different aspects of dairy cow welfare'. This suggests they could be employed to assess fitness for transport and assist farmers in preventing their animals from becoming unfit.

There is some evidence to support this assessment. As described in section 0, CattleEye is an example of a PLF technology that provides an automated solution for monitoring cattle health through the use of AI powered video analytics. One study found the technology to slightly exceed human accuracy in identifying lameness in cows. An on-farm trial of the technology also found that the proportion of cows with mobility issues reduced over six months (Business Wales, 2021).

### **4.3.2 What measures adopted in slaughterhouses are best practices that could be promoted?**

<b>Findings</b>	<ul style="list-style-type: none"> <li>• Best practice measures adopted by slaughterhouses include more effective controls and enforcement, including the use of CCTV.</li> </ul>
<b>Extent to which question can be answered</b>	There is sufficient data to respond to this question.



## **Summary**

Best practices adopted in slaughterhouses to prevent the transportation of unfit end-of-career cows that are applied in slaughterhouses include effective controls and enforcement, particularly with the aid of CCTV cameras, and guidance or training that target slaughterhouse workers and veterinarians.

## **Overview**

### **Controls and enforcement**

Stringent controls and enforcement at slaughterhouses can deter the transport of unfit end-of-career cows. As stated by Lundmark et al. (2018), regulatory requirements need to be implemented and enforced to be effective. Controls carried out effectively in slaughterhouses act as a deterrent to accepting animals that arrive in an unfit condition. For example, a Finnish industry organisation concluded that the strict implementation of controls in slaughterhouses, combined with other measures like driver education, meant that transportation of unfit end-of-career cows was not a significant issue in the country. The European Commission also identified examples of good practice in Belgium, where the official controls were based 'good documented procedures for dealing both with suspect animals arriving at slaughterhouses and for the arrival of carcasses where the animals had undergone emergency slaughter on farm' (European Commission, 2015).

However, an issue highlighted by a European-level stakeholder was that, although the animal transport Council Regulation (EC) No 1/2005 defines fitness for travel, it lacks clarity on how this should be enforced if animals arrive at a slaughterhouse in an unfit condition. This suggests controls administered at slaughterhouses in relation to fitness on arrival vary between Member States. Promoting the approach to controls taken in countries where best practice has been identified and expanding this across the EU could therefore help to further deter non-compliance.

There has been strong demand from animal welfare NGOs across the EU for mandatory CCTV to support better monitoring for compliance in slaughterhouses for several years. In 2014, NGOs in several European countries, including nine EU Member States, petitioned for mandatory CCTV in 'all areas connected with slaughter and handling for slaughter'<sup>63</sup>. In 2019, a scandal in Poland where downer cows were being illegally transported to slaughter led to the country's authorities promising to spend €23.1 million to install CCTV cameras in slaughterhouses (Eurogroup for Animals, 2019). More recently, Spain have introduced legislation to make CCTV mandatory in slaughterhouses (Ministerio de Consumo, 2021). Outside the EU, CCTV became mandatory in UK slaughterhouses in 2018 following widespread public support (Fearon, 2017).

As such initiatives are relatively new, evidence to indicate their effectiveness in preventing the transport of unfit end-of-career cows is limited. However, an Impact Assessment carried out in the UK noted that OVs could not observe the entire slaughter process at all times and CCTV helped to address this. It found that enforcement action in response to animal abuse at slaughterhouses would not have been possible without footage gained through covert filming by animal welfare NGOs. (Defra, 2017). Three interviewees also highlighted benefits of mandatory CCTV, which was believed to improve the accountability of employees and therefore deter them from processing animals that had arrived in an unfit condition.

However, key to the success of mandatory CCTV initiatives is the monitoring of captured footage. The UK Impact Assessment found that OVs were unable to routinely view CCTV footage in slaughterhouses where it was present voluntarily (Defra, 2017). In one case, UK NGO Animal Aid mounted cameras beside a slaughterhouse's own

---

<sup>63</sup> European Alliance for CCTV in Slaughterhouses:  
[https://www.petitiononline.uk/european\\_alliance\\_for\\_cctv\\_in\\_slaughterhouses](https://www.petitiononline.uk/european_alliance_for_cctv_in_slaughterhouses)

cameras and recorded various incidents of animal abuse, suggesting CCTV alone is only a deterrent if it is being reviewed and acted upon (Animal Aid, n.d.). In relation to preventing the transportation of unfit end-of-career cows, it would also be important that the CCTV is located in unloading areas so that this can be detected on an animal's arrival. This is provided for in the Spanish legislation (Ministerio de Consumo, 2021) which specifically lays down that CCTV must cover the facilities where live animals are found, including unloading areas.

### **Guidance and training**

The provision of specific guidance and training to slaughterhouse workers and veterinarians has potential to improve their ability to recognise unfit animals which have been transported illegally and deter them from being complicit in non-compliance.

There are several examples of existing guidance around animal transportation. At an EU level, there are the Animal Transport Guides<sup>64</sup> which include specific information about transporting cattle in the form of a video, a factsheet and a best practice document. There is guidance on the protection of animals at slaughter which was published by the European Commission in 2018<sup>65</sup> and guidelines for assessing fitness for transport of adult bovines compiled by EU NGOs (Eurogroup for Animals et al., 2012). Some Member States also have their own guidance. For example, Denmark have guidelines on assessing fitness for transport which are similar in format to the EU-wide guidelines, in that they contain images and descriptions of illness and injuries that can impact cattle (Danish Veterinary and Food Administration, n.d.). Likewise, a regional authority in Germany has guidelines on assessing the transportability and of cattle and whether it is suitable for slaughter (Landwirtschaftskammer Nordrhein-Westfalen, 2019).

Guidelines are generally seen positively by stakeholders. This was evidenced in the evaluation of the EU Animal Welfare Strategy where the transport guides were highly rated (European Commission, 2020). Likewise, all five of the industry survey respondents that said there were best practice booklets in their country considered these to be at least 'somewhat' effective. However, it is notable across the existing guides that there is little information for slaughterhouse workers on the steps that should be taken if an unfit animal arrives on transport. One interviewed stakeholder stated that the lack of defined procedures led to different interpretations by slaughterhouses and their workers. This suggests that there is a need for specific guidelines that set out the process for dealing with animals which arrive in an unfit condition. Existing guidelines could also be more consistently promoted to their target users in order to heighten their impact. For example, a case study evaluating the success of the Animal Transport Guides showed that a significant spike in users visiting the website when promotional activities to support its launch but visits to its website had declined over time. This suggests more sustained promotional activity would support the continued use and dissemination of relevant information to slaughterhouse workers and veterinarians.

Training is an important tool in preventing non-compliance by slaughterhouse workers and veterinarians. In interviews, there was broad consensus across industry, NCAs and NGOs about the benefits of training for those handling animals. Similarly, all nine industry survey respondents in countries that implemented training for dairy cow handlers said it was at least 'somewhat' effective. A majority (77%; n=9) of NCA respondents in countries implementing training for vets also said it was at least 'somewhat' effective. This is further supported by a 2020 study investigating the impact of animal welfare training at slaughter. Improvements in welfare measures

---

<sup>64</sup> <http://www.animaltransportguides.eu/>

<sup>65</sup> [https://ec.europa.eu/food/animals/animal-welfare/animal-welfare-practice/slaughter-stunning\\_en](https://ec.europa.eu/food/animals/animal-welfare/animal-welfare-practice/slaughter-stunning_en)

were found in all of the slaughterhouses that had received the training in assessments carried out six months afterwards (Wigham, 2020).

#### **4.3.3 What measures taken by authorities are best practices that could be promoted?**

<b>Findings</b>	<ul style="list-style-type: none"> <li>• Best practice measures by authorities focus on mandatory training and guidelines and increased controls and enforcement.</li> </ul>
<b>Extent to which question can be answered</b>	There is sufficient data to respond to this question.

#### **Summary**

There are two key areas where examples of best practice by public authorities to reduce prevent the transportation of unfit end-of-career cows were identified. These areas were in relation to controls and enforcement, and government-mandated guidance materials.

#### **Overview**

##### **Government-mandated guidelines and training**

The positive impact that guidance materials can have is seen in section 4.3.2 as an example of best practice in slaughterhouses. However, guidance can be applicable to all animal handlers in the supply chain, including farmers and transporters, as well as slaughterhouse staff. There are several examples of government-mandated guidelines and training designed for this purpose. This includes guidelines to support assessments of an animals' fitness for transport (as described in section 4.3.2), but also guidance that is designed to support animal health and welfare.

In Ireland, for example, Teagasc offer training, webinars and guidelines on the health and welfare dairy cows. This includes guidelines on lameness, which include information on how to identify lameness and its causes, as well as highlighting the associated costs for farmers in terms of its impact on milk yield and in Euros (Teagasc, n.d.). Teagasc's webinar series 'Let's Talk Dairy'<sup>66</sup> covered several topics relating to cow health, including body condition score at calving, dry cow therapy and winter housing. Additionally, Teagasc offer short courses specific to dairy farming – including the Milking Process Technique course<sup>67</sup> that covers herd health and cow welfare. In New Zealand there is a Code of Welfare for dairy cattle which covers aspects including behaviour, the physical environment, husbandry practices and health (New Zealand Government, 2019). In Germany, one regional authority has guidelines on the animal welfare-friendly handling of sick and injured livestock (Landkreis Cloppenburg, 2018).

Such guidance and training can be effective: an evaluation of the Animal Transport Guides suggested that the guides likely had a positive impact on the knowledge stakeholders who had read them (Consortium of the Animal Transport Guides Project, 2018). Stakeholders were surveyed before and after they had been exposed to the guides according to the Theory of Planned Behaviour (TPB). On average, stakeholder scores were higher after exposure to the guides, suggesting their intentions in relation to their behaviour when transporting animals improved. Likewise, when stakeholders were asked to rank different mitigation measures for their impact on reducing the number of end-of-career cows being transported when they were unfit in the validation survey, 'providing training for farmers' was ranked highest on average.

<sup>66</sup> <https://www.teagasc.ie/corporate-events/lets-talk-dairy/>

<sup>67</sup> <https://www.teagasc.ie/education/courses/short-courses/>

However, to maximise the benefit that guidelines and training can have in relation to end-of-career cows there are several considerations to make. Firstly, the identified guidance and training described here is generic to dairy farming and specific reference to end-of-career cows was not found. This suggests there may be a gap in the information available to farmers and animal handlers on the wider issue of end-of-career cows, and how and why they should prevent them from becoming unfit. Secondly, although there is guidance on dairy cow health and welfare in some Member States, no EU-level guidance was found. This means there are likely gaps in the information available in Member States where there are no national guidelines. FVE Finally, as observed in relation to the use of guidelines for slaughterhouse staff, there was a lack of evidence to indicate the level of awareness and use of existing guidance. In order to strengthen the impact that guidelines can have, it is necessary to promote them on an ongoing basis to their target audiences. While the EU-wide guidelines on assessing fitness for transport exist, for example, the extent to which these are known and utilised by dairy farmers and transporters, or actively promoted by government or industry, is unclear.

### **Controls and enforcement**

Section 4.3.2 describes how the controls and enforcement carried out in slaughterhouses can help to deter the transportation of unfit end-of-career cows. However, there is also evidence to show that controls and enforcement action taken on farms and during transport can have a similar impact.

In Italy, a 2021 audit found a strong system in place to prevent the transport of unfit end-of-career cows, concluding that 'the procedures in place and controls implemented can, to a large extent, prevent the transport of unfit animals to the slaughterhouse' (European Commission, 2021a). Features of the approach included a controls system that fulfilled the legal requirements of the OCR, non-compliances being 'followed up properly' and enforcement measures ('including the imposition of sanctions') being taken. The approach taken in Italy was specifically highlighted by a European-level stakeholder, who noted that there had previously been a problem in Italy due to private vets signing certificates stating that animals were fit for transport even if they were not. However, the Italian government started to take action against these vets which resulted in industry dialogue around options for emergency slaughter. This was reflected in the audit report, which stated around half of the 10,000 bovine animals subject to emergency slaughter in Italy due to being unfit for transport were 'cull cows'.

There were similar trends seen in other Member States, whereby non-compliances in relation to animal welfare had led to more stringent measures by public authorities. For example, in the Czech Republic, a 2021 audit concluded that 'controls implemented seem adequate to prevent, to a large extent, unfit animals from being transported to the slaughterhouse' (European Commission, 2021b). In Poland, a 2018 audit concluded that the national policy to 'carry out inspections of 100% of consignments at the moment of loading' enabled NCAs to check fitness for transport as well as various other requirements and was therefore an example of 'a good practice' (European Commission, 2018). Likewise, where there were deficiencies in controls, the negative impact on animal welfare was highlighted. In France, for example, an audit indicated that official veterinarians in slaughterhouses 'accept bovine animals that have suffered an accident, including fracture, as being fit for transport if certain criteria established in a specific guidance are fulfilled' which was contrary to EU requirements (European Commission, 2020).

The importance of effective enforcement is also highlighted in wider literature. McDermott and McKeivitt (2016) observed that in the Netherlands there were penalties for both farmers and transporters if they transported unfit animals. They subsequently concluded that 'a more robust enforcement' was needed in Ireland, in line with the approach taken in the Netherlands. This view was echoed by an Irish NGO, who acknowledged that there was a lot of legislation but "so little of it is actually enforced".

A Canadian study similarly highlighted the importance of consistent enforcement (Stojkov et al., 2018). It recommended that different models of enforcement should be explored 'with a view to recommending the widespread and harmonized adoption of practices deemed best for the protection of animal welfare'. This is somewhat applicable in the context of the EU too, given the different approaches taken by individual Member States and their varied effectiveness. For example, one European-level stakeholder commented that there was inconsistency in enforcement due to the lack of guidance on how this should be carried in relation to the transportation of unfit end-of-career cows.

#### **4.3.4 What are the most effective incentives for farmers and traders to address the problems?**

As incentives for farmers and traders are delivered by the industry of the authorities, this has also been responded to as part of section 6.2.4.3 and 6.2.4.4. The most effective incentives include:

- Mobile slaughterhouses, providing alternative infrastructure to farmers.
- Controls and effective enforcements providing a deterrent for farmers and traders.

#### **4.3.5 Which best practices could better respond to improving the quality of the handling of end-of-careers dairy cows from the perspective of animal welfare?**

<b>Findings</b>	<ul style="list-style-type: none"> <li>• Best practice measures to better respond to handling include training and the use of tools and toolkits to improve decision making.</li> </ul>
<b>Extent to which question can be answered</b>	There is sufficient data to respond to this question.

#### **Summary**

Practices to respond to improving the quality of handling of end-of-career dairy cows are delivered by the industry of the authorities, this has also been responded to as part of section 6.2.4.3 and 6.2.4.4. practices.

#### **Overview**

Council Regulation (EC) No 1/2005, Annex IV, states that personnel handling animals must have completed training and passed an examination approved by the competent authority. Amongst other requirements, this training must include an understanding of the fitness for transport definition. However, our research suggests that key decisionmakers, the farmer and transporters, who may not always be trained or have the most knowledge on whether cows are fit for transport. Further research on this professional training is necessary to understand where adaptations or further training may be necessary.

This report has identified a number of tools a guideline which can support the quality of handling of end-of-career dairy cows. Three tools were highlighted which have relevance to the handling of cattle and identifying mobility and levels of fitness of cows for transport. The AHDB mobility score, alongside the Landkreis Cloppenburg tool provide photos of cows in different conditions with scores and traffic lights, respectively, to identify health issues which may impact on if the cow is fit for transport or not. The other tool "Fit for Transport" mobile app from New Zealand highlights the relevant legislation, provides an opportunity for the user to put in information on the cow and then provides a practical information on if the cow should be fit for transport. Rural connectivity remains an issue in the EU and therefore having

a printable score sheet could be of useful, however, the mobile app does allow for the input of bespoke data. A combination may be most applicable.

## 5 Comparison of scenarios

Six scenarios, including a baseline scenario have been formulated to clearly communicate key drivers and potential mitigation measures which have been identified through the data collection and analysis phase of this project. The purpose of these scenarios is not to define policy options or to prepare for an Impact Assessment, but to focus on specific drivers and communicate graphically the complexity of the data collected. Scenarios are based on illustrative drivers identified and do not represent all of the EU or a single MS. The baseline scenario focuses on the drivers associated with dairy cows becoming unfit by the end of their lives and their illegal transport. Scenarios 1-5 have a common structure:

- Scenario description.
- Key drivers.
- Potential mitigation measures.
- Comparability table.

*Table 14 Description of scenarios*

	<b>Driver(s) addressed</b>	<b>Potential mitigation measures</b>	<b>Focus</b>
<b>Scenario 0</b>	All	Baseline: Provides context, core drivers.	Cows becoming unfit for transport and the illegal transport of unfit end-of-career cows.
<b>Scenario 1</b>	Purposeful illegal behaviour at a systems level.	Enforcement: checks and penalties, including on vet certificates.	Illegal transport of unfit end-of-career cows.
<b>Scenario 2</b>	Purposeful illegal behaviour at an individual farmer level.  Economic gain.	Enforcement: checks and penalties.  End of chain non-payment and feedback from across the supply chains.	Illegal transport of unfit end-of-career cows.
<b>Scenario 3</b>	Non-purposeful illegal behaviour at an individual level. Lack of understanding of the definition.	Information sharing/ gov and industry. (aimed at farmers, transporters).	Illegal transport of unfit end-of-career cows.
<b>Scenario 4</b>	Purposeful illegal behaviour due to a lack of infrastructure or social drivers, and a tightly defined emergency slaughter.	Infrastructure improvement/ supplemented (Mobile slaughterhouses, on farm slaughter)	Illegal transport of unfit end-of-career cows.
<b>Scenario 5</b>	Economics of production – system issue on the wider industry and economics of production.	Industry: producer cooperatives, assurance schemes, welfare labelling schemes.  Government: subsidies for on-farm killing & disposal, better housing and/or other infrastructure.	Prevent end of career cows becoming unfit through improved economics of higher welfare milk production.

## 5.1 Scenario 0: Baseline

### Scenario description

The baseline scenario describes the current drivers that have been identified through a range of research tasks; a stakeholder workshop; desk-based research across the EU; quantitative surveys with NCAs and industry stakeholders; qualitative interviews with key stakeholders across eight case study countries and a validation workshop.

- Scenarios are based on illustrative drivers identified and do not represent all EU countries or a single MS.

### Key drivers

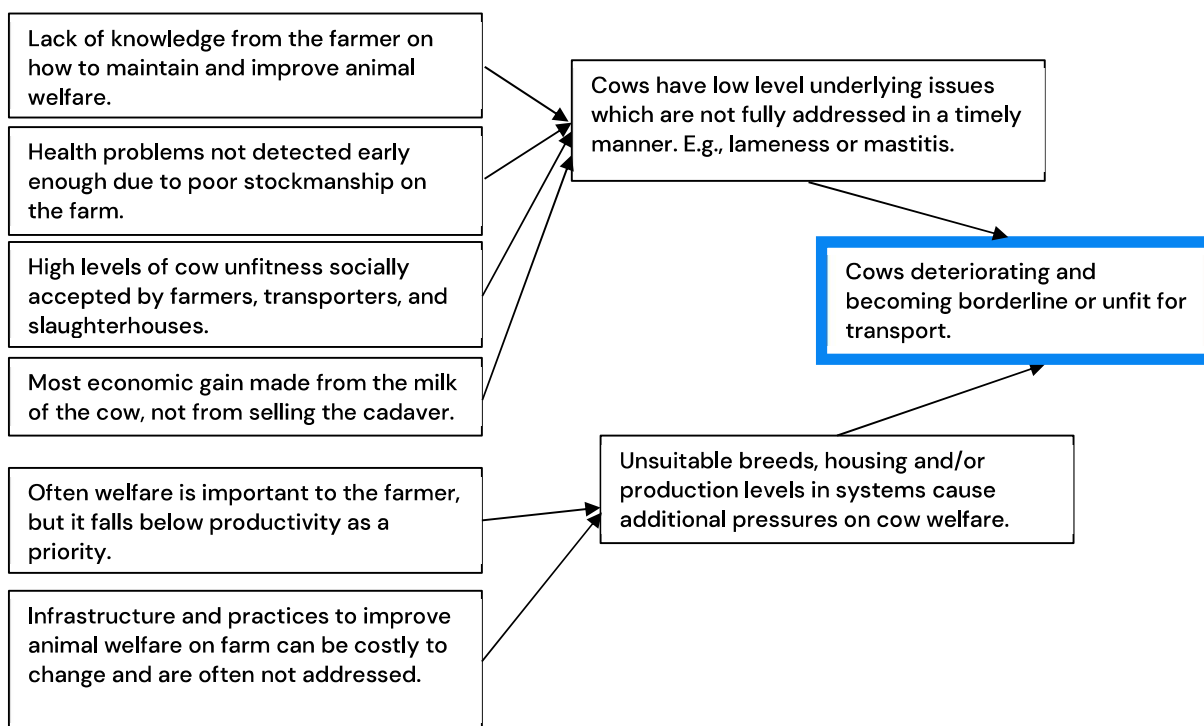
Key drivers and their interactions are detailed in Figure . This section identifies and describes three distinct problems the drivers relate to:

- Cows deteriorating and becoming borderline or becoming unfit for transport.
- Borderline cows are transported.
- Cows that are unfit for transport are illegally transported.

### Cows deteriorating and becoming borderline or becoming unfit for transport

Two intermediary drivers have been identified as leading to dairy cows becoming borderline or unfit for transport (see Figure 25). The first focuses on cows having low-level underlying issues that are not addressed in a timely manner. The initial drivers leading to this include (a) a lack of knowledge and stockmanship on animal health and welfare and (b) a social norm on the level of accepted unfitness in a herd. For dairy cows, the majority of economic gain is made through selling milk, not the cadaver and therefore at the end of a cow's career there may be less emphasis on addressing health issues.

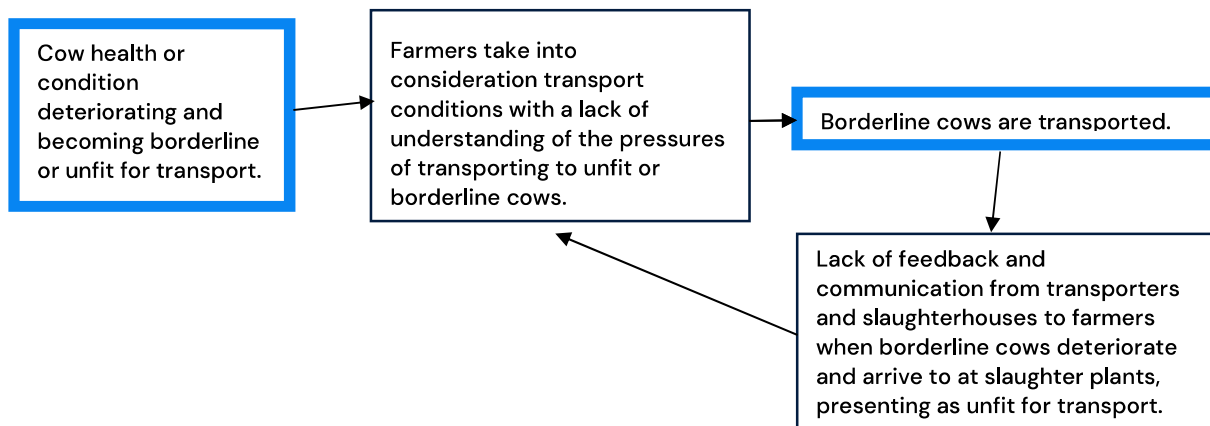
In addition, farmers tend to focus on productivity and/or profitability of the dairy herd as a priority, which can lead to breeds being in systems that are not well suited to their needs, high production levels that lead to stress, disease and injury, and overcrowded or poor housing that can lead to injuries to cows. These drivers contribute to cows deteriorating and becoming borderline or unfit for transport.



*Figure 25 Drivers for cows deteriorating and becoming borderline or becoming unfit for transport*



### **Borderline cows transported are transported**



*Figure 216 Drivers for borderline cows being transported.*

Borderline' cases are those where cow condition does not deteriorate until transport or was invisible/undetected. Such cases were recognised in the majority of MS studied. However, there is not a legal definition. Thus, stakeholders took varying judgments about what could be considered 'borderline'. Examples provided include cows being able to stand on three or four legs, but having lameness, limping or an irregular gait. When 'borderline' cases are identified, the usual process is for a veterinarian to be called and asked to assess the cow, to decide if the cow is fit for transport. However, this does not always happen. Where it does not happen, farmers can consider the conditions for transport including distance, space allowance, bedding and transport temperatures, often without knowing the true pressures of transporting the cow (see Figure 21). When the dairy cow arrives at the slaughterhouse after deterioration and it becomes obvious to the transporter and slaughterhouse the cow is unfit for transport, often this is not shared with the farmer who decided to transport the cow. Stakeholders identified the causes of this being a lack of a relationship between the end of the supply chain and the farmer. In addition, it was identified that staff at the slaughterhouses can feel like it is too late to make a change, the cow has already arrived, the issue has already happened and not accepting the unfit cow would not reverse the cow's suffering.

### **Cows that are unfit for transport are illegally transported.**

There are four intermediary drivers leading to the illegal transport of unfit end-of-career cows (Figure 27). The first relates to purposeful illegal activity based on an organised number of people within the supply chain actively transporting a medium to large number of cows that are unfit for transport for economic gain. This is driven by black markets, food fraud and the opportunity to use the meat in supply chains such as pet food.

The second and third intermediary driver is again purposeful but tends to be at an individual cow level. In this case the farmer, vet and/or transporter decide to transport a cow despite the knowledge it is unfit for transport due to social, infrastructural, or economic drivers. This relies on peer pressure across the supply chain and a lack of fear of enforcement and penalties for transporting the unfit cow.

The fourth driver is less purposeful and focusses on a lack of knowledge and/or understanding of defining and identifying end-of-career cows which are unfit for transport.

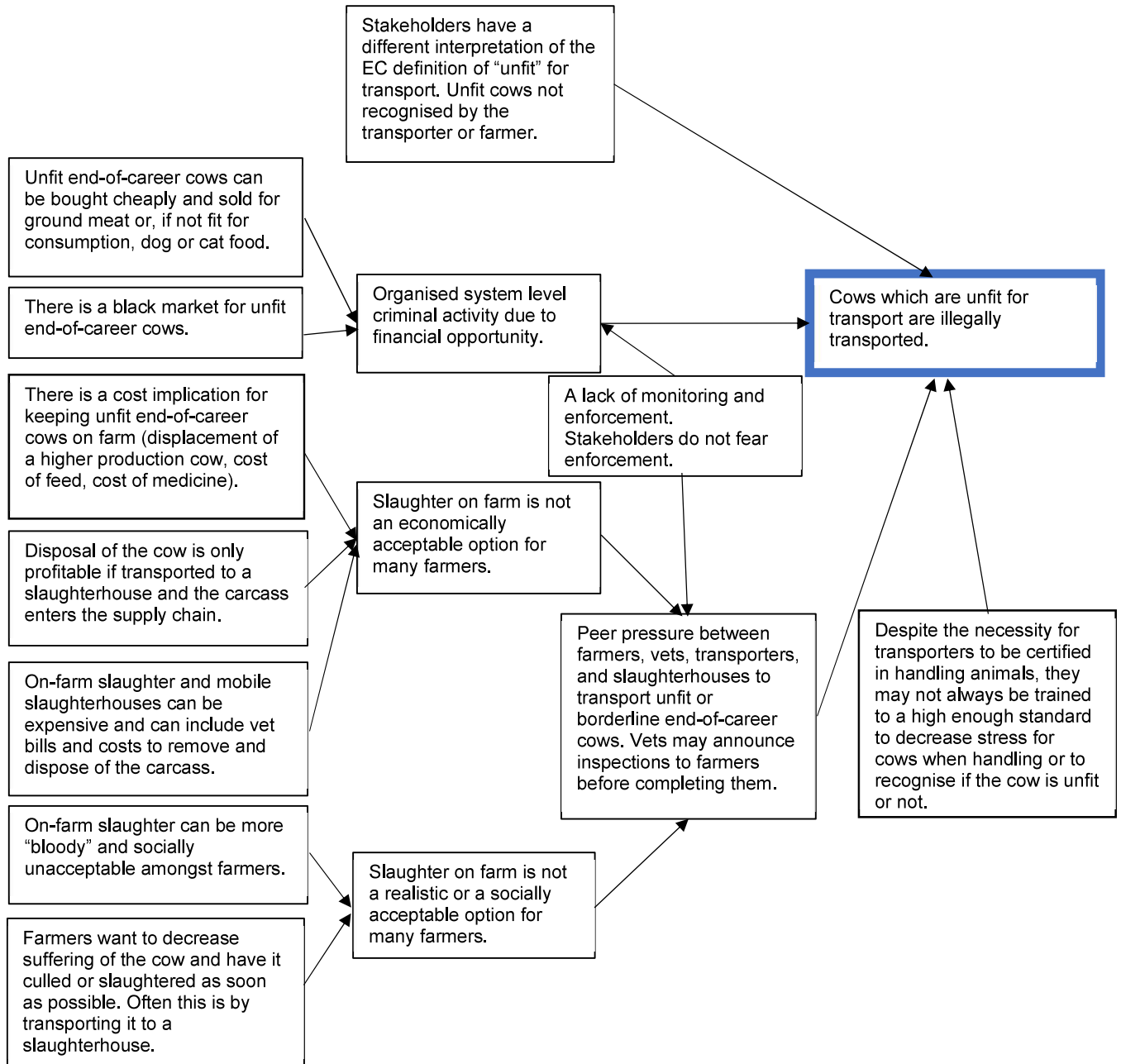


Figure 27 Drivers for transport of cows that are unfit being transported illegally.

*Study on economic models to prevent the transport of unfit end-of-career dairy cows*

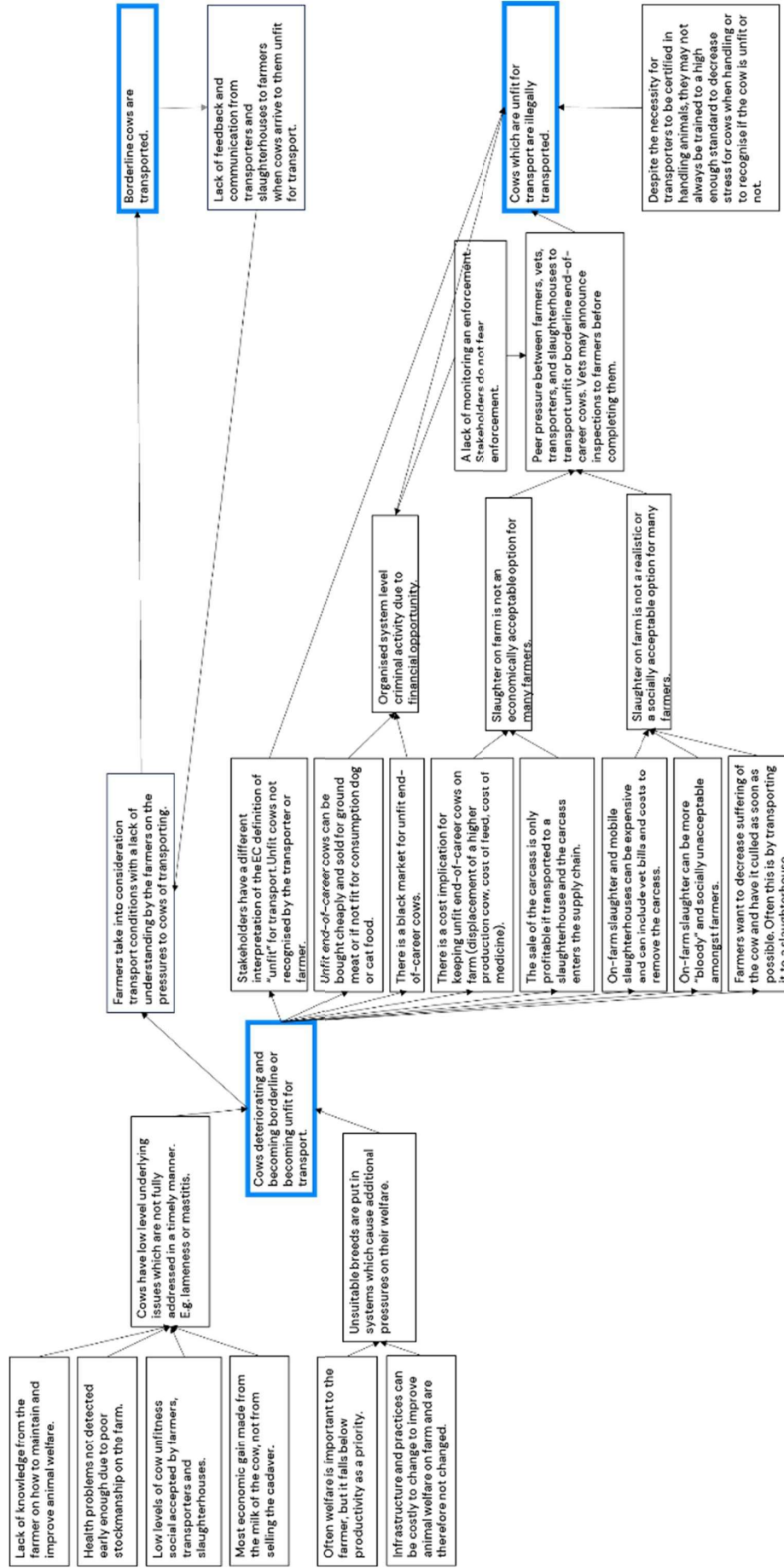


Figure 28 Scenario 0 drivers

## 5.2 Scenario 1: purposeful illegal behaviour at a systems level – Fraud networks.

### Scenario description.

This scenario focuses on the purposeful illegal behaviour of organised food fraud networks. This happens at a system level and involves the majority, if not all, of the individuals in the supply chain making an active decision to illegally transport cows to take advantage of a black market for financial gain. This usually involves

In terms of the cows affected this is usually a large or medium scale in comparison to other scenarios where it may be just one cow per herd being illegally transported. It may also include fraudulent vet certificates.

### Key drivers.

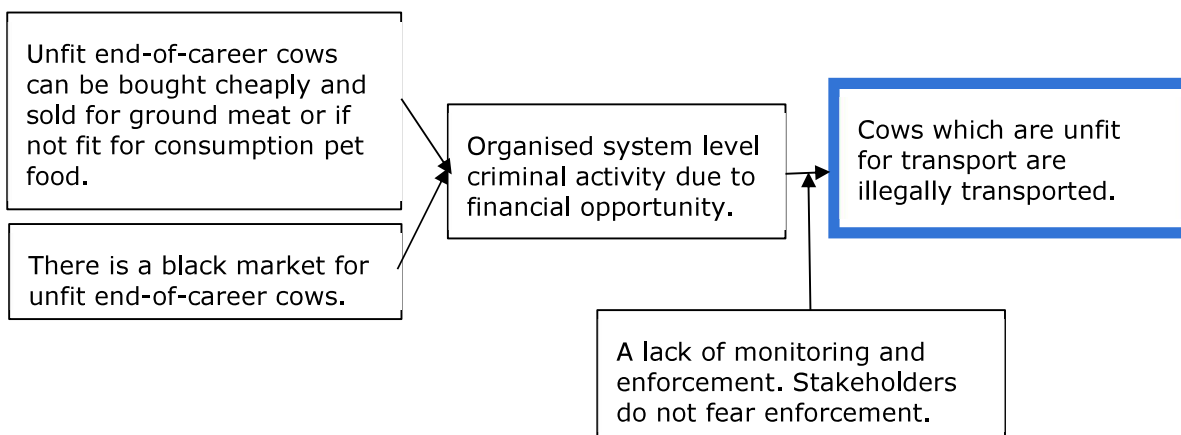


Figure 29 Scenario 1 Key drivers

Organised system level criminal activity can take place due to the availability of supply (farmers want and need to get rid of unfit cows) and the demand (as unfit cows can generate higher profits), creating a black market and financial opportunities for all stakeholders in the supply chain, Figure 1. The key motive seems to be the substantial difference in the value of meat of a healthy cow, and the value of meat from an unfit cow. The meat from an unfit cow can even turn negative, in cases where the meat is not suitable for consumption. For example, a media investigation in Poland found the value of a healthy cow sold for meat was 5-6 times higher than the value of a downer cow (TVN24, 2019; The Guardian, 2019). Thus, food fraud networks may act as an incentive to engage in illegal activity as they offer the farmer an opportunity to retain some value from the unfit cow's carcass whilst also disposing of the cow. Meanwhile, slaughterhouses that can 'specialise' in unfit cows, and monetise most of the profits at this stage of the value chain, can experience huge profit boosts as they can buy unfit cows for a much lower cost. The same media investigation in Poland estimated a mid-sized slaughterhouse could make a potential difference of some €80,000 – €550,000 annual profit. Meat processing firms may then use false certificates to sell the meat from the unfit cow, either for ground meat or pet food. Food fraud schemes generally require cooperation and engagement among stakeholders in the supply chain to be successful. Thus, the illegal behaviour takes place at a systems level. The stakeholders involved include farmers, animal transport companies, slaughterhouses, meat processing plants and veterinarians (bribed or not). A low perceived risk of deterrence, and the worry of losing business of transporting healthy cows, may contribute to food fraud networks continued operation. However, the scale of the problem is difficult to measure, due to food fraud networks' secretive nature.

## **Potential mitigation measures.**

### **Sanctions and fines**

Stakeholders within the supply chain partly risk undertaking illegal activity due to the perception of sanctions and fines being low or not properly enforced. Sanctions, on farmers, transporters, veterinarians and / or slaughterhouses, could be used to deter food fraud networks if they are sufficiently large and reliably imposed. For example, for a farmer, a sufficiently large and certain fine will impact the cost-benefit ratio of transporting an unfit cow, potentially increasing the cost of transportation, and so, reducing the relative cost of disposing of the cow on-farm. Without the supply of unfit cows from farmers, food fraud networks cannot exist. On the other hand, if fines stop slaughterhouses from accepting unfit cows, there is nowhere for farmers or transport companies to transport the unfit cows to. If the sanction-profit rate for transporting unfit cows is not beneficial for stakeholders within the fraud networks, the incidence of illegal practices is lower. For example, Italy has reduced the transport of unfit end-of-career cows by introducing new national legislation and associated enforcement actions, such as introducing sizable fines. The risk of heavy fines and a conviction, or of being excluded from the market, could be enough of an economic deterrent to prevent stakeholders from operating with food fraud networks. An economic incentive to prevent fraud networks could be schemes that compensate farmers for losses due to cows becoming unfit.

### **Checks and CCTV**

Council Regulation (EC) No 1/2005 requires fitness checks of animals at border control posts (at the EU border with non-EU countries) and at control posts, where animals are unloaded to be rested, watered, and fed after a certain number of hours travelling. However, many food fraud networks operate on short distances. Therefore, the journey may not be long enough to require stopping at a control post, and may not cross into a non-EU country, thus, not reaching a border control post. In this case, the vehicle may never be checked. Control points, set up by the police and / or competent authorities alongside the road, can check the fitness of transported animals. Similar to sanctions, increasing the number of control points to undertake checks during the transportation and / or increasing checks on arrival at slaughterhouses would increase the likelihood that food fraud networks are checked, and thus, do not accept unfit cows.

For example, the 2013 food fraud networks scandal in Poland was discovered due to routine police checks which found most cows in a transportation vehicle going to a slaughterhouse were unfit. An investigation was launched, finding the slaughtering of unfit and sick cows had been taking place since 2006, with the transport company specialising in buying sick, unfit and downing cows from farmers and selling them to the slaughterhouse. Another scandal in Poland, revealed by investigative journalists in 2019, found a slaughterhouse was transporting animals during the night when veterinarians were not present and neighbours could not see, cows with skin diseases were among those being slaughtered, and no veterinary checks were carried out. The Veterinary Inspectorate put additional controls in place after this scandal, including checking the condition of the animal on arrival to slaughterhouse. However, this is reported to not be very successful due to the irregularity of checks, highlighting the importance of checks and controls being frequent and consistent. Likewise, ensuring veterinarian inspections are not pre-warned may aid in guaranteeing stakeholders cannot prepare, such as by transporting or slaughtering any unfit cows prior to inspection.

In the Netherlands, there are strict checks on arrival at the slaughterhouse, to deter acceptance of animals that arrive in an unfit condition. Any unfit cows are euthanised and the farmer or transporter can get a fine and may be prosecuted. Similarly, a Finnish industry organisation concluded that the strict implementation of controls in slaughterhouses, combined with other measures like driver education, meant that

transportation of unfit end-of-career cows was not a significant issue in the country. If slaughterhouses do not accept unfit cows, then there is nowhere for farmers to sell or transport unfit end-of-career cows to and they would have to dispose of them on-farm. Inspections of slaughterhouses may also be easier to implement compared to checking transport vehicles, particularly if journeys are made during the night, through hard-to-reach areas, or the journey does not pass a check point. Mandatory CCTV in slaughterhouses could support inspections by ensuring slaughterhouses' actions are more transparent and can be monitored constantly, rather than it having to be done only by veterinarians in-person, which may be unrealistic given resource constraints. CCTV can help address the problem that OV's cannot always observe the entire slaughter process, whilst also improving the accountability of employees. Furthermore, this could help address the issue of cows being purposefully transported at night when neighbours cannot see, or veterinarians are not present, as it would be on camera. This further reduces the likelihood that unfit cows are accepted, and therefore, not transported. However, monitoring of CCTV footage, and acting upon any issues discovered, is crucial to ensure it deters illegal activities.

More frequent checks may expose more scandals, leading to an improvement in the situation over time. The self-policing mechanism may take effect, deterring stakeholders from undertaking the illegal activity due to the risk to their image and reputation. However, scandals may require high levels of media attention and investigative media activity, and a certain level of concern among the public to act as a watch dog function. During interviews, stakeholders from Poland claimed higher public awareness of the problems implies increasingly less slaughterhouses would be willing to deal with unfit cows, as they would be afraid of being denounced by people living around. Furthermore, authorities could make fraud data publicly available, as is now the case in the Netherlands. This could supplement the self-policing mechanism by further increasing public awareness and attention and increasing the transparency of the networks' activity. These measures could potentially deter food fraud networks from forming.

### **Comparability table.**

The table below consider the extent to which each of the mitigation options discussed address the drivers of transport of unfit dairy cows, relative to the baseline position.

*Table 1516 Effects of proposed mitigation options on drivers of transporting unfit end of life cows, relative to the baseline (Scenario 0)*

Mitigation option	Organised system level criminal activity due to financial opportunity.	A lack of monitoring and enforcement. Stakeholders do not fear enforcement.
Sanctions and fines	Introducing sizeable fines will impact the profitability of transporting unfit end-of-career cows to the point where food fraud networks become less economically viable.	Increasing checks, CCTV in slaughterhouses. Monitoring and enforcement will ensure the economic impact will be felt on food fraud networks and highlight the consequences of illegally transporting unfit end-of-career cows.
Checks and CCTV	Increasing checks and CCTV will need to be coupled with sizeable fines to influence this driver.	

### 5.3 Scenario 2: Purposeful illegal behaviour at an individual farmer level.

#### Scenario description.

This scenario focuses on the purposeful economic decision of individuals to decide to transport an end-of-career dairy cow they know is unfit for transport. This is usually an individual decision made by the farmer with peer pressure working across the supply chain system to transport the unfit end-of-career cow to a slaughterhouse and of the carcass to be sold into the market. This tends to involve a small number of cows (1 or 2) on an individual farm. This is not an organised black market, but an individual economic decision with individuals at each part in the supply chain feel pressured not to reject the unfit for transport end-of-career cow.

#### Key drivers.

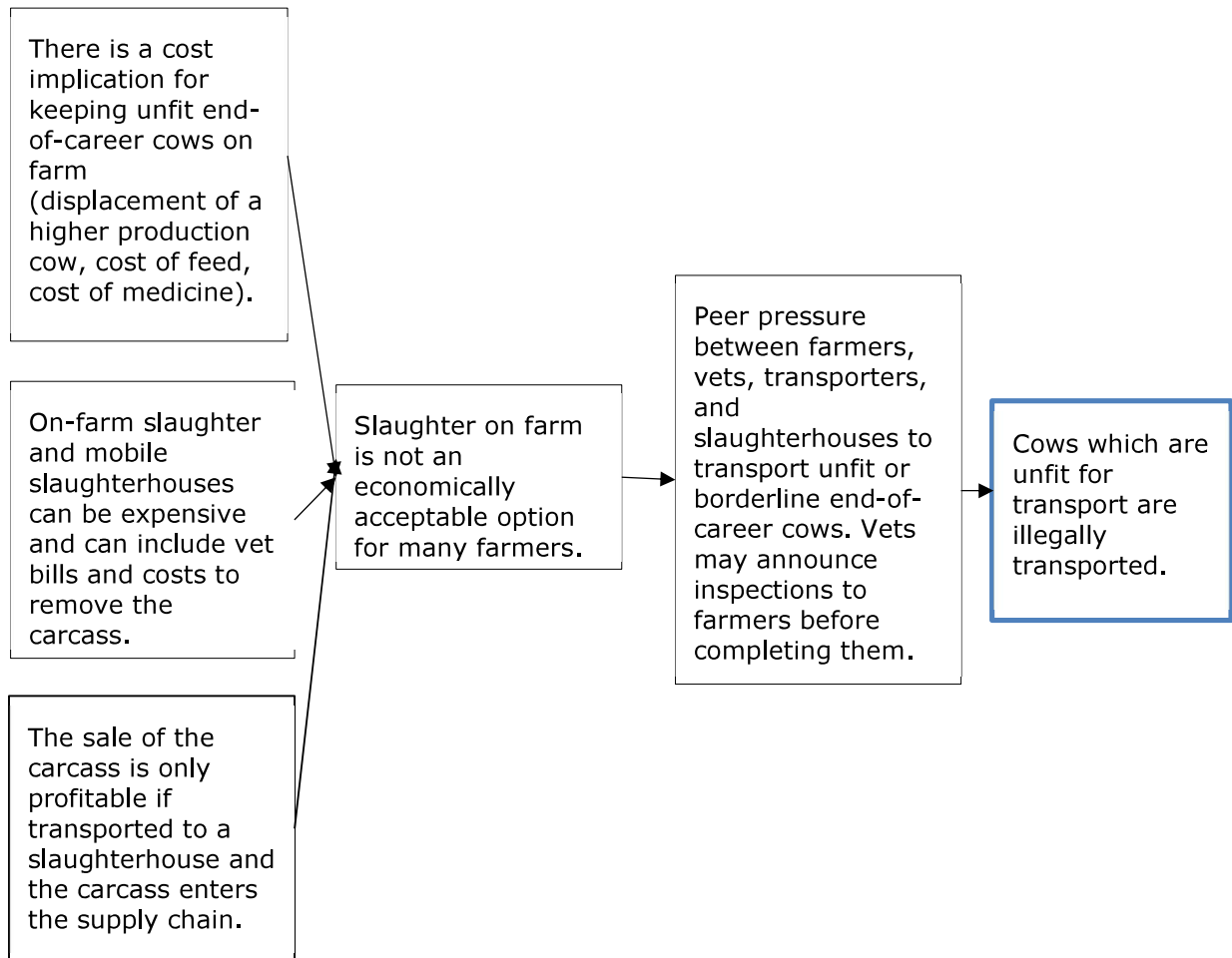


Figure 3022 Scenario 2 Key drivers

The economic drivers relating to the transport of unfit end-of-career dairy cows are dictated by the potential value of the cow if sold for slaughter, compared to the cost of killing an animal on farm and the disposal of the carcass. On farm options can include emergency slaughter (the cow is slaughtered on farm and goes into the supply chain) and is usually used when fit cows get injured, euthanasia on farm (the carcass is disposed of as waste) and mobile slaughterhouses (the carcass goes into the supply chain). All on farm options have a cost. However, euthanasia on farm has an

additional cost of disposing of the carcass, in comparison to mobile slaughterhouses where a return on the carcass is possible.

In addition, the transportation of end-of-career cows to slaughterhouse is, for most, a more regular occurrence than on-farm killing. There is a cost to maintaining a sick cow (displacement of a higher production cow, cost of feed, cost of medicine) which is a further driver for some farmers.

These drivers lead to the farmer making the decision to choose to place a cow that is unfit for transport onto a vehicle. However, there needs to be co-operation across the supply chain for the cow to reach the slaughterhouse and go into the supply chain. They are often driven by peer pressure from a long-trusted relationship with the individuals they deal directly with in the supply chain and fear of losing income in the future.

**Potential mitigation measures.**

**Enforcement: checks and penalties.**

**Sanctions and fines**

In the absence of sufficiently large fines or other sanctions, farmers incur lower costs to transport unfit cows than to euthanise or slaughter on farm. Higher penalties will impact the cost-benefit analysis farmers may undertake when considering whether to transport an unfit cow, decreasing the relative cost of on-farm slaughter and increasing the relative cost of transportation. However, as discussed in Scenario 1, many stakeholders have the perception that fines are often too low and / or not properly enforced. This increases the incentive to undertake illegal activity as risking a fine is usually worth the likely gain from transporting the cow. Thus, fines may reduce this incentive if they have a high certainty of being imposed and are sufficiently large enough. When fines are given, follow-up checks and inspections could be used to ensure the offence is not repeated. For example, Italy's approach includes a controls system that fulfils the legal requirements of the OCR, enforcement measures ('including the imposition of sanctions') and non-compliances being 'followed up properly'. The effectiveness of this approach is confirmed by the increase in the number of emergency slaughters on farm in Italy, which is the most likely alternative route for unfit end-of-career cows if they are not transported.

**Checks**

More frequent and sporadic checks on farms and slaughterhouses may help overcome the problem that stakeholders are often driven by peer pressure, due to the need to protect their business and reputation. For example, In Spain, it was identified that the transport industry is dominated by family businesses with longstanding relationships with farmers. Therefore, the transporter can face pressure from farmers to accept cows that could be perceived as unfit. Similarly, veterinarians in smaller communities would probably have formed a close relationship with the farmers and reporting them could cause these private veterinarians to lose their clientele. Often, inspections are pre-warned which may give farmers and other stakeholders opportunities to hide any irregularities.

**Comparability table.**

The table below consider the extent to which each of the mitigation options discussed address the drivers of transport of unfit dairy cows, relative to the baseline position.

*Table 1617 Effects of proposed mitigation options on drivers of transporting unfit end of life cows, relative to the baseline (Scenario 0)*

Mitigation option	Slaughter on farm is not an economically	Peer pressure between farmers, vets, transporters, and
-------------------	--	--



	acceptable option for many farmers.	slaughterhouses to transport unfit or borderline end-of-career cows. Vets may announce inspections to farmers before completing them.
Sanctions and fines	Increasing fines and sanctions would decrease the economic incentive for individuals in the supply chain to illegally transport an unfit end-of-career cow.	Individuals may not expect others in the supply chain to absorb the increased economic risk, and thus, instances of unfit cows are more likely to be discovered.
Checks	Increasing checks will likely increase the number of fines and sanctions giving an economic disincentive to illegally transport an unfit end-of-career cow.	More sporadic visits could alleviate the pressure on private veterinarians and other monitors, such as farmers could not expect the supply chain to absorb the increased risk on reputation, and thus, instances of unfit cows are more likely to be discovered.

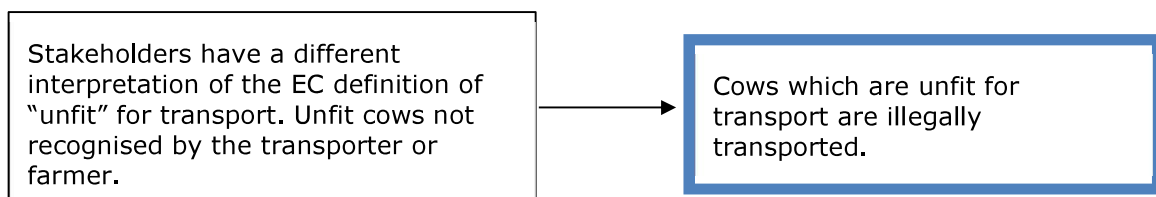
---

## 5.4 Scenario 3: Non-purposeful illegal behaviour at an individual level. Lack of understanding of the definition.

### Scenario description.

This scenario focuses on the non-purposeful illegal behaviour at an individual level, due to a lack of knowledge and / or understanding of the definition of "unfit" for transport and to identify unfit end-of-career cows. This often relates to individuals decisions to transport a small number of cows.

### Key drivers.



*Figure 3123 Scenario 3 Key drivers*

Whether stakeholders believe a cow is "unfit" for transport, as being in line with the EC definition, may differ depending on their interpretation of the definition and / or a lack of knowledge. Moreover, stakeholders may take additional factors into consideration when deciding if a cow is fit for transport as it is considered good practice. However, this may indicate some divergence from the official definition and inconsistencies in interpreting the EU rules. Often, the farmer or transporter is the one making the decision regarding whether the cow is "unfit", even though the veterinarian is likely the most knowledgeable about the issue. Thus, there needs to be greater understanding and awareness regarding what "unfit" means to prevent unfit end-of-career cows from being transported.

### Potential mitigation measures.

#### 5.4.1 Guidance and training

Guidance and training for farmers and transporters could potentially improve their ability to recognise unfit animals and gain a greater understanding of the definition, preventing them from being transported. This could also close some of the knowledge gap between those often making the decision about whether to transport the cow (farmer or transporter) and those who usually have the most training on the issue (veterinarians). Several existing examples of guidelines around animal transportation exist, such as the EU-level Animal Transport Guides. These include information about transporting cattle in the form of a video, a factsheet, and a best practice document. Some MS also have their own guidance. For example, the Agriculture and Horticulture Development Board in Britain have developed a Mobility Scoring tool, providing farmers with practical guidance on how to score their cows mobility. The tool includes photographs of cows with different levels of mobility and an accompanying narrative so farmers can learn more about animal welfare and assessing their herds' fitness. Sharing information and resources like these can be useful as farmers often work in isolation and if they do not see other farmers' cows, they can be unsure of the level of fitness that is the standard.

Furthermore, much of the current guidance in the EU appears to be generic to dairy farming and does not address the wider issue of end-of-career cows, how and why they should prevent them from being unfit or whether they should be transported. There is also no EU-level guidance on dairy cow health and welfare. These gaps in the information could be filled to ensure stakeholders have consistent guidance across the

EU, covering all relevant issues, so stakeholders are more likely to recognise an "unfit" cow and not transport it to a slaughterhouse.

However, to ensure resources are being used and their impact heightened, existing and future guidelines should be consistently promoted to their targeted users. For example, a case study evaluating the success of the Animal Transport Guides showed a significant spike in users visiting the website when promotional activities were used to support its launch, but visits to its website had declined over time.

#### 5.4.2 Communication and feedback

Better communication and feedback among the supply chain may also increase stakeholders' recognition of an "unfit" cow. Often, once a cow gets to the slaughterhouse there is no report back on their condition for transportation. Slaughterhouse workers may also feel it is too late at this point to raise awareness of a cow being unfit as it has already made the journey, leading to a decrease in reporting at the slaughterhouse.

Similarly, more frequent inspections by veterinarians to check the condition of cows being transported could offer an opportunity to provide feedback to farmers / transporters. As previously discussed, veterinarians are often more highly trained on measuring the fitness of the cow and interpreting the definition of "unfit". By stopping unfit cows from being transported, veterinarians would be able to show farmers / transporters which cows are "unfit" by definition, and over time, this would likely increase stakeholders' ability to recognise this for themselves. This would also stop the cow from being transported in the early stages of the supply chain, enabling the cow to be dealt with in the appropriate way.

#### Comparability table.

The table below consider the extent to which each of the mitigation options discussed address the drivers of transport of unfit dairy cows, relative to the baseline position.

*Table 1718 Effects of proposed mitigation options on drivers of transporting unfit end of life cows, relative to the baseline (Scenario 0)*

Mitigation option	Stakeholders have a different interpretation of the EC definition of "unfit" for transport. Unfit cows not recognised by the transporter or farmer.
Guidance and training	More sustained promotional activity would support the continued use and dissemination of relevant information. This would increase the possibility of the guidelines being utilised on a wide scale.
Communication and feedback	Feedback to the farmer and / or transporter may help to recognise what an "unfit" cow looks like on farm and how the journey may further injure or distress it.

## 5.5 Scenario 4: Lack of alternative to transporting

### Scenario description.

This scenario focuses on the purposeful decision of stakeholders to decide to transport an unfit end-of-career dairy cow, due to social drivers and a lack of infrastructure. This is a purposeful action, but it may feel to the individual's making the decisions there is "no alternative" and illegally transporting an unfit end-of-career cows is the "only option".

### Key drivers.

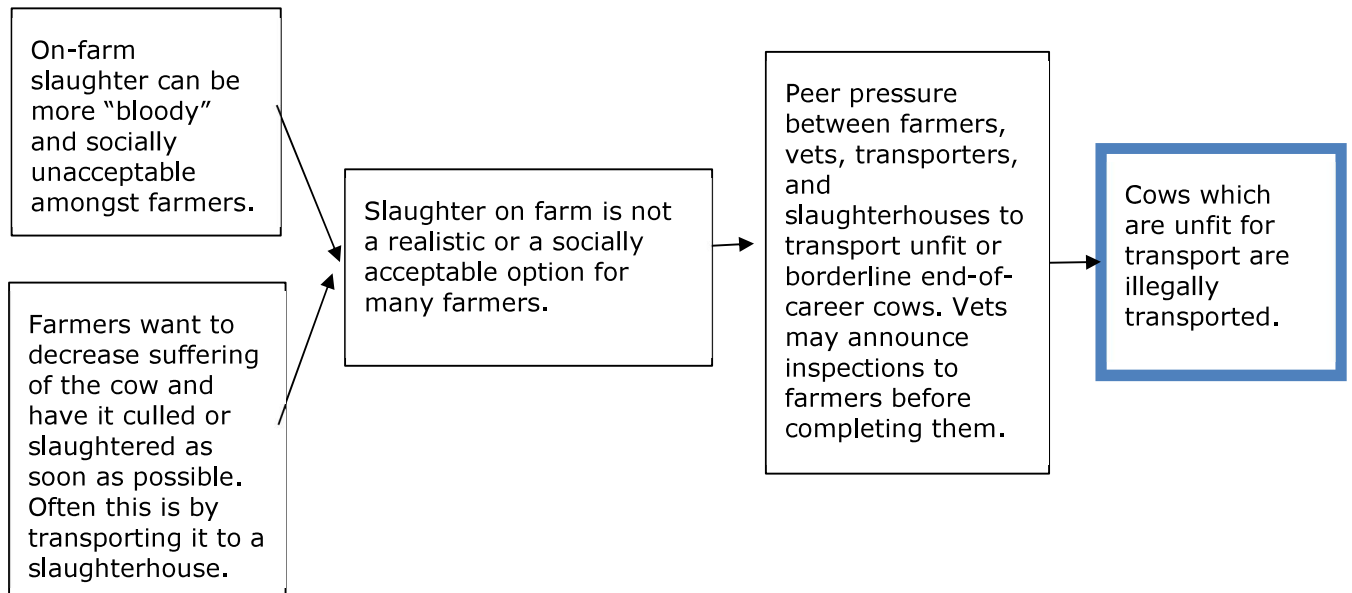


Figure 32 Scenario 4 drivers

The social and infrastructural drivers contributing to the transport of unfit end-of-career cows are related to farmers' attitudes towards slaughter on farm and their ability to carry out on farm slaughter. On farm options can include emergency slaughter (the cow is slaughtered on farm and goes into the supply chain) and is usually used when fit cows get injured, euthanasia on farm (the carcass is disposed of as waste) and mobile slaughterhouses (the carcass goes into the supply chain). However, on farm slaughter may invoke an emotional reaction among farmers, who feel it is socially unacceptable and that they may have 'failed'. On farm slaughter is also often more difficult, bloodier and more expensive. Particularly older, more traditional farmers may feel a sense of shame if they must slaughter their animal on farm, especially if members of the public can see cadavers on the farm. These drivers may lead to a farmer transporting an unfit end-of-career cow, despite this not being in the animal's best interest.

### Potential mitigation measures.

#### Infrastructure improvements

On farm slaughter can be bloodier, more distressing to the farmer and logistically more difficult than sending a cow to the slaughterhouse. This problem may be even more pronounced in built-up areas and smaller countries, where it is heavily populated and rural areas are frequently visited. Leaving cadavers by the road to be picked up for destruction may invoke shame among farmers who worry about scrutiny from the public. Providing more, and better quality, alternatives for on-farm slaughtering may prevent farmers from feeling like they must transport unfit cows.

## Mobile slaughterhouses

Mobile slaughterhouses, which are transportable and can be used temporarily or permanently, are a potential solution to on-farm slaughtering and the decreasing number of local slaughterhouses. They may improve animal welfare as the cows can stay in their usual environment on farm and they can allow breeders to keep track of the situation. Mobile slaughterhouses have been piloted in a few MS, often with industry and authorities working together. For example, in 2018, France adopted a law to establish the legal framework to develop mobile slaughtering solutions. A pilot project is operating in the West of France, aiming to ensure farmers a better remuneration of animal carcasses by reducing intermediaries and improve territorial coverage and slaughter capacities. However, there are several risks associated with mobile slaughterhouses, such as the volume of blood released causing hygiene issues, the risk of contamination and a higher risk of the cow regaining consciousness after stunning. Furthermore, they are usually more expensive than transporting dairy cows, whilst also slaughtering fewer animals per day. The higher costs associated with on-farm slaughter are discussed in Scenario 2.

### Comparability table.

The table below consider the extent to which each of the mitigation options discussed address the drivers of transport of unfit dairy cows, relative to the baseline position.

*Table 18 19 Effects of proposed mitigation options on drivers of transporting unfit end of life cows, relative to the baseline (Scenario 0)*

Mitigation option	Slaughter on farm is not a realistic or a socially acceptable option for many farmers.	Peer pressure between farmers, vets, transporters, and slaughterhouses to transport unfit or borderline end-of-career cows. Vets may announce inspections to farmers before completing them.
Infrastructure improvements	Infrastructural improvements could help make on farm slaughter practically more straightforward, emotionally easier for farmers and more discreet.	No impact.
Mobile slaughterhouses	Mobile slaughterhouses offer an alternative, convenient route for unfit end-of-career cows. Although they are more expensive than traditional slaughterhouses the carcass does go into the supply chain.	Potential for peers to offer an alternative solution.

## 5.6 Scenario 5: short productive life for dairy cows and a high incidence of health and injury problems in end-of-career cows.

### Scenario description

In contrast to the other scenarios, this focuses on the drivers that lead to a short productive life for dairy cows (3-7 lactations across the EU) and a high incidence of health and injury problems in end-of-career cows.

### Key drivers

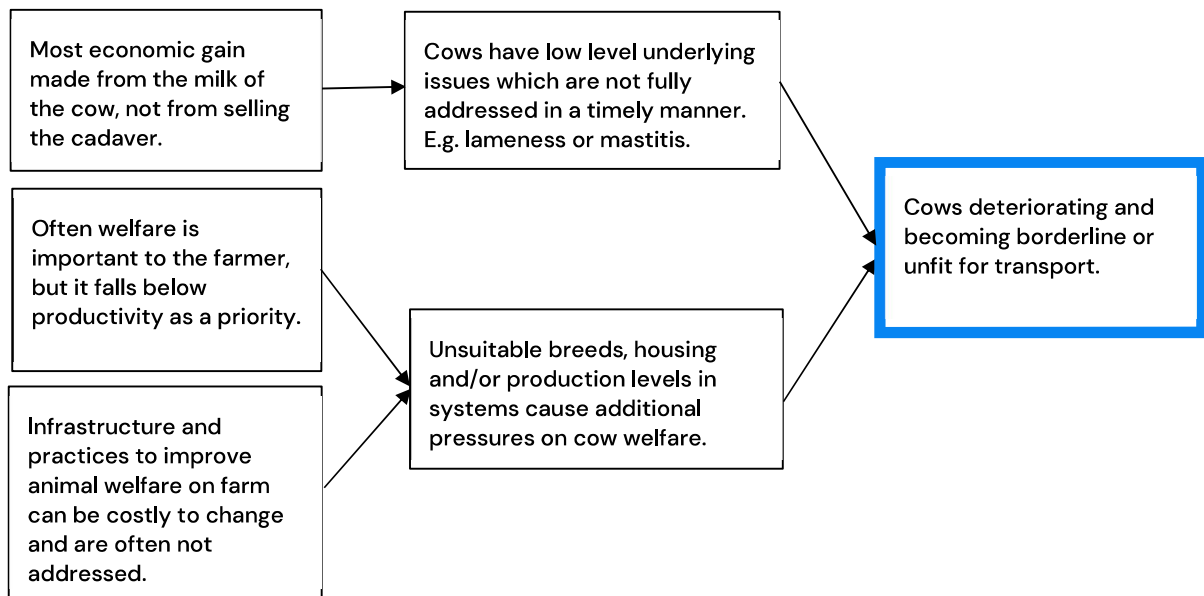


Figure 33 Scenario 5: Key drivers

Productive life is often dictated by the cow's environment and management more so than genetics, although specialist dairy breeds such as the Holstein have been bred for milk production at the expense of longevity traits. When there is poor compatibility between cow breed and environment, health and injury issues are more likely e.g. when cubicles are too small, lameness is more prevalent; overcrowding or poor hygiene can cause high levels of mastitis. These conditions are endemic in the EU dairy herd and farmers may find it difficult to address them without considerable capital investment or significant changes in cow numbers or management practices. When injured or diseased animals can be culled and replaced at a manageable cost, this strategy is often preferred over investment or system change.

### Potential mitigation measures

**Enforcement: checks and penalties. End of chain non-payment and feedback from across the supply chains. PLUS Infrastructure improvement / supplemented (mobile slaughterhouses, on farm slaughter)**

Limited economic returns from milk production, which relies on globally traded commodities such as milk powder and cheese, means that producers are often under pressure to maximise output and minimise costs. If animals can be transported for slaughter and realise some economic value, the economic case for farmers to address the extent of culling for health and injury issues at a system level is limited. Effective enforcement of the regulations to stop unfit cows being slaughtered, alongside provision of on-farm killing and disposal, would encourage farmers to address the problem at an earlier stage, including system-level issues such as breed, housing and management.

---

### **Information and advice / gov and industry. (Aimed at farmers).**

Where there is effective enforcement to avoid transport of unfit dairy cows, there is an economic driver for farmers to reduce the numbers of unfit cows at the end of their career, through addressing the main causes that are pertinent to their own situation, including a combination of cow breed, herd numbers and infrastructure, milk production level and management practices. While this is logical, it may not be intuitive for farmers to identify and address the most relevant problems. For this reason, it would be important to highlight the opportunity of good animal welfare in milk production as an economic opportunity (private good) as well as in the interests of the animal (public good). There are extensive public and private advisor networks in the EU that could be used to promote these messages and highlight best practice.

### **Animal welfare labelling: rewarding higher welfare through product price.**

The current position reflects the fact that the economic cost of providing higher animal welfare is not accounted for in the market for milk or milk products. Animal welfare is a credence good, that is, consumers cannot detect the quality of animal welfare in the good they have purchased, even after consuming it. As such, the cost of higher welfare needs to be communicated through effective labelling of products or regulation of production standards. Both can be justified but the latter is most pertinent in the case of end of life cow transport. Thus, if the costs of poor welfare are borne by the producer (through penalties for transporting OR on-farm killing and disposal), milk buyers will need to internalise that cost in milk price in order to secure supply (in the medium to long term). The consumer will pay for what they routinely state they value but this relies on trust in the label and requires a robust system of inspection and verification.

### **Economic model: better returns to support the cost of good animal welfare**

If we accept that there are costs to provide higher animal welfare (at end of life as well as over the productive life of the cow e.g. lower milk production, vet treatment costs etc.), it is necessary to avoid a situation where producers absorb all that cost. Commodity markets for milk mean that retailers can substitute product through imports and processors can secure milk supply at marginal returns for the farmer, due to an imbalance in market power. Milk is a perishable product with high investment costs (for infrastructure) so that supply cannot readily be turned down or up, and stopping production is often a lifetime decision for farmers. The role of cooperatives in securing better prices for farmers is recognised through EU legislation on producer organisations but this is uneven across MS and does not guarantee that all costs are covered.

Systemic changes to improve dairy cow welfare need to be applied universally within the EU to avoid unfair competition. While this can be supported by increased use of producer organisations in MS to enhance the market power of producers and ensure milk prices are sufficient to cover the costs of higher welfare, it does not necessarily translate to higher on-farm welfare or reduce the problem of unfit end of career cows. Farmers may choose to use additional income to reinvest in their infrastructure, improve facilities or indeed reduce reliance on specialist milk breeds, but they could also opt to expand production or draw any increased revenues out of the business.

### **Comparability table**

The table below consider the extent to which each of the mitigation options discussed address the drivers of transport of unfit dairy cows, relative to the baseline position.

Table 1920 Effects of proposed mitigation options on drivers of transporting unfit end of life cows, relative to the baseline (Scenario 0)

Mitigation option	Cows have low level underlying issues which are not fully addressed in a timely manner. E.g. lameness or mastitis.	Unsuitable breeds, housing and/or production levels in systems cause additional pressures on cow welfare.
Enforcement: checks and penalties at slaughter PLUS Infrastructure: on farm slaughter	This option would provide new incentives for farmers to reduce the incidence of health and injury problems during a cow's productive life, as it would have no economic value at end of life.	This option would encourage farmers to consider systemic changes in terms of the suitability of breed etc. that reduced the incidence of health and injury problems in the herd.
Information and advice to farmers on welfare	This option would be unlikely to be effective on its own for most farmers but is an essential mechanism to support the changes above. It should focus on the economic case as public good rationale.	
Animal welfare labelling: rewarding through price	Providing information for consumers is a powerful instrument for shifting demand towards higher welfare food products but needs to be understood and trusted. This could support the enforcement option and an opportunity to fund higher welfare actions through the supply chain.	
Economic model: better returns for farmers	While marginal economics in the sector contributes to the problem of poor animal welfare actions such as transporting unfit end of life cows, higher returns would not necessarily be used to fund welfare actions. Again, this is a supporting measure.	



---

## 6 Conclusions

### Objectives of study

The project set out to respond to three main objectives:

- Assess the *magnitude of the problem* and the reasons for any possible non-compliance, including the associated costs and benefits for the concerned actors. Explain whether/to what extent the current business plan(s) have contributed to the problems.
- *Identify measures put in place* by the dairy industry or by the competent authorities (in charge of animal welfare or/and slaughterhouses' inspection) in order to prevent any non-compliance and identify best practices.
- Gather *information and evidence on alternative ways* to address the problems (e.g., programmes to increase longevity of dairy cows, programmes to increase resilience to diseases, private or public funding to kill and collect unfit animals).

The study findings are summarised below under key themes.

### Magnitude of the problem

For the first objective, getting consistent data across all MSs to understand the scale of the transport of unfit end-of-career cows is difficult, as this data is not collected in a consistent way and relies on the reporting of illegal activities. However, a number of MSs were able to share some data which indicated the extent of the issues and trends in recent years. The mean estimate by stakeholders who responded to the quantitative survey for the proportion of end-of-career cows transported that are unfit across all MS was 8-9% but the scale of the problems is very heterogeneous across MS.

Available data also highlights that effective measures can be implemented to reduce the prevalence of illegal transport. This relies on a good understanding of the drivers at country level and addressing these with appropriate measures, adequately resourced and enforced, and in cooperation with industry.

### Drivers of the transport of unfit end-of-career cows

A combination of economic, social, and cultural factors merge to drive *end-of-career cows becoming unfit for transport*. However, economic factors were identified in all strands of the research as key and often the driver that is prioritised above health and welfare. There is social acceptance amongst farmers regarding dairy cows' sub-optimal welfare standards and short lifespan, compared to their natural lifespan. Supply chain economic models can also contribute to dairy cows becoming unfit by the end of their career with a focus on milk production resulting in low carcass values, making it less economically viable to slaughter cows on farm due to low returns. Other aspects of the economic model may also include increased indoor housing, insufficient labour resources, and low cost in pasture-based systems leading to nutritional stress and exacerbating injury and health problems and can ultimately put pressure on farmers to prioritise profit over welfare in transporting end-of-career cows.

Drivers of the *transport of unfit end-of-career cows* have been identified and mapped to highlight how they lead to the problem. A key issue is that the decision to transport relies on individual farmers making an informed decision on the fitness of an end-of-career dairy cow to travel. Stakeholders along the supply chain have different motivations, often focussed on economic gain. For farmers there is a conflict between transport to a slaughterhouse and the additional costs of treatment (for the cow to become fit again), or on-farm killing and disposal (with the loss of any carcass value). While there is no single economic model for dairying in the EU, a focus on economic returns ultimately puts pressure on some farmers to prioritise profit over welfare in treating and transporting end-of-career cows. Social norms also have an impact on the transport of end-of-career cows, including social relationships in the supply chain. There is a distinction between those who are poorly informed on the rules and the

---

definition of an unfit cow, and others who are knowingly complicit in transporting unfit end-of-career cows as part of food fraud networks, which are organised at a system level.

### **Measures in place**

There is evidence of effective measures implemented by competent authorities to prevent the transport of unfit end-of-career cows but data on their use and impact is mostly unavailable. NCAs tend to focus more on delivering sanctions, controls, fines and raising awareness. A case study in Italy highlights a number of enforcement actions that have been implemented and quantitative evidence on the decrease in the number of end-of-career cows being transported. There are also a number of advisory tools and information sheets developed or commissioned by government bodies which support farmers in identifying unfit for transport cows. Advisory tools identified included; score sheets, traffic light systems and an app which allows for farmer to submit information about their cow to understand if it is fit for transport. Examples were also identified where authorities and industry work together on some initiatives, for example, mobile slaughterhouses. Stakeholders from both competent authorities and the dairy industry have piloted mobile slaughterhouses to provide additional infrastructure to farmers where cows are unfit for transport.

Industry also plays a role in raising awareness and supporting good practice, often focused on increasing general health and welfare and reducing the number of cows which become unfit by the end of their careers. Examples of these measures include assurance schemes which are usually industry lead but may be joint initiatives with the national or local government. Assurance schemes usually support the farmer in increasing market share and potentially market value of the end carcass. The motivations behind the schemes usually reflect consumer preferences for good animal welfare, monitoring welfare across the supply chain and avoiding any animal welfare scandals. Assurance schemes usually set a number of guidelines and standards which should be met by the farmer. A technology to identify lameness was also identified which could support farmers better identify underlying issues.

### **Alternative ways to address the problems**

Mitigation measures should respond to drivers and are more applicable in some contexts than others (including between different MSs). Scenarios were developed to isolate drivers and identify best practices that can be delivered by competent authorities and/or industry to address these and ultimately the problem (cows becoming unfit by the end of their career and/or transport of unfit end-of-career dairy cows). The scenarios considered both purposeful (economic or social drivers prioritised over compliance) and non-purposeful (misunderstanding of the legislation or definition "unfit" for transport) behaviours. In addition, the scenarios explored potential mitigation for drivers which rely on an organised network or an individual decision.

Across the EU, a wide range of mitigation measures have been implemented, both by NCAs and the dairy industry. These address general health and welfare in the sector as well as those targeted at reducing the transport of unfit end of life cows. Together they represent an effective toolkit but more effort is needed to resource implementation and share good practice. This study has highlighted a deficit of data on the magnitude of the problem and the effectiveness of individual options in different contexts. It is essential that this is remedied in order for NCAs to understand the key drivers for them and relevant mitigation measures (for different contexts). Further research at MS level is needed to characterise the problem and the establishment of robust systems for monitoring.

More systematic change, for example to the economic model within which the EU dairy sector operates is more difficult to address but must be recognised as a contributing factor and considered in wider forums on farm support, the role of producer organisations and consumer labelling.

---

## **Annex 1: References**

ABC News (2021). Spain starts culling of 900 cattle after 2 months at sea.

Animal Aid (n.d.) The Case for Mandatory CCTV in Slaughterhouses. Available at: <https://www.slaughterhousecctv.org.uk/the-case-for-mandatory-cameras/>

Brocard, V. et al. (2015) High output farming systems in Europe: the French case. Available at: [https://www.researchgate.net/publication/291086353\\_High\\_output\\_farming\\_systems\\_in\\_Europe\\_the\\_French\\_case](https://www.researchgate.net/publication/291086353_High_output_farming_systems_in_Europe_the_French_case)

Business Wales (2021) Cow mobility issues nearly halve at Welsh dairy farm after video monitoring. Available at: <https://businesswales.gov.wales/farmingconnect/news-and-events/news/cow-mobility-issues-nearly-halve-welsh-dairy-farm-after-video-monitoring>

Compassion in world farming (2021). Calves reared for veal.

Consortium of the Animal Transport Guides. Project (2017). 'Guide to good practices for the transport of sheep'.

Consortium of the Animal Transport Guides Project (2018) Evaluation of Guides to Good Practice. Available at: <http://animaltransportguides.eu/wpcontent/uploads/2016/05/Evaluation-of-Guides.pdf>

DAFM (Department of Agriculture, Food and the Marine - Ireland), 2018. Challenges and Solutions To Supporting Farm Animal Welfare in Ireland Responding to the Human Element.

Danish Veterinary and Food Administration (n.d.) Transport-Guide. Available at: <https://www.foedevarestyrelsen.dk/SiteCollectionDocuments/Dyresundhed/Transportegnethed/Transportguide%20-%20Vurdering%20af%20transportegnethed%20og%20%20skader%20opst%20C3%A5et%20under%20transport.pdf>

De Vries, A. (2013) Cow longevity economics: The cost benefit of keeping the cow in the herd. DeLaval Cow longevity conference, Tumba, Sweden Aug 28-29 p 22 – 52

Defra (2017) Impact Assessment - Improving animal welfare: Closed Circuit Television (CCTV) in Slaughterhouses. Available at: [https://consult.defra.gov.uk/farm-animal-welfare/cctv-in-slaughterhouses/supporting\\_documents/CCTV%20internal%20impact%20assessment%20%20final.pdf](https://consult.defra.gov.uk/farm-animal-welfare/cctv-in-slaughterhouses/supporting_documents/CCTV%20internal%20impact%20assessment%20%20final.pdf)

EFSA (2015). Scientific Opinion on the assessment of dairy cow welfare in small-scale farming systems. EFSA Journal, 13(6):4137. <https://doi.org/10.2903/j.efsa.2015.4137>

Environment and Forestry Directorate (2020) Mobile abattoirs - viability and sustainability: report. ISBN: 9781839606076.

EuroDairy (2019). Practical on-farm animal welfare assessment tools and approaches.

Eurogroup for Animals, UECEBV, Animals' Angels, ELT, FVE, IRU (2012) Practical Guidelines to Assess Fitness for Transport of Adult Bovines.

---

Eurogroup for Animals (2016). Fact file. Long distance livestock transport.

Eurogroup for Animals (2019) Eurogroup for Animals Magazine. Available at: [https://issuu.com/eurogroupforanimals/docs/e4a-magazine-01-2019-screen\\_\\_1\\_](https://issuu.com/eurogroupforanimals/docs/e4a-magazine-01-2019-screen__1_)

Eurogroup for Animals (2020). How much is enough? New evidence shows the suffering of animals exported from Spain to Middle East for slaughter.

Eurostat database (2021). Estimates of slaughtering, other than in slaughterhouses - annual data

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

European Commission (2015) Overview report Systems to Prevent the Transport of Unfit Animals in the EU. Available at: [https://ec.europa.eu/food/audits-analysis/overview\\_reports/act\\_getPDF.cfm?PDF\\_ID=670](https://ec.europa.eu/food/audits-analysis/overview_reports/act_getPDF.cfm?PDF_ID=670)

European Commission - DG Health and Food Safety (2017). Final report of an audit carried out in the Netherlands from 20 February 2017 to 24 February 2017 in order to evaluate animal welfare during transport to non-EU countries.

European Commission (2018) Final report of an audit carried out in Poland from 26 February 2018 to 02 March 2018 in order to evaluate animal welfare during transport to non-EU countries. Available at: [http://ec.europa.eu/food/fvo/rep\\_details\\_2\\_en.cfm?rep\\_id=4041](http://ec.europa.eu/food/fvo/rep_details_2_en.cfm?rep_id=4041)

European Commission (2020) Final report of an audit carried out in France from 23 November 2020 to 04 December 2020 in order to evaluate the food safety control systems in place governing the production and placing on the market of bovine meat, including traceability. Available at: [http://ec.europa.eu/food/fvo/rep\\_details\\_2\\_en.cfm?rep\\_id=4435](http://ec.europa.eu/food/fvo/rep_details_2_en.cfm?rep_id=4435)

European Commission (2020) Study to support the evaluation of the European Union strategy for the protection and welfare of animals 2012-2015. Available at: <https://op.europa.eu/en/publication-detail/-/publication/a34786aa-3907-11eb-b27b-01aa75ed71a1/language-en>

European Commission Directorate-General for health and food safety health and food audits and analysis DG(SANTE) 2020-6930 final report of an audit carried out of Slovenia from 06 October 2020 to 16 October 2020 in order to evaluate the food safety control systems in place governing the production and placing on the market of bovine meat, including traceability.

European commission Directorate-General for health and food safety health and food audits and analysis DG(SANTE) 2020-6928 final report of an audit carried out of the Netherlands from 05 October 2020 to 16 October 2020 in order to evaluate the food safety control systems in place governing the production and placing on the market of bovine meat, including traceability.

European Commission (2021a) Final report of an audit carried out in Italy from 18 January 2021 to 29 January 2021 in order to evaluate the food safety control systems in place governing the production and placing on the market of bovine meat, including traceability. Available at: [https://ec.europa.eu/food/audits-analysis/act\\_getPDF.cfm?PDF\\_ID=15271](https://ec.europa.eu/food/audits-analysis/act_getPDF.cfm?PDF_ID=15271)

---

European Commission (2021b) Final report of an audit carried out in Czech Republic from 31 May 2021 to 11 June 2021 in order to evaluate the food safety control systems in place governing the production and placing on the market of bovine meat, including traceability. Available at: [http://ec.europa.eu/food/fvo/rep\\_details\\_2\\_en.cfm?rep\\_id=4425](http://ec.europa.eu/food/fvo/rep_details_2_en.cfm?rep_id=4425)

European Council (1998). Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes.

European Council (2009). Council Regulation (EC) No 1099/2009 of 24 September 2009 on the protection of animals at the time of killing.

European Parliament and of the Council (2004). Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption.

EFSA (2020). Welfare of cattle at slaughter. *EFSA Journal*, 18(11):6275. <https://doi.org/10.2903/j.efsa.2020.6275>

Eurostat database. Estimates of slaughtering, other than in slaughterhouses - annual data. Accessed: May 2021.

Fearon, R. (2017) Government responds to public support for mandatory CCTV in slaughterhouses. *The Veterinary Record*, 181(20). DOI: 10.1136/vr.16112017news

FOUR PAWS International (2021). Live animal transport in Europe.

Hultgren, J., Wiberg, C, Berg, C., Cvek, K. and Lunner Kolstrup, C. (2014). Cattle behaviours and stockperson actions related to impaired animal welfare at Swedish slaughter plants. *Applied Animal Behaviour Science* 152, p. 23-37. <http://dx.doi.org/10.1016/j.applanim.2013.12.005>

Kühl, S., Flach, L. and Gauly, M. (2019) Economic assessment of small-scale mountain dairy farms in South Tyrol depending on feed intake and breed. Available at: <https://www.tandfonline.com/doi/full/10.1080/1828051X.2019.1691064>

Landkreis Cloppenburg (2018) Tierschutzgerechter Umgang mit kranken und verletzten Nutztieren. Available at: [https://lkclp.de/uploads/files/vortrag\\_rind\\_kranke\\_verletzte\\_klv\\_2018.pdf](https://lkclp.de/uploads/files/vortrag_rind_kranke_verletzte_klv_2018.pdf)

Landwirtschaftskammer Nordrhein-Westfalen (2019) Leitfaden Transportfähigkeit und Schlachtfähigkeit von Rindern richtig bewerten. Available at: <https://www.landwirtschaftskammer.de/landwirtschaft/tiergesundheit/pdf/leitfaden-rindertransport.pdf>

McDermott, P. & McKevitt, A. (2015) Analysis of the operation of on farm emergency slaughter of bovine animals in the Republic of Ireland. *Irish Veterinary Journal*, 69 (4). Available at: <https://irishvetjournal.biomedcentral.com/articles/10.1186/s13620-016-0063-8>

Ministerio de Consumo (2021) Proyecto de real decreto por el que se establecen medidas para el control del bienestar de los animales en los mataderos mediante la instalación de sistemas de videovigilancia. Available at:

---

[https://www.sanidad.gob.es/normativa/audiencia/docs/RD\\_VIDEOVIGILANCIA\\_MATADEROS.pdf](https://www.sanidad.gob.es/normativa/audiencia/docs/RD_VIDEOVIGILANCIA_MATADEROS.pdf)

More, S. J. (2021) An evaluation of four private animal health and welfare standards and associated quality assurance programmes for dairy cow production. *Food Policy*, 105. Available at: <https://doi.org/10.1016/j.foodpol.2021.102169>

New Zealand Government (2018). Preventing downer cows while transporting to slaughter.

New Zealand Government (2019) Dairy Cattle. Available at: <https://www.mpi.govt.nz/dmsdocument/46024-Code-of-Welfare-Dairy-cattle>

Poczta, W. et al. (2020) Economic Situation of Dairy Farms in Identified Clusters of European Union Countries. Available at: <https://www.mdpi.com/2077-0472/10/4/92/pdf>

Sumner, C. L. et al. (2018). Perspectives of farmers and veterinarians concerning dairy cattle welfare. *Animal Frontiers*, Volume 8, Issue 1, January 2018, Pages 8–13. <https://doi.org/10.1093/af/vfx006>.

Stojkov et al. (2018) Hot topic: Management of cull dairy cows—Consensus of an expert consultation in Canada. *J. Dairy Sci.* Available at: <https://doi.org/10.3168/jds.2018-14919>

Sturaro, E. et al. (2013) Dairy systems in mountainous areas: Farm animal biodiversity, milk production and destination, and land use. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S187114131300406X?via%3Dihub>

Stygar, A. et al. (2021) A Systematic Review on Commercially Available and Validated Sensor Technologies for Welfare Assessment of Dairy Cattle. <https://www.frontiersin.org/articles/10.3389/fvets.2021.634338/full>

Teagasc (n.d.) Lameness. Available at: <https://www.teagasc.ie/media/website/animals/dairy/Lameness.pdf>

The Guardian (2017). Revealed: exported EU animals subject to abuse and illegal conditions.

The Guardian (2019). Secret filming shows sick cows slaughtered for meat in Poland.

Veissier, I. (2020). Animal welfare official inspections: farmers and inspectors shared concerns. *Animal*, Volume 15, Issue 1. <https://doi.org/10.1016/j.animal.2020.100038>.

Wigham, E. E. (2020) The impact of Animal Welfare Training at slaughter on animal welfare, personnel attitudes and product quality. Available at: <https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.801581>

## Annex 2: Desk research protocol for preliminary research.

As part of the scoping desk research, ICF has identified resources available on the topics of relevance to this assignment. Scoping research has been used to help refine the data collection matrix. It has provided an opportunity to test research questions and refine operational sub-questions or add new ones.

ICF has collected sources that are up to **10 years old** with the understanding that these should be relevant to contemporary economic models in the dairy sector. ICF has considered older sources of information when those are flagged as particularly good and relevant by experts and stakeholders.

Criteria	Details
<b>Document types</b>	<p>The search will cover the following document types:</p> <ul style="list-style-type: none"> <li>• reports and other documents on national animal welfare activities (official audits, statistics, animal welfare plans and projects)</li> <li>• academic and scientific research</li> <li>• best practice and guidance documents</li> <li>• quality standards</li> <li>• reporting from investigative journalism and whistleblowing activities</li> </ul>
<b>Sources</b>	<p>Web search:</p> <ul style="list-style-type: none"> <li>• relevant EU legislation and international standards</li> <li>• EFSA's scientific opinions related to the welfare of dairy cows</li> <li>• farmer and industry associations in the meat and dairy sector</li> <li>• academia and research institutions: EBSCO, Google scholar</li> <li>• EU publications (e.g., animal welfare studies, FVO audit reports, reports from the European Parliament and by the Joint Research Centre - JRC) and statistics (e.g., TRACES, EUROSTAT and RASFF datasets)</li> <li>• professional information outlets</li> <li>• animal welfare NGOs (EU, international)</li> <li>• international organisations (FAO)</li> <li>• official statistical datasets (EU, international)</li> <li>• media outlets</li> </ul>
<b>Language</b>	English and the national languages of the case study Member States
<b>Keywords</b>	<p>"end-of-career cows" OR "downer cows" OR "unfit cows" OR "dairy cows" OR "cull cows" AND "welfare" OR "animal welfare" OR "longevity" OR "productivity" OR "lifespan"</p> <p>"end-of-career cows" OR "downer cows" OR "unfit cows" AND/OR "management" AND "guidelines" OR "good/best practices"</p> <p>"cost" OR "price" OR "economic data" OR "compliance cost" AND "dairy cows" OR "end-of-career cows"</p> <p>"transport" OR "illegal transport" OR "slaughter" OR "on-farm slaughter" AND "end-of-career cows" OR "downer cows" OR "unfit cows" OR "unfit animals"</p> <p>"incentives" OR "controls" OR "inspections" OR "carcass condemnation" OR "measures" AND "end-of-career cows" OR "downer cows" OR "unfit cows" OR "transport of dairy cows"</p>

---

## **Annexe 3: international Guidelines.**

### *EU guidelines*

Among the guidelines developed by Eurogroup for Animals (2021) for Animals for intra-EU transport of live cattle, the following is relevant to end-of-career cows: On-farm killing and the use of decentralised slaughterhouses for terrestrial farmed animals at the end-of-production cycle should be promoted by forbidding their transport over 4 hours (including loading and unloading time).*International Guidelines*

### **Canada**

The Canadian Veterinary Medical Association sets out the following relevant guidelines:

- Cows should be culled prior to becoming compromised, which would lead to a higher risk in the transport phase;
- Cows' fitness must be assessed before transport and this should occur only if they are thought to be able to withstand the journey without suffering.

### **USA**

American Association of Bovine Practitioners' transportation recommendations for cattle outlines relevant guidelines for the prevention of transportation of unfit end-of-career cow which includes:

- Delay transport of an animal that appears to be exhausted or dehydrated until the animal is rested, fed and rehydrated in a safe area;
- Do not transport ambulatory animals with conditions that will not pass pre-slaughter inspection at a packing or processing plant (these include, but are not limited to: cancer eye, blindness in both eyes; fever greater than 103°F; drug residues; peritonitis; fractures or lameness (4 or 5 on a 5-point scale); unreduced prolapses; cows that are calving or have a high likelihood of calving during transport; distended udders causing pain and ambulatory issues; suspected central nervous system symptoms; visible open wounds).

Farmers Assuring Responsible Management (2019). Animal Care Version 4.0. Requirements & Corrective Actions lists the following mandatory actions for the farmers (owners of the cow).

- Acceptable non-ambulatory animal practices and protocol;
- Acceptable euthanasia practices and an euthanasia protocol;
- Acceptable Fitness of Transport protocol;
- Signed cow care agreement for any non-family employees with animal care responsibilities;
- Continuing education.

### **UK**

In the UK Defra's (2021) Advice and guidance on protecting animal welfare on farms, in transport, at markets and at slaughter states that when you transport animals you must make sure the animals are fit to travel.

### *Global Guidelines*

The OIE Terrestrial Animal Health Code provides standards for the improvement of terrestrial animal health and welfare and veterinary public health worldwide. The health measures in the Terrestrial Code should be used by the Veterinary Authorities of importing and exporting countries.



---

OIE (2019). Terrestrial Animal Health Code International organisation. Art. 7.2.7, 3.  
Fitness to travel:

a. Animals should be inspected by a veterinarian or an animal handler to assess fitness to travel. If its fitness to travel is in doubt, it is the responsibility of a veterinarian to determine its ability to travel. Animals found unfit to travel should not be loaded onto a vessel.

b. Humane and effective arrangements should be made by the owner or agent for the handling and care of any animal rejected as unfit to travel.

c. Animals that are unfit to travel include, but may not be limited to:

- those that are sick, injured, weak, disabled or fatigued;
- those that are unable to stand unaided or bear weight on each leg;
- those that are blind in both eyes;
- those that cannot be moved without causing them additional suffering;
- animals with unhealed wounds from recent surgical procedures such as dehorning.

No legislation has been currently identified.

---

## Annexe 4: Case studies

### 7 Case Study 1: The size of the problem and trends in recent years

#### Case study theme

This case study explores the scale of the transportation of unfit end-of-career cows and trends across the nine Member States included in this study. These are: Germany, France, Belgium, Italy, Netherlands, Ireland, Denmark, Poland and Spain. The sources used for the analysis consist of literature, surveys and interviews with stakeholders.

It is anticipated that reports on audits carried out on 3 MS on animal welfare during transport will be published by the end of the year<sup>68</sup>.

#### Research questions addressed

The evaluation question this case study addresses is 'Assess the magnitude of the problem and the reasons for any possible non-compliance, including the associated costs and benefits for the concerned actors'. In particular, it focuses on providing evidence for the following sub-questions:

- What is the scale of the problem relating to the transport of unfit dairy cows to slaughterhouses in the EU?
- Are there regions where the problem is more acute?

The case study will explain how and to what extent the current business models have contributed to the transportation of unfit end-of-career cows. This case study explores the data collected through qualitative interviews and evidence collection.

#### Context

##### 7.1.1 Country specific background and economic model

This case study covers all fieldwork Member States covered. They have been separated according to the typological groups identified through a cluster analysis in the study by Poczta et al. (2020):

- **Germany, France, Belgium and Italy.** These countries have medium-scale (in terms of actual and economic size), medium-intensive (in terms of inputs and outputs) dairy farms. Germany, France and Italy are the top three producers of cheese in the EU. Germany is the largest dairy exporter, the largest producer of raw cow's milk and has the largest number of dairy cows in the EU, though France has a higher monetary output from dairy farms. Germany and France also have the largest number of organic dairy cows. France and Italy sit within the top five EU raw cow's milk producers alongside Germany. Belgium ranks 9th in the EU terms of raw cow's milk production and dairy exports (Eurostat data; Poczta et al., 2020).
- **Netherlands, Ireland and Denmark.** These are countries with relatively large-scale, high-intensive dairy farms (with the important nuance that Ireland is a lower cost input and therefore lower output system than the Danish and Dutch ones). The Netherlands are the second largest EU exporter of dairy products. The Netherlands and Ireland have a significant level of butter production, together contributing around 30% of all the butter produced in the EU (behind France and Germany who contribute around 38% of it). All three countries are within the top 10 EU producers of raw cow milk, and all three have relatively high livestock densities, with the Netherlands having one of the highest at 3.6 livestock units/hectare. Denmark also has a relatively large number of organic dairy cows (the fourth highest number in the EU). Ireland

---

<sup>68</sup> [https://ec.europa.eu/food/audits-analysis/audit\\_reports/index.cfm](https://ec.europa.eu/food/audits-analysis/audit_reports/index.cfm)

has the largest proportion of family farms in the EU (97%) (Eurostat data; Poczta et al., 2020).

- **Poland.** Poland has small-scale, medium-extensive dairy farms. Poland is in the top 5 Member States for production of raw cow milk. Poland has large numbers of dairy farms with relatively low outputs, which together account for 50% of all dairy farms in the EU by number, but only around 13% of the total monetary output (Eurostat data; Poczta et al., 2020).
- **Spain.** Dairy farms in Spain are small-scale and extensive, though Spain is still one of the 10 largest raw cow's milk producers and dairy exporters in the EU. (Eurostat data; Poczta et al., 2020).

An overview of some of the characteristics of the dairy farming sectors of the nine selected Member States is shown in *Table 2021*.

*Table 2021 Dairy farming in the nine Member States selected for case studies*

Member State	Raw cow milk delivered to dairies (thousand tonnes, 2019)	Number of dairy cows (thousand animals, 2019)	Standard output for cattle-dairying, rearing and fattening combined (€, 2016)	Livestock density for cattle-dairying, rearing and fattening combined (livestock units per ha of UAA*, 2016)
Belgium	4 288.22	538	€ 707 508 540	2.8
Denmark	5 614.69	563	€ 6 507 650	1.8
France	24 526.90	3 485.59	€ 1 579 320 210	1.3
Germany	32 442.21	4 011.67	€ 1 047 612 530	1.6
Ireland	8 226.62	1 425.76	€ 347 411 040	1.6
Italy	11 965.01	1 875.72	€ 563 572 920	1.6
Netherlands	13 787.90	1 590	€ 85 093 200	3.6
Poland	12 174.96	2 166.90	€ 349 082 260	1.2
Spain	7 265.21	812.87	€ 162 879 520	1.6

Source: Eurostat.

*\*Utilised agricultural area*

The selected Member States are representative of a range of EU regions, as well as geographical landscapes (e.g., alpine, plains) and climatic conditions which can greatly influence farm characteristics. In France, for example, 70% of dairy production is from farms on plains and 30% is from farms in mountains or unfavourable areas, with the average quota of milk produced lower in mountainous regions (221,000 l) than in lowland areas (355,000 l) (Brocard et al., 2015). In South Tyrol, evidence suggests dairy farms in the mountains have higher production costs than those in plains areas, and those that are low-input (extensive) are at an economic disadvantage to those that are high-input (intensive) (Kühl, Flach and Gauly, 2019). One way of reducing this disadvantage is the production of high value goods, such as Protected Designation of Origin cheeses (Sturaro et al., 2013).

### 7.1.2 Information on key stakeholders

Actor	Role
Farmers	Farmers often have the most power in deciding whether a cow is transported or not.

Actor	Role
Veterinarians	Veterinarians provide farmers with a professional assessment about whether the cows are fit for transport or not.
Transporters	Transporters also have a say in whether a cow is deemed unfit for transport.
Slaughterhouses	Transport of unfit cows typically takes place to send them to slaughterhouses and make a profit from the sale of the meat as if they were fit animals.
Authorities	Typically each country has its own legislation on animal welfare, which often also covers animal fitness for transport (in the EU this is usually in accordance with and as a consequence of EU Regulations). National, regional and local authorities can perform controls on all business operators in the supply chain and issue fines when non-compliances are identified.

## Overview of findings

### 7.1.3 Scale of the issue

The preliminary research obtained studies and evidence regarding a wide range of issues relating to the transportation, including transport conditions and standards of care (see, The Guardian, 2017; Eurogroup for Animals 2016; European Commission 2017; ABC News 2021, Eurogroup for Animals 2020). Data availability varied across Member States, especially on the number of cows slaughtered in slaughterhouses or of cows slaughtered on farm.

#### 7.1.4 Belgium

Desk research and stakeholder consultation have not yielded any evidence of the scale of transport of unfit end-of-career cows in Belgium.

#### 7.1.5 Denmark

In recent years the number of dairy cows deemed unfit for slaughter is approximately 100 out of 450,000 slaughtered annually.<sup>69</sup> Data on the scale of transport of unfit end-of-career cows was not available.

#### 7.1.6 France

Despite having effective pre-loading administrative checks, a lack of controls during the loading phase prevents the authorities from having confirmation of adequate handling at loading and conditions of vehicles for export. Different levels of supervision fail to identify shortcomings in animal transport and a substantial number of consignments are found non-compliant with animal welfare regulations.<sup>70</sup>

#### 7.1.7 Germany

The size of the problem varies across regions, since different regional guidelines are applicable, but it is estimated that the German dairy industry produces tens of thousands of downer cows every year. A lack of resources in veterinary practices and animal welfare organisations have resulted in fewer and lower-quality inspections

<sup>69</sup> Danish Veterinarian representative stakeholder interview.

<sup>70</sup> European Commission - DG Health and Food Safety (2017), Final report of an audit carried out in France from 09 October 2017 to 13 October 2017 in order to evaluate animal welfare during transport to non-EU countries

---

(these are announced).<sup>71</sup> It is also reported that inspections are often carried out by veterinarians well integrated in the local communities, who tend to be reticent to issue fines.<sup>72</sup>

There seems to be a lack of a clear catalogue of sanctions at the federal government level, as well as clear indication of when exemptions can be applied (these are reported to be too numerous at the moment).<sup>73</sup>

The German animal welfare NGO SOKO Tierschutz has recorded at least 20 slaughterhouses specialised in downer cows currently active across Germany. Five more were shut down since 2018 (4 of these specialised only in downer cows), the largest of which located in Bad Iburg, which used to slaughter 200 cows per week (10% of all downer cows in Germany in 30 years of activity)<sup>74</sup>. Most of the 20 slaughterhouses still active are estimated to process about 50 downer cows per week. Prior to 2018, about half of downer cows were slaughtered in slaughterhouses owned by large corporations, while the other half used to end up in these slaughterhouses specialised in downer cows (e.g., the one in Bad Iburg). Since 2018, these slaughterhouses have become more difficult to detect as they are not recorded in the official register of slaughterhouses, therefore there is a number of breaches assumed to go undetected.<sup>75</sup> SOKO Tierschutz claims that veterinary offices 'systematically look the other way', allowing such illegal activities to persist.<sup>76</sup>

In contrast to the figures supplied by SOKO Tierschutz, the German Livestock Association (Bundesverband Rind und Schwein - BRS) claimed the issue of illegal transport of unfit cows to be of minor importance.

#### **7.1.8 Ireland**

Illegal transport of unfit cows does not seem to be a significant issue in Ireland. However, official data was not available.<sup>77</sup>

#### **7.1.9 Italy**

The scale of the problem has been substantially reduced in the last decade due to the introduction of new national legislation (see section 7.1.13). The latest audit performed by DG SANTE in 2021 reported that the Italian legislative system fulfils the EU requirements to a large extent. Non-compliances are properly followed up by officials and enforcement measures (such as sanctions) are taken appropriately.<sup>78</sup>

---

<sup>71</sup> Animals' Angels (2012), Milchindustrie brochure / Utopia (2018), Verdeckte Aufnahmen: So grausam werden ausgediente Milchkühe behandelt

<sup>72</sup> Animals' Angels (2012), Milchindustrie brochure / Top Agrar Online (2018), Gibt es Spezialschlachthöfe für kranke Kühe?

<sup>73</sup> Deutscher Tierschutzbund e.V (2020), Hintergrundinformationen zu Tiertransporten

<sup>74</sup> The other 4 slaughterhouses shut in 2018 were located in the municipalities of Hohengoehren, Maretzki, Selm and Mecke.

<sup>75</sup> Interview with SOKO Tierschutz

<sup>76</sup> Kreiszeitung Wochenblatt (2019), "Soko Tierschutz" deckt brutale Tierquälereien auf Duedenbuetteler Schlachthof auf

<sup>77</sup> Interviews with Irish Farmer representative and Advisory representative.

<sup>78</sup> European Commission (2021), Final report of an audit carried out of Italy from 18 January 2021 to 29 January 2021 in order to evaluate the food safety control systems in place governing the production and placing on the market of bovine meat, including traceability (available at [https://ec.europa.eu/food/audits-analysis/act\\_getPDF.cfm?PDF\\_ID=15271](https://ec.europa.eu/food/audits-analysis/act_getPDF.cfm?PDF_ID=15271))

---

### **7.1.10 Netherlands**

The latest audit carried out by DG SANTE in 2020 reported that the control system of traceability in the Netherlands presents all the necessary components to fulfil almost all the relevant EU requirements (with the exception of appropriate measures to ensure private veterinarians are free of any conflict of interest when performing official duties). Ante-mortem and post-mortem inspections, as well as measures to deal with potential conflict of interest, are organised in line with the requirements set by the EU. Approximately 10,000 bovines deemed unfit for transport are subject to emergency slaughter on farm every year, with the majority of these having suffered accidents preventing their transport, rather than end-of-career downer cows.<sup>79</sup>

### **7.1.11 Poland**

Various instances of transport of unfit cattle have been uncovered in Poland in the past few years. Slaughtering of sick cattle was found in an abattoir near the city of Ostrow Mazowiecka (north-eastern Poland). The activities took place during the night to reduce the risk of being detected.<sup>80</sup> Similar cases were found near the city of Łódź (central Poland)<sup>81</sup> and in the region of Mazovia (central Poland), where no veterinarians were present.<sup>82</sup> In general, the problem seems to be more acute in areas of the country where access to slaughterhouses is more limited (for example in remote areas).

The 2019 audit by DG SANTE reported that the situation regarding the transport of unfit cattle in Poland has improved after the scandals mentioned above, but there is still room for improvement. In particular, the audit highlighted that on-farm emergency slaughter is not yet widely practiced, there is not sufficient awareness about animal welfare issues related to transport of unfit animals, and the assessment of both ante- and post-mortem findings in order to identify animal welfare issues are not sufficiently accurate. A severe shortage of resources in veterinary offices, mainly due to low wages, poses a limit to the number of inspections that can be carried out. This, together with the need to deal with other priorities, significantly affects the ability of official veterinarians to properly supervise the work of private veterinarians. Additionally, the lack of central training for authorised veterinarians further reduces the quality, consistency and impartiality of controls<sup>83</sup>.

### **7.1.12 Spain**

Various reports have been filed in recent years about illegal transport of cattle from Spain to Middle Eastern countries for slaughtering, where some of these cows were

---

<sup>79</sup> European Commission (2020), Final report of an audit carried out of the Netherlands from 05 October 2020 to 16 October 2020 in order to evaluate the food safety control systems in place governing the production and placing on the market of bovine meat, including traceability (available at [https://ec.europa.eu/food/audits-analysis/act\\_getPDF.cfm?PDF\\_ID=15211](https://ec.europa.eu/food/audits-analysis/act_getPDF.cfm?PDF_ID=15211))

<sup>80</sup> BBC News (2019), Poland alarmed by sick cow slaughter at meat plant

<sup>81</sup> The owner of the slaughterhouse in Łódź was sentenced to prison in 2018 for these activities.

<sup>82</sup> The Guardian (2019), Secret filming shows sick cows slaughtered for meat in Poland

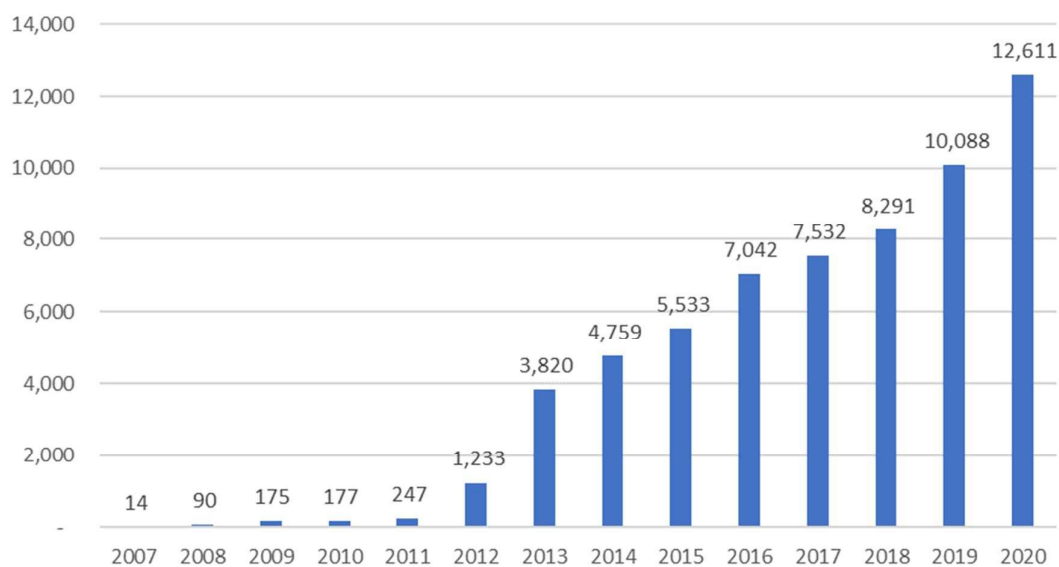
<sup>83</sup> European Commission (2019), Final report of an audit carried out in Poland from 25 March 2019 to 05 April 2019 in order to evaluate the food safety control system in place governing the production and placing on the market of bovine meat, including animal traceability (available at [https://ec.europa.eu/food/audits-analysis/act\\_getPDF.cfm?PDF\\_ID=14729](https://ec.europa.eu/food/audits-analysis/act_getPDF.cfm?PDF_ID=14729)) / European Institution Stakeholder interview.

unfit to travel due to injuries. Being Spain the largest exporter of cattle in the EU, it is likely that many other similar instances go unnoticed.<sup>84</sup>

However, these breaches seem to be more widely spread in international transport, while very few of them emerge on the national territory.<sup>85</sup> The 2021 DG SANTE audit reported that the arrangements to deliver official controls and enforcement of animal welfare measures are satisfactory, with official veterinarians taking timely and suitable actions where animal welfare issues are identified. However, the audit identified issues regarding on-farm emergency slaughter, such as that the veterinarians performing ante-mortem inspections are not classed as officials and the competent authority do not suitably monitor their performance. Another problem that emerged from the audit is that there is no satisfactory system to provide feedback to official veterinarians that reported animal welfare non-compliances related to cows unfit for transport, not enabling them to follow up on the consequences of their actions.<sup>86</sup>

### 7.1.13 Trends over time

In Italy, the 2007 Legislative Decree (n. 151, 25<sup>th</sup> July 2007) established a new national regulation on animal protection during transport and related operations. This introduced sizeable fines on the transport of unfit animals and an appropriate enforcement, effectively curbing the problem in the country. This is confirmed by the change in the number of emergency slaughters on farm. *Figure 3424* shows an overview.



*Figure 3424* Number of emergency slaughters on farm in Italy, 2007 – 2020 Source: Italian National Zootechnical Register ([https://www.vetinfo.it/j6\\_statistiche/#/report-pbi/12](https://www.vetinfo.it/j6_statistiche/#/report-pbi/12))

<sup>84</sup> Eurogroup for Animals (2020), How much is enough? New evidence shows the suffering of animals exported from Spain to Middle East for slaughter

<sup>85</sup> European Academic stakeholder interview.

<sup>86</sup> European Commission (2021), Final report of an audit carried out of Spain from 18 January 2021 to 29 January 2021 in order to evaluate the food safety control systems in place governing the production and placing on the market of bovine meat, including traceability (available at [https://ec.europa.eu/food/audits-analysis/act\\_getPDF.cfm?PDF\\_ID=15288](https://ec.europa.eu/food/audits-analysis/act_getPDF.cfm?PDF_ID=15288))

---

This data suggests that Italian farmers are increasingly embracing emergency slaughter as a means to deal with animals unfit for transport, therefore progressively reducing the extent of the issue in the country.

EUROSTAT data was interrogated. A database named 'Estimates of slaughtering, other than in slaughterhouses - annual data' which is likely to include emergency slaughter, however, data is 0 for most entries, including Italy where we know this is not the case. Therefore, that data has not been included here.

## Conclusions

This case study analysed the extent to which the transport of unfit cows is a problem across the EU, in particular focussing the analysis on nine Member States: Belgium, Denmark, France, Germany, Ireland, Italy, Netherlands, Poland and Spain. Data available on the issue differed greatly between countries. However, a sufficient amount of information to answer the research question was gathered in Germany, Poland, Italy and Spain, whilst this was more limited for the other countries analysed. In particular, in Germany and Poland large-scale scandals were brought to light by investigations in recent years, therefore information of them was more widely available.

In general, the transport of unfit cows is still a relevant problem across the EU, with Germany and Poland - as anticipated above - being the Member States where this issue was found to be more significant. However, it is not possible to definitively conclude that the issue is of minor importance in other countries, as, given its illegal denotation, data disproving this hypothesis is not readily available nor consistent.

Various Member States have implemented measures to curb the problem, especially following the European 'Council Regulation (EC) No 1/2005 on the protection of animals during transport and related operations'. Inspections and sanctions are widely applied in all Member States; the extent to which these have been successful, though, varies considerably between countries. Other measures applied to tackle the problem include the promotion of on-farm emergency slaughter and of good husbandry practices to prevent the animals from becoming unfit in the first place. In Italy, for instance, these measures seem to have achieved satisfactory results. Here the number of on-farm emergency slaughters has consistently increased over the last decade, indicating that fewer animals were transported in unfit conditions.

An important nuance that emerged is that the transport of unfit cows should be analysed as both an intra- and extra-EU problem. In the case of Spain, for instance, it seems that the issue is no longer of major importance within the country, but multiple cases of international cattle shipping from Spain have shed light on the transport of unfit cows from Spain to extra-EU countries (in particular in the Middle-East).

The analysis indicated that the transport of unfit cows is not a major problem in Member States such as Belgium and Ireland. However, for other countries not mentioned here - i.e., Denmark, France, Netherlands - data is not sufficiently available to draw any conclusion about the extent of the problem.

The NGOs **Animals' Angels** and **SOKO Tierschutz** recommend as a best practice to increase the number of unannounced inspections on dairy farms to assess the animals' fitness to travel, with the same frequency of those carried out to ensure the hygiene of milk. However, often private veterinarians are under significant pressure as they tend to work in local communities for years, therefore a certain social pressure is constantly present. Furthermore, they depend financially on farmers and slaughterhouses, who have sometimes been reported to have blackmailed veterinarians in order to receive the necessary approvals. Therefore, visits from external veterinarians are recommended as a best practice, also coupled with a



---

regular circulation of veterinarians nationally, to ensure the above-mentioned instances do not take place.<sup>87</sup>

## **8 Case Study 2: Food fraud networks**

### **Case study theme**

Food fraud networks were identified through the desk research and interviews in three different countries (Netherlands, Germany and Poland), with suspicion this could be an issue across other countries. This case study explores the information collected on food fraud networks. For the purpose of this report, these are defined as organised networks which deal with the transportation of unfit cows (for transportation)<sup>88</sup> and are related to food production not following relevant laws and regulations. As this is an illegal activity, uncovering such cases and hence evidence on which this case study relies, mainly comes from whistle blowers and media outlets or qualitative interviews with industry stakeholders.

### **Research questions addressed**

This case study explores themes around organised networks which deal with the transportation and culling of “downer cows”. It provides evidence for the Evaluation question: Assess the magnitude of the problem and the reasons for any possible non-compliance, including the associated costs and benefits for the concerned actors. Explain whether/to what extent the current business plan(s) have contributed to the problems. In particular it focuses on providing evidence for the sub-questions:

- How are drivers prioritised when deciding on the transportation of unfit end-of-career cows? (E.g., trade-offs between welfares and revenue).
- How does food fraud relate to the issue of the transportation of unfit end of career cows?
- How does the structure of the industry impact the transportation of unfit end of career cows?

### **Context**

#### **8.1.1 Country specific background**

The very nature of the phenomenon discussed in this case study implies that it is hardly possible to identify country-specific factors contributing to food fraud prevalence. The countries where such cases have been identified may for example have more active investigative journalists, higher prevalence of food fraud, lower sophistication of such schemes or a number of other unobserved characteristics compared to other analysed countries.

#### **8.1.2 Information on key stakeholders**

Key stakeholders involved in food fraud networks are farmers, transport companies, veterinarians, slaughterhouses, and meat processing companies. Stakeholders directly affected by the fraud schemes are consumers of meat products, institutions tasked with regulating and controlling animal production and food production chains, police, prosecution and the judiciary systems.

#### **8.1.3 Economic model**

Netherlands

- Netherlands is a country with relatively large-scale, highly-intensive dairy farms. Having the fifth largest population of dairy cows in the EU, the Netherlands is the third largest producer of cow milk in the EU (after Germany and France) and among top EU producers of products such as cheese or butter

---

<sup>87</sup> Animals' Angels (2012), Milchindustrie brochure / Interview SOKO Tierschutz

<sup>88</sup> In some cases, the cows are also unfit for consumption.

(Eurostat data for 2020). Apparent milk yield in the Netherlands is above the EU average. In the Netherlands, the livestock intensity, i.e. the number of livestock units per hectare of utilised agricultural land was the largest in the EU, at 3.8, compared to the EU-28 average of 0.8 (2016 Eurostat data from 2016 agricultural census).

#### Germany

- Germany has the largest population of dairy cows in the EU. The country's dairy farms are on average medium-scale (in terms of actual and economic size), and medium-intensive (in terms of inputs and outputs). Being the largest EU producer of milk and among the largest producers of dairy products such as cheese Germany is also the largest dairy exporter. Germany have one of the largest number of organic dairy cows. (Eurostat data; Poczta et al., 2020).

#### Poland

- Poland has the third largest population of dairy cows in the EU. The typical dairy farms are small scale, medium-extensive farms. Poland is in the top five Member States for production of raw cow's milk. Poland has large numbers of dairy farms with relatively low outputs (together they account for 50% of all dairy farms in the EU by number, but only around 13% of the total output value) (Eurostat data; Poczta et al., 2020).

Member State	Raw cow's milk delivered to dairies (Thousand tonnes) (2019)	Number of dairy cows (Thousand animals) (2019)	Standard output (€) for cattle-dairying, rearing and fattening combined (2016)	Livestock density (livestock units per ha of UAA*) for cattle-dairying, rearing and fattening combined (2016)
Germany	32 442	4 012	€1 047 612 530	1.6
Netherlands	13 788	1 590	€85 093 200	3.6
Poland	12 175	2 167	€349 082 260	1.2

### Overview of findings

The studied phenomenon is by its nature secretive. It is thus not surprising that there is little literature on food fraud networks. Most of the evidence comes from interviews and media outlets. The latter predominantly report on uncovered cases of food frauds, which may or may not be necessarily representative of the whole universe of food fraud. This is an important consideration for drawing conclusions and generalising based on existing evidence.

The key driver for food fraud schemes appears to be economic. There is typically a substantial difference between the value of meat of a healthy cow and the value of meat from unfit cows. The latter can turn negative in case of cows whose meat is not suitable for consumption when no public or private refund / insurance scheme is in place. This difference acts as an incentive to engage in illegal activity linked to food frauds. There are also different important deterrents, starting from moral stance, views on animal welfare, human health, rule of law to the public attitudes, strength of consumer rights movement, effectiveness of the regulatory regime, etc.

For example, in the Netherlands, animal welfare is an important topic for the society and longer life of cows is something generally desired. This has an impact on the farmers' attitudes towards animals. Longevity is an indicator for farm management quality and hence many farms work towards increasing the longevity of the cow and trying to improve animal welfare on farm. High level of media attention and awareness

---

among consumers combined with the risk of high penalties (e.g. in case of transporting unfit cows creates a combination discouraging such cases. The self-policing mechanism enters into play with the industry taking action to avoid any scandals that might impact their image. The policies of national competent authorities also matter. For example, making fraud data publicly available, as is now the case in the Netherlands appears to deter illegal activity. Similarly in Poland, public opinion plays an important watch dog function and during interviews stakeholders claimed that higher public awareness of the problems implies that less and less slaughterhouses would be willing to deal with downing or unfit cows as they would be afraid of being denounced by people living around.

This gives some support to a hypothesis that uncovering of food fraud networks, especially if accompanied by media reporting leading to scandals in some countries is likely to be associated with an improvement of the situation in the following years. This hypothesis cannot be confirmed by hard data which do not exist but appears plausible.

#### **8.1.4 Scale of the issue**

Existing evidence does not allow any precise assessment of the scale of the problem. The information gathered on revealed cases in the three countries does not provide guidance as to the size of undetected problems. There is no official data that would shed light on this. In instances when food fraud cases are being investigated, the data is usually protected by law. Overall, an emerging consensus among stakeholders is that the scale of the problem is rather limited. On the other hand, one cannot entirely exclude that large fraudulent scheme may exist in some countries or regions which have not yet been discovered. One can speculate that in countries where food fraud cases were revealed leading to public outcry, the scale of the problem might have been on the declining trends since that time due to a combination of increased controls, consumer and public pressure and rising awareness of underlying problems.

#### **8.1.5 Drivers and structure of the networks**

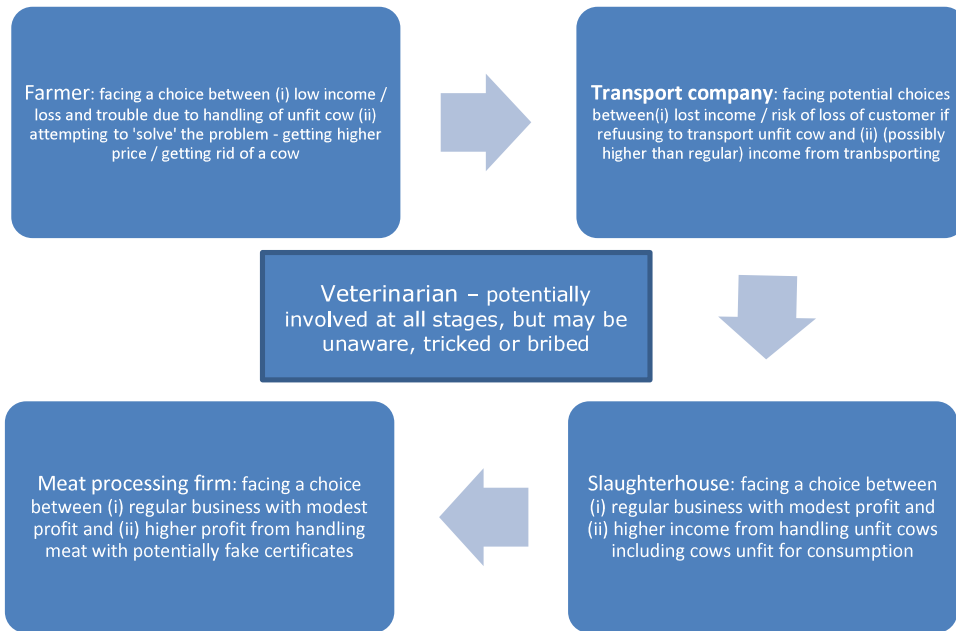
Food fraud networks usually require a cooperation between several stakeholders. Typically, they appear to be composed of a farmer, a transport company, a slaughterhouse, sometimes veterinarians (bribed or not), and meat processing firms.

Based on information on uncovered cases in Germany and Poland, in these two countries transport companies appear to play a crucial role. In Germany, there are transport companies specialising in transporting unfit animals (according to informants some 12 such companies existed out of approx. 100 animal transport companies in the whole country). One of these companies (specialised in transporting downer cows) was still operating at the time of field research despite an ongoing court case related to its illegal activity. Another key element of the operation is sale of meat using false certification.

In Poland, it is not difficult to find a transport for an unfit cow. Most of the restrictions and requirements concern transporting cows over distances of above 60 km. This makes it easier to arrange illegal transport on shorter distances and indeed most of such cases involve short-distance transportation. Transport companies (usually small ones) are often connected to a small slaughterhouse (sometimes owned by the same family or the same owner) where a veterinarian is not always on duty and the unfit cows are slaughtered when she or he is absent. Such slaughterhouses may be linked to a meat processing firm. In these cases, financial incentive of higher income (even if done in an illegal way) seem to be the strongest driver.

In Netherlands, food fraud cases on which data was revealed, typically involved medium-sized slaughterhouses where the meat from sick cow ended up in the food chain, even though the meat was unfit for consumption. The transport companies appear to be a weak link also in this country with drivers deciding to agree to take unfit cows from fear of losing regular business of transporting all other cows.

A simplified exposition of the key drivers present at various points of a food fraud network are presented in *Figure 3525* below. The relative strengths of various drivers likely differ between fraud networks and can change over time, e.g. after strengthened regulations and controls at some points of the production chain.



*Figure 3525 Drivers at different parts of the food fraud network*

### 8.1.6 Economic drivers

The key economic driver is a difference in the value of meat of a presumably healthy cow and the much lower value (possibly negative one if meat is not suitable for consumption) of meat from unfit cows. This difference in value at the end of the value chain translates upwards in the production chain. For example, the cases unveiled by media investigations in Poland, the value of a healthy cow sold for meat was 5-6 times higher than the value of a downer cow. For slaughterhouses that could 'specialise' in unfit cows and able to monetise most of the profits at this stage of the value chain, this could translate into a massive profit boost. Example calculations for a mid-sized slaughterhouse carried by media that originally reported the case suggested a potential difference between some €80 000 annual profit and around €550 000 annual profit (TVN24, 2019; The Guardian, 2019).

The sharing of excess profit created from the fraudulent scheme across the food production chain may differ between countries or specific fraud models used within the same country. This depends on the relative power and risk taken by respective actors in the fraudulent food production chain. This is illustrated in a hypothetical cases presented in *Figure 3626*, below.

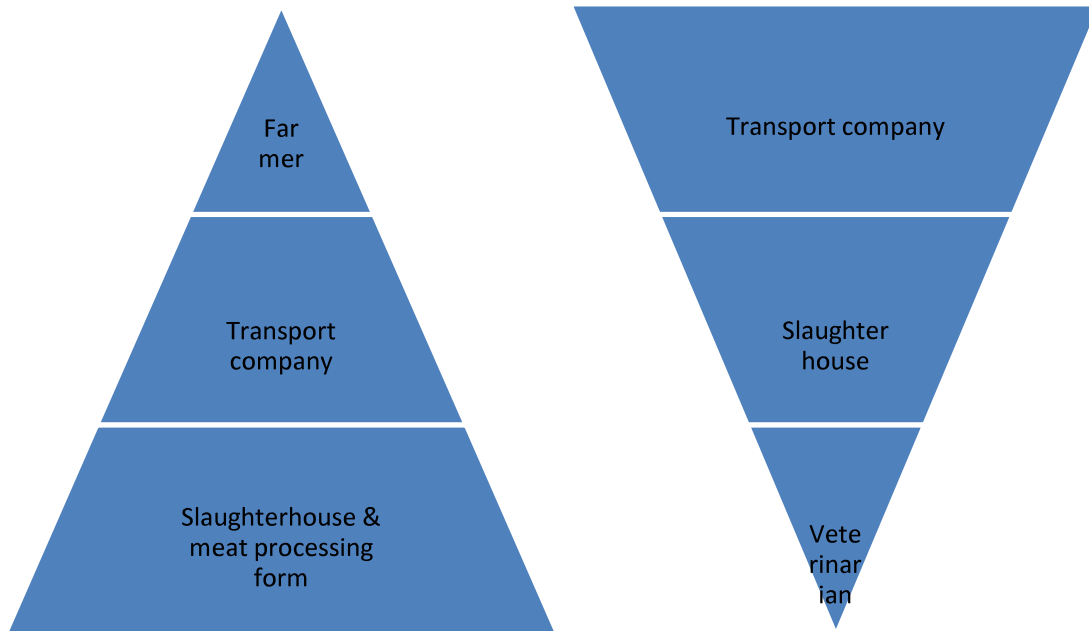


Figure 3626 Different hypothetical divisions of a priori equal total illegal profits from food fraud schemes: left panel with most of the gains accruing to slaughterhouses and meat processing firms vs. right panel with most of the profits accruing to transport

The economic deterrent acting in the opposite direction and preventing food fraud linked with transportation of unfit cows primarily relate to a risk of being excluded from the market or heavy fines if a case is detected and ends up in a conviction. In some countries schemes compensating farmers for losses due to cows becoming unfit for transport may also play a role.

### **Selected scandals and whistleblowing cases**

In recent years, Poland witnessed two major scandals that were widely reported in the media, in 2013 and then in 2019. The first one has been discovered by routine police checks of one of the transportation vehicles going to a slaughterhouse. It turned out that most of the cows in the truck were unfit for transport so the police decided to start an investigation. The investigation lasted 2 years and revealed that slaughtering unfit and sick cows was taking place since 2006. The slaughterhouse has been shut down immediately and owners of the slaughterhouse were prosecuted. They were finally sentenced in 2018.

The investigation revealed that:

- Cows unfit for transport were regularly being transported thanks to the close cooperation with one the transportation company,
- This company specialised in buying sick, unfit and downing cows from farmers and reselling them to the slaughterhouse,
- Veterinarians were involved in the food fraud,
- Despite the investigation, it was hard to assess how much of the meat entered the food market.



*Figure 3727 Unfit for transport cow. Source: Express Ilustrowany (2013)*

The second scandal has been revealed by investigative journalists of one of the private TV stations (TVN). One of the journalists applied for a job in a slaughterhouse and right after an interview he got employed and started to work on the next day (no contract, no inception or OSH training). He has witnessed all kinds of violation of the laws:

- Unfit cows were being transported to the slaughterhouse during the night when veterinarians were not present and when the neighbours could not see that the cows were dragged out the transportation vehicle. There were only few workers involved in the fraud on the shift at that time,
- Among the cows to be slaughtered there were not only downing cows but also cows having symptoms of some skin diseases,
- They were slaughtered not in line with the procedures and did not undergo a veterinary check before. The employees of the slaughterhouse themselves were operating the veterinary stamp admitting the meat for consumption,
- In the morning the owners of the slaughterhouse came to check on the meat from these cows and gave the final instructions on how to make it look better,
- Then the meat has been sold to the meat processing company and part of it exported to some of the EU countries.

## **Conclusions**

The case study was able to identify main drivers of food fraud and some important factors preventing such cases from occurring. As is often the case with illegal actions for which it is difficult to observe and measure effects, there is not sufficient information to enable an assessment of the scale of the problem. This also means that no meaningful comparison of a situation between countries can be made as the number and severity of uncovered cases can be linked to different country characteristics. For example, it can reflect higher prevalence of the fraud but equally plausibly a lower prevalence and higher public consciousness, better developed investigative journalism or stronger control mechanisms.

Some key conclusions and lessons that are arguably not context specific can be summarised as follows:

- The scale of food fraud networks appears to be rather limited in the EU, although its quantification is close to impossible.
- Uncovering of food fraud cases, especially if associated with extensive media coverage and scandals is likely linked with a reduction of the problem in the following period.
- Economic incentives appear to be the major driver behind decisions of some stakeholders to engage in illegal activity. The key element is the difference between the price of meat of healthy and unfit cows.
- Food fraud schemes generally engage most stakeholders, from farmers, through animal transport companies, slaughterhouses and meat processing plants as well as veterinarians.
- The sharing of potential profit from illegal activity between actors engaged in it may differ reflecting local conditions and especially relative power of different stakeholders.
- Increasing consumer awareness, public awareness on animal welfare issues, and effectiveness and efficiency of regulatory and control mechanisms (including through investigative media activity) are among key factors having the potential to limit the prevalence of food fraud.

## References

Eurostat (2020), Milk and milk product statistics, available at

[https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Milk\\_and\\_milk\\_product\\_statistics#Milk\\_production](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Milk_and_milk_product_statistics#Milk_production)

Eurostat (2021), Eurostat database: Agriculture -> farm structure; available at

[https://ec.europa.eu/eurostat/web/agriculture/data/database?p\\_p\\_id=NavTreeportletprod\\_WAR\\_NavTreeportletprod\\_INSTANCE\\_ff6jID0oti4U&p\\_p\\_lifecycle=0&p\\_p\\_state=normal&p\\_p\\_mode=view](https://ec.europa.eu/eurostat/web/agriculture/data/database?p_p_id=NavTreeportletprod_WAR_NavTreeportletprod_INSTANCE_ff6jID0oti4U&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view)

Poczta, W. et al. (2020) Economic Situation of Dairy Farms in Identified Clusters of European Union Countries. Available at: <https://www.mdpi.com/2077-0472/10/4/92/pdf>

The Guardian (2019). Secret filming shows sick cows slaughtered for meat in Poland.

TVN24, (2019), Chore krowy trafiają do rzeźni i na nasze stoły. "Ludzie nie świnie, zjedzą wszystko", video and text available at <https://tvn24.pl/polska/chore-bydlo-kupie-chore-krowy-sprzedawane-na-mieso-w-rzezniach-ra903977-2023041>

TVN24, (2019), Sześć osób oskarżonych po skandalu w ubojni. Sprzedawali mięso z chorych zwierząt, text available at <https://tvn24.pl/lodz/szesc-osob-oskarzonych-po-skandalu-w-ubojni-pod-biala-rawska-ra539418-3300802>

Dziennik Łódzki (2015), Handlowali chorym i padłym bydłem. Mięso zawierało antybiotyki i niebezpieczne bakterie, text available at

<https://www.rp.pl/kraj/art5637481-wiecej-podejrzanego-miesa-z-ubojni-pod-biala-rawska>

Forbes (2019), Mięso chorych krów trafiło do 14 krajów. Czesi mają unikać polskiej wołowiny, text available at <https://www.forbes.pl/gospodarka/uboj-chorych-krow-mieso-w-14-krajach-kontrola-ke-w-polsce/j4ysfcy>

---

## 9 Case Study 3: Social drivers for non-compliance in the handling and transportation of end-of-career dairy cows.

### Case study theme

This case study provides evidence on the social drivers for non-compliance in the handling and transportation of end-of-career dairy cows. Social drivers affect all actors involved in the handling and transportation of end of career dairy cows, such as farmers, veterinarians, transporters, and slaughterhouses. The relationship between actors and the social drivers that influence these relationships affect whether a dairy cow becomes unfit at the end of her life, unfit and transported anyway, accepted into the slaughterhouse, or condemned for human consumption. Data gathered during interviews and desk-based research also indicated that social and economic drivers are connected in decision making. Economic drivers are explored in further detail in Case Study 4: Costs and Benefits to Prevent the Transport of unfit Cows. Stakeholders are connected and their relationship can significantly contribute to the decisions made on if an end-of-career dairy cow should be transported or not. The dynamics between stakeholders are explored in further detail in Case Study 5: Information on the dynamics of stakeholder relationships.

### Research questions addressed

This case study provides evidence gathered to answer the evaluation question: Assess the magnitude of the problem and the reasons for any possible non-compliance, including the associated costs and benefits for the concerned actors. Explain whether/to what extent the current business plan(s) have contributed to the problems. In particular it focuses on providing evidence for the sub-questions:

- What social norms and attitudes (particularly amongst farmers, veterinarians and in interactions between both groups) contribute to the transportation of unfit end-of-career cows?
- How are drivers prioritised when deciding on the transportation of unfit end-of-career cows? (E.g., trade-offs between welfares and revenue).
- Are social/psychological (e.g., suicidal farmers) conditions a driver to the transportation of unfit end of career cows?
- What are the problems encountered by operators in relation to handling of end-of career cows? What are their drivers (economic, cultural, institutional etc) and their consequences?

### Context

#### 9.1.1 Country specific background

The case study covers the following Member States, which have been separated according into the typological groups identified through a cluster analysis in the study by Poczta et al. (2020):

- **Germany, France, Belgium and Italy** – These countries have medium-scale (in terms of actual and economic size), medium-intensive (in terms of inputs and outputs) dairy farms. Germany, France and Italy are the top three producers of cheese in the EU. Germany is the largest dairy exporter, the largest producer of raw cow's milk and has the largest number of dairy cows in the EU, though France has a higher output (€) from dairy farms. Germany and France also have the largest number of organic dairy cows. France and Italy sit within the top five EU raw cow's milk producers alongside Germany. Belgium ranks 9th in the EU terms of raw cow's milk production and dairy exports (Eurostat data; Poczta et al., 2020).
- **Netherlands, Ireland and Denmark** – These are countries with relatively large-scale, high-intensive dairy farms (with the important nuance that Ireland is a lower cost input and therefore lower output system than the Danish and



Dutch ones). Netherlands is the second largest EU exporter of dairy. Netherlands and Ireland have a significant level of butter production, contributing around 30% of all the butter produced in the EU (behind France and Germany who contribute around 38%). All three countries are within the top 10 EU producers of raw cow's milk, and all three have relatively high livestock densities – with the Netherlands having one of the highest at 3.6 livestock units/hectare. Denmark also has a relatively large number of organic dairy cows (the fourth highest number in the EU). Ireland has the largest proportion of family farms in the EU (97%) (Eurostat data; Poczta et al., 2020).

- **Poland** – The dairy farms in these countries are small scale, medium-extensive farms. Poland is in the top five Member States for production of raw cow's milk. Poland has large numbers of dairy farms with relatively low outputs (together they account for 50% of all dairy farms in the EU by number, but only around 13% of the total output (€)) (Eurostat data; Poczta et al., 2020).
- **Spain** – Dairy farms in Spain are small-scale and extensive, though Spain is still one of the 10 largest raw cow's milk producers and dairy exporters in the EU. (Eurostat data; Poczta et al., 2020).

An overview of some of the characteristics of the dairy farming sectors of the nine selected Member States is shown in Table 2021.

Table 2122 Dairy farming in the nine Member States selected for case studies

Member State	Raw cow's milk delivered to dairies (Thousand tonnes) (2019)	Number of dairy cows (Thousand animals) (2019)	Standard output (€) for cattle-dairying, rearing and fattening combined (2016)	Livestock density (livestock units per ha of UAA*) for cattle-dairying, rearing and fattening combined (2016)
Denmark	5 614.69	563	€6 507 650	1.8
France	24 526.9	3 485.59	€1 579 320 210	1.3
Germany	32 442.21	4 011.67	€1 047 612 530	1.6
Ireland	8 226.62	1 425.76	€347 411 040	1.6
Italy	11 965.01	1 875.72	€563 572 920	1.6
Netherlands	13 787.9	1 590	€85 093 200	3.6
Poland	12 174.96	2 166.9	€349 082 260	1.2
Belgium	4 288.22	538	€707 508 540	2.8
Spain	7 265.21	812.87	€162 879 520	1.6

\*Utilised agricultural area Eurostat data.

### 9.1.2 Information on key stakeholders

Key actors that are involved in the decision-making process for the transport of unfit end-of-career dairy cows are as follows:

Actors	Role
<b>Farmers</b>	<p>Farmers are usually responsible for deciding whether a cow is transported or not.</p> <p>This case study explores social drivers around the farmers decision to:</p> <ul style="list-style-type: none"> <li>• Decide if the cow is fit for transport.</li> <li>• Make management decisions throughout the lifetime of the cow which could impact on diseases, such as lameness, mastitis or prolapse.</li> </ul>
<b>Veterinarians</b>	<p>Veterinarians are typically involved in the decision-making process, with influence at the following stages:</p> <ul style="list-style-type: none"> <li>• Providing advice and guidance to farmers on animal health and welfare throughout the lifetime of the cow's life.</li> <li>• If a farmer is unsure whether a cow is fit to be transported they will contact the veterinarian.</li> <li>• At the slaughterhouse to perform ante-mortem and post-mortem examinations.</li> </ul>
<b>Transporters</b>	<p>Cows that leave the farm will most likely require transport services to reach their destination. Farmers can decide to send an unfit end-of-career dairy cow, but there are situations where the loading or unloading of a cow can cause injuries.</p> <p>Transporters perform a key function acting between the farmers and the slaughterhouse. Transport conditions can play a role in deciding whether to transport borderline cows.</p>
<b>Slaughterhouses</b>	<p>They typically decide whether to accept an animal and in some countries across Europe a slaughterhouse can refuse to accept an animal and the veterinarian at the slaughterhouse will follow competent authority protocol which can lead to sanctions for farmers.</p>

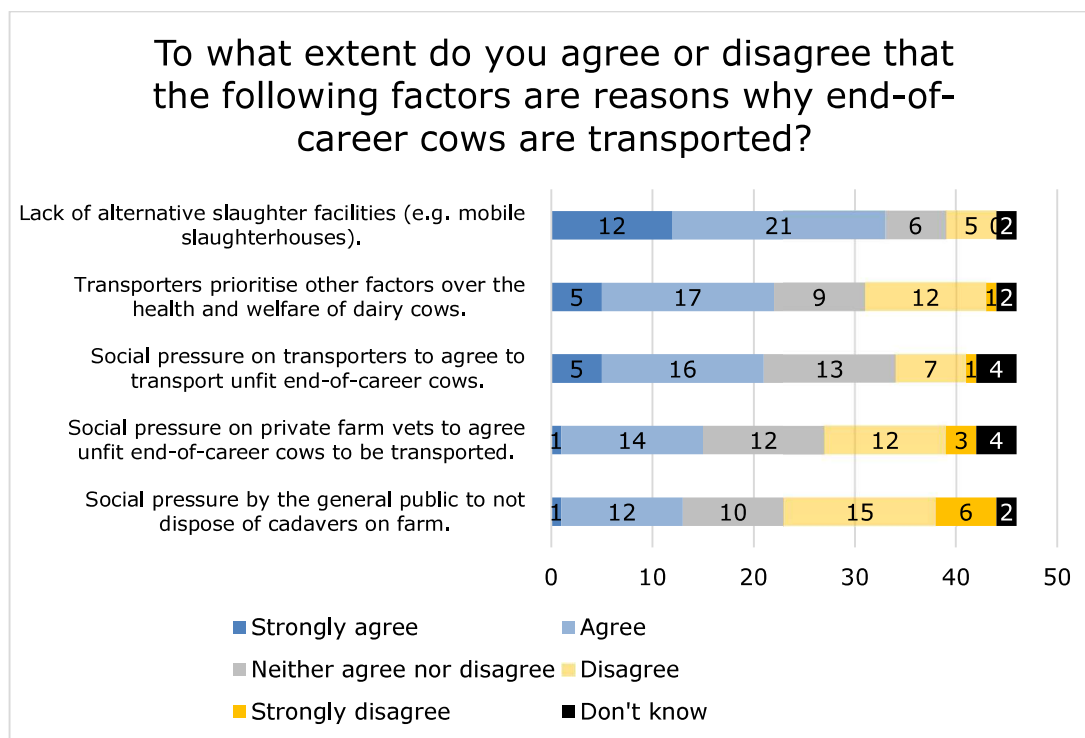
### Overview of findings

The following section provides information on the social drivers that can lead to non-compliance in the handling and transportation of end-of-career dairy cows. The social drivers have been discussed in relation to how they affect the farmers decision to transport animals. Social drivers have been discussed in relation to farmers attitudes towards on-farm slaughter, animal welfare, and sanctions. As well as the understandings between the supply chain that contribute towards these social drivers and how they affect the farmer and the decision to transport unfit end-of-career dairy cows.

Information from this case study incorporates findings from the online quantitative survey, the desk-based evidence gathering review and in-depth interviews that were conducted with stakeholders from EU countries and also stakeholders that provided an overarching EU perspective.

*Figure 3828* below displays the survey responses received to the following question, "To what extent do you agree or disagree that the following factors are reasons why end-of-career cows are transported?". As displayed in the graph, social drivers were viewed as being influential in leading to the transport of unfit end-of-career dairy cows. This information highlights the pressures between groups, as veterinarians, transporters and the general public were identified as facing social pressure to transport unfit end-of-career dairy cows. These drivers are explored in more detail below.

Figure 3828 Social Drivers Survey Response



### 9.1.3 Attitudes and beliefs on-farm slaughter

Attitudes and beliefs towards on-farm slaughter was recognised by stakeholders in the stakeholder workshop and in the qualitative interviews. The beliefs were focussed on the farmers' attitudes towards the destination of the slaughter and their attitudes towards the on-farm slaughter process. These attitudes tended to be related to older more traditional farmers.

During the stakeholder workshop it was highlighted that on-farm slaughter could provoke a sense of shame in farmers, resulting from members of the public seeing cadavers on farm. This issue was viewed as affecting farms in more built-up areas, and smaller countries, such as the Netherlands, where it is heavily populated and rural areas are frequently visited. *'Social, especially in populated areas, dislike placing a cadaver by the road to be picked up for destruction. They fear scrutiny by [the] general public.'* Quotation from the workshop. When tested as part of the quantitative survey only 13 out of 46 of the stakeholders agreed or strongly agreed with the statement "Social pressure by the general public to not dispose of cadavers on farm" when asked to what extent do you agree or disagree that the following factors are reasons why end-of-career cows are transported? In comparison to 21 stakeholders who disagreed or strongly disagreed with the stakeholders.

Exploring this further in the qualitative interviews it was suggested that the social norms were more focussed on the natural order of the farm and the final destination of the end-of-career dairy cow. A stakeholder highlighted that farmers could feel as though they have 'failed' their animals if they are slaughtered on farm, as opposed to being slaughtered in the slaughterhouse.

*'I think sometimes there is a mentality in farmers that if the animal goes to the factory, they didn't kill the animal, that they didn't fail, whereas if they feel they put the animal down on farm that they've failed the animal. It's felt more in older*

---

*generations where they would have seen animals dying on farm as a bad thing whereas going to the factory and dying is a norm.'*

Quotation from an Irish Veterinarian representative Stakeholder.

In addition through the qualitative interviews it was also highlighted that, on farm slaughter is viewed as 'bloodier' and messier than being able to send the cow to the slaughterhouse. This was reported as being distressing to the farmer and posing logistical problems relating to on farm slaughter. An example was highlighted that a farm had a mobile slaughterhouse truck, but they did not use it because of the blood and logistics of having to dispose of the carcass. If farmer can transport the animal to the slaughterhouse, they can avoid encountering the unpleasant situation of slaughtering on farm, as well as saving on the higher costs of on-farm slaughters.

'On-farm slaughters are very bloody. Given the high mortality rate in farms – there is the public shame of having this much blood and cow corpses around the farm. Also, this could result in more inspections from the veterinarian'

Quotation from a German Agricultural representative Stakeholder

#### **9.1.4 Farmer attitudes towards welfare**

During the workshop and qualitative interviews, stakeholders expressed different opinions regarding farmers attitudes towards welfare, as shown in Figure 2.

Several stakeholders highlighted that it is beneficial for farmers to have a focus on animal welfare. An increase in welfare can lead to an increase in productivity from their animals and an improved carcass when the cow reaches the end of its career. Additionally, farmers often have a strong emotional attachment to their cows because they work with their animals daily and rely on them to produce.

However, other stakeholders highlighted those farmers may not prioritise the welfare of animals as they may prioritise profit over welfare. This may be exacerbated at the end of their career as the cow has already been profited by (through milk production) and the sale of the carcass is a lesser income. Therefore, the driver to keep the cow in a healthy position is less important. Similarly, the low milk prices and small profit margins that farmers face, was viewed as contributing to them prioritising profit over welfare. Unfit animals are an economic cost to the farmer and they can be prematurely slaughtered to try and make some profit from the animal. The economic pressures that farmers are under can also lead to animals being farmed more intensively, which was typically reported as being worse for animal welfare than extensive systems. Additionally, it was identified that there is a market for cull animals, and this can lead to them being traded at livestock markets, rather than being sent straight to slaughter.

These mixed views were also captured in the quantitative survey with 35% of stakeholders agreeing or strongly agreeing with the statement that "farmers prioritise other factors over the health and welfare of dairy cows" and 35% disagreeing or strongly disagreeing with the statement.

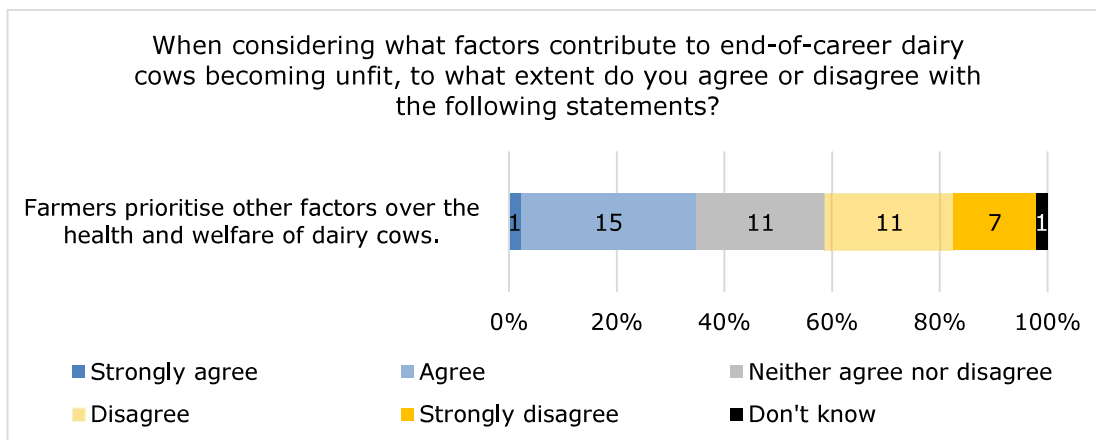


Figure 3929 Farmer attitudes towards welfare

Moreover, the emotional attachment farmers have to their cows may lead them to want to end any suffering they perceive the end-of-career cow is going through as soon as possible, by slaughtering the cow as soon as possible. Often the quickest way is to transport the unfit end-of-career dairy cow to a slaughterhouse.

### 9.1.5 Attitudes and beliefs towards sanctions

Case Study 6: Controls and Sanctions explores this theme in further detail. Across Europe sanctions are typically designed and enforced by the national authorities, often by a state veterinarian or external company chosen by the authorities. In the data, it was highlighted that there are significant differences between countries, across Europe. For example, the size of the country, the characteristics of the farm – e.g. intensive/extensive, grass-based, and milking systems. These differences have led to inconsistencies in how controls and sanctions are enforced.

Interview data highlighted that farmers are typically not worried about enforcement actions from authorities for transporting unfit end-of-career cows. In smaller communities, it was identified that people often had informal relationships and farmers were unofficially pre-warned about inspections. Also, it was highlighted that farmers and transporters are often aware of the location of checkpoints where animals will be inspected, and they were able to avoid these routes if they were unsure of the animal health. A German stakeholder perceived the value of the fines as being too low and enabling the practice of transporting unfit end-of-career cows. It was stated that farmers can pay the fines and continue with transporting unfit animals. However, in Denmark and Italy, sanctions were reported as acting as an effective deterrent. Italy have increased their sanctions over the last few years.

However, there is a distinction between an animal being condemned as being unfit for consumption at the slaughterhouse and an animal being unfit for transport. It was reported that if a farmer repeatedly has animals condemned it could trigger further inspections. Farmers were keen to avoid these actions but as slaughterhouses receive animals once they have been transported and arrived at their destination, they usually are able to transport borderline cases without receiving a sanction.

### 9.1.6 The Farmer's outlook on the Industry

It was reported that farmers view loading the animals onto the transporter wagon as being the final step in the lifespan of their animals and the natural order of the farm. Stakeholders suggested that farmers typically did not have an in-depth understanding of actions that happen off the farm and there is a separation between the farmer and the death of their animals. This separation has reportedly led to farmers not being aware that they may have transported an animal that is unfit, due to them only being made aware if the animal was condemned for consumption at the slaughterhouse. Therefore, it could be seen as a gap in the knowledge of the farmer because they may

---

be unknowingly transporting unfit cows, but because they are certified as fit for consumption, the farmer is not being made aware.

Often when unfit cows are received at the slaughterhouse the slaughterhouse staff feel as though 'it is too late' to make a difference as the cow has already been transported. This can lead to a decrease in reporting at the slaughterhouse. Additionally, it can be difficult for slaughterhouses to determine if an animal has sustained injuries on the journey or if they were unfit when they were loaded.

### **Conclusion**

To conclude, there are several social drivers that affect whether an unfit end-of-career cow is transported or not. These drivers can contribute to the social norms that farmers experience, such as farms being detached from the slaughterhouse, and attitudes that are held by some farmers on animal welfare. However, it is important to highlight that farmers are economically strained and it is difficult for them to make a significant income from dairy farming alone. Therefore, although the meat from cull cows is not the main focus for the dairy farmer it can be an important source of money that the farmer does not want to lose.

---

## 10 Case Study 4: Costs and benefits to prevent the transport of unfit cows.

### Case study theme

This case study provides evidence on the economic factors driving the transport of unfit cows across the nine Member States included in this study.

### Research questions addressed

The case study provides evidence for the Evaluation question: Assess the magnitude of the problem and the reasons for any possible non-compliance, including the associated costs and benefits for the concerned actors. Explain whether/to what extent the current business plan(s) have contributed to the problems. In particular it focuses on providing evidence for the sub-questions:

- How are drivers prioritised when deciding on the transportation of unfit end-of-career cows? (E.g., trade-offs between animal welfare and business revenue).
- What are the problems encountered by operators in relation to handling of end-of-career cows? What are their drivers (economic, cultural, institutional etc) and their consequences?
- What are the compliance costs for farmers to prevent such transport? Who is benefitting from existing practices? What are the costs to the farmer of arranging for the slaughter and disposal of end of career cows on farm? Who in the supply chain are drawing revenue from the transport of unfit dairy cows to slaughterhouses?
- Do current economic model(s) contribute to the problem of illegal transport? To what extent? To which extent is illegal transport of unfit dairy cows associated with pasture-based/confinement-based, intensive/extensive models of dairy production? To what extent is illegal transport of unfit end-of-career dairy cows associated with suitability of cattle bred for the system/environment. Including the suitability of the farm practices used for the type of breed and its environment, for example, additional nutritional and resources.
- What are the most effective incentives for farmers and traders to address the problems?

### Context

#### 10.1.1 Country specific background

The case study draws on evidence from the following Member States, which have been selected according into the typological groups identified through a cluster analysis in the study by Poczta et al. (2020):

- **Germany and Italy** – These countries have medium-scale (in terms of actual and economic size), medium-intensive (in terms of inputs and outputs) dairy farms. Germany and Italy are in the top three producers of cheese in the EU. Germany is the largest exporter of dairy products (by value), the largest producer of raw cow's milk (by volume) and has the largest number of dairy cows in the EU (including the largest number of organic dairy cows). Italy sits within the top five EU raw cow's milk producers, alongside Germany. (Eurostat data; Poczta et al., 2020).
- **Ireland** has relatively large-scale, high-intensive dairy farms with the important nuance that production systems are lower input /output than the EU average. Ireland has a significant level of butter production, contributing around 30% of all the butter produced in the EU (behind France and Germany). Ireland also has the largest proportion of family farms in the EU (97%) (Eurostat data; Poczta et al., 2020).
- **Poland** – The dairy farms in Poland are small scale, medium-extensive farms. Poland is in the top five Member States for production of raw cow's milk but has

large numbers of dairy farms with relatively low outputs (together they account for 50% of all dairy farms in the EU by number, but only around 13% of the total output (€)) (Eurostat data; Poczta et al., 2020).

An overview of some of the characteristics of the dairy farming sectors of the nine selected Member States is shown in *Table 2021*.

*Table 2223 Dairy farming in the nine Member States selected for case studies*

Member State	Raw cow's milk delivered to dairies (Thousand tonnes) (2019)	Number of dairy cows (Thousand animals) (2019)	Standard output (€) for cattle-dairying, rearing and fattening combined (2016)	Livestock density (livestock units per ha of UAA*) for cattle-dairying, rearing and fattening combined (2016)
Germany	32 442.21	4 011.67	€1 047 612 530	1.6
Ireland	8 226.62	1 425.76	€347 411 040	1.6
Italy	11 965.01	1 875.72	€563 572 920	1.6
Poland	12 174.96	2 166.9	€349 082 260	1.2

\*Utilised agricultural area Eurostat data.

### Economic model

The main categories of costs and benefits of transporting unfit cows is represented in the table below. This considers the distribution of costs and benefits across relevant actors in the process and how these might vary across countries.

Actor	Costs	Benefits	Country effect
Farmers	<ul style="list-style-type: none"> <li>• Cost of veterinarian to assess 'fitness' for transport</li> <li>• Cost of on-farm slaughter</li> <li>• Possible loss of carcass value</li> </ul>	<ul style="list-style-type: none"> <li>• Avoided treatment costs for unfit cows</li> <li>• Avoided penalties for transporting unfit cows</li> </ul>	<ul style="list-style-type: none"> <li>• Awareness of regulations and perception of animal welfare (farm size and capacity)</li> <li>• Economic model for dairy farming (scale, practices, returns)</li> <li>• Availability and cost of mobile slaughter facility</li> </ul>
Veterinarians	<ul style="list-style-type: none"> <li>• Loss of reputation and business locally</li> </ul>		<ul style="list-style-type: none"> <li>• Extent of social and economic ties to farmers locally</li> <li>• Cultural differences in professional status of vets</li> </ul>
Transporters	<ul style="list-style-type: none"> <li>• Loss of reputation and business locally</li> </ul>	<ul style="list-style-type: none"> <li>• Avoided penalties for transporting unfit cows,</li> </ul>	<ul style="list-style-type: none"> <li>• Economic returns or wages in transport sector and</li> </ul>



Actor	Costs	Benefits	Country effect
		where this may have been caused (or added to) during transport	absence of alternative employment <ul style="list-style-type: none"> <li>• Extent of social and economic ties to farmers locally</li> </ul>
Slaughterhouses	<ul style="list-style-type: none"> <li>• Inspection and implementation of sanctions</li> </ul>	<ul style="list-style-type: none"> <li>• Avoided penalties for accepting unfit cows</li> </ul>	<ul style="list-style-type: none"> <li>• Economic returns or wages in meat processing sector</li> </ul>
Authorities	N/A	N/A	
Private companies	Inspection and implementation of sanctions	Avoidance of economic costs of reputational damage (loss of markets)	

It is clear than most actors incur both economic costs and incentives to ensure unfit end-of-career cows are not transported. The challenge is that the costs are tangible and immediate, for example, payment for a veterinarian to assess the cows for fitness to travel, on-farm slaughter costs and possible loss of carcass value, while the benefits, often avoidance of penalties, are less certain and immediate. Most consultees (e.g. Europe\_03) acknowledge that the key assessment of fitness to travel and decision to do so or not, rests with the farmer or the transporter. For these parties, the benefits of not transporting unfit cows should be clearly greater than the costs of doing so but the evidence suggests that this is not uniformly the case.

### Overview of findings

This section provides a summary or synthesis of evidence (qualitative and quantitative) gathered through desk research, interviews with stakeholders and surveys. Where data is uncertain, this is highlighted.

#### 10.1.2 Economic factors that lead to non-compliance

The surveys of stakeholders provided mixed views on the drivers for transport of unfit end of life cows:

- Just under a quarter of the sample of industry stakeholders (5 from 21) felt that the cost of culling the dairy cow on farm and disposing of the carcass was an important reason why end-of-career cows are transported but a similar number disagreed (7 from 21). Eighty percent (20 from 25) of NCA stakeholders felt that the cost of culling the dairy cow on farm and disposing of the carcass was an important driver, while only one NCA stakeholder disagreed.
- Over half of the sample of industry stakeholders (13 from 21) felt that the financial gain for slaughtering the cow and it going into the supply chain was an important reason why end-of-career cows are transported, while only 2 industry stakeholders disagreed. Over ninety percent (23 from 25) of NCA stakeholders felt that the financial gain for slaughtering the cow and it going into the supply chain was an important driver and just one stakeholder disagreed.
- Practical reasons, notably lack of alternative slaughter facilities (e.g. mobile slaughterhouses) were also considered significant (16 from 21 industry stakeholders and 17 from 25 NCA stakeholders), while social pressure on transporters were also considered important influences (7 from 21 industry stakeholders and 14 from 25 NCA stakeholders).

Economic returns in the dairy sector in Europe vary widely, partly relating to the development of the sector (scale, infrastructure, investment in technology) and partly on the basis of market costs and returns (Bórawskiet al, 2020). This is broadly consistent with the typology established in this study. The stakeholder workshop captured some comments about the wider economic pressures on the sector, namely 'low incomes at farmer level; they try to obtain as much as possible even with an end of career dairy cow'.

Based on the four countries studies, we examine the heterogeneity in cost categories and how that impacts the overall incentive to prevent the transport of unfit cows.

### 10.1.3 Cost of treatment and/or inspection

Khol et al., (2015) reported that downer cows in Germany can require a significant amount of therapy and care. Schmiedel (2008) notes that diseases in dairy cattle production can lead to major economic losses and estimates that across all diseased animals, losses for production were 166 euros per affected cow. Costs were provided for rehabilitating a downer cow in Italy at 150-200 euros, mainly relating to veterinarian costs. Another interviewee (Germany) also noted that the cost for not transporting or killing a downer cow involves days or weeks of worker input, which is why nobody does it.

### 10.1.4 Cost of on-farm slaughter and disposal

Indicative data was provided for Italy on the scale of costs associated with on-farm slaughter and disposal. These costs will vary across countries but highlight the extent of cost involved for farmers.

Table 2324 Farmer Compliance costs

	Germany	Poland
On-farm euthanasia	80-100	100
On-farm slaughter		110-160
Disposal of carcass	20-75	30-80*

\* Reimbursed by NCA.

While these data are partial and incomplete, the table serves to make the point that, in the absence of fines or other sanctions, farmers incur lower costs to transport unfit cows than to euthanise or slaughter on farm.

### 10.1.5 Loss of carcass value

A study in Ireland (Magalhães-Sant'Ana et al., 2017) reported a conflict between the responsibility of private veterinary practitioners (PVPs) to safeguard the welfare of acutely injured bovines on-farm and the clients' interest to recover the commercial value of the animal. This is supported by Stern (2018) who noted that the meat of downer cows in Germany is sold at low margins to the sausage industry, also sometimes for dog food. While farmers make less money for such a cow, there are avoided costs, including feed for the cow and any fee for the disposal of the carcass. The main benefactors are the slaughterhouses specialising in downer cows.

An interviewee in Germany reported that farmers do not make much money from downer cows (20-50 euro per downer cow) but ultimately this is a positive value and needs to be considered alongside the avoided cost of on-farm slaughter and disposal.

### 10.1.6 Avoided penalties for transporting unfit cows

Fines for non-compliance with Council Regulation (EC) No 1/2005 of up to €1000 in Italy and €5000 in Germany are reported but this is regarded by some as insufficient to deter the practice. Fines are also mentioned as some of the punishments for violating the provisions in the act in Poland but data was available.

Ireland tends to opt for administrative sanctions such as withdrawal of licenses; for example, if farmers send animals that are not in good condition it would be condemned by the slaughterhouse and it could trigger a welfare inspection on their farm, with a risk to single farm payment.

Using these costs estimates, an aggregate picture can be assembled weighing costs and benefits of complying with the regulation to prevent the transport of unfit cows. We assume that if it is practicable for the cow to be treated and retained that would be the common outcome, so we focus on the other three possibilities

As such, the role of sanctions is key and the degree of certainty that they will be applied. As outlined in Case Study 6, the decision points start with the farmer, then the veterinarian and transporter and finally at the meat plant. Each stakeholder in the chain needs to be aware of the welfare and legal issues and possible sanctions. To make the right judgement, this relies on being well-informed on both aspects and an effective monitoring and compliance programme being in place.

Where others in the supply chain are complicit in the decision to transport unfit cows, e.g. veterinarian, transporter or processor, the farmer may not consider the ethical issue as it is perceived that others have assumed responsibility for the decision. That may not be the case in law but in effect this provides an incentive for the farmer to make a poor decision in terms of animal welfare. In others words it is important that all actors in the chain are seen to be culpable for non-compliance.

### 10.1.7 Market influence

The 2017 EC report on Welfare of Cattle on Dairy Farms<sup>89</sup> noted that there is no 'typical' European dairy cow breed, though the Holstein-Friesian is the most prevalent. The farming and housing systems for dairy cows vary widely, from cattle reared on pasture to cows that are indoors all year round and may be in loose housing, in cubicles or in tie stalls. There are no global statistics for housing systems in the EU.

Differences between countries relate to both the **prevalence of unfit cows** due to systems (intensive/ extensive, pasture-based/confinement-based, breeds of cattle) and market returns (prices of meat and milk, payment schemes for veterinarians, compliance costs) and the **implementation of the regulation**. These are considered below in turn for the four case study countries.

Country	Prevalence of unfit cows	Implementation of the regulation
Germany	Larger herds and more intensive production will increase the prevalence of unfit cows but there are also many small farms.	Germany has limited monitoring activities, and slaughterhouses are expected to report any unfit cows or farmers engaging in suspicious activities.
Italy	Larger herds and more intensive production will increase the prevalence of unfit cows but there are also many small farms.	Transporting unfit cows is considered not to be common practice. A 2007 decree heavily increased the controls and fines for the transport of unfit cows in Italy. In addition to the slaughterhouses, vehicles are likely to be inspected too.
Ireland	Larger herds of both extensive and intensive production will increase the prevalence of unfit cows and widespread use of	Small rural communities that are closely linked to farming means it is likely that veterinarians and transporters are sympathetic to

<sup>89</sup> European Union (2017) Welfare of Cattle on Dairy Farms. Overview Report of the Directorate-General for Health and Food Safety.

Country	Prevalence of unfit cows	Implementation of the regulation
	livestock markets affords an opportunity to secure a value for cows that can mobilise.	farmers' economic position. Nevertheless, there are some large processors who cannot afford to risk reputational damage.
	Large numbers of small dairy units of marginal economic viability suggest that cows are retained longer and are less likely to be treated for injury or disease. Farmers may perceive that they cannot afford to forego an income for the unfit cow or pay for slaughter and disposal.	Unlike other countries, transport companies seem to have more control over the unfit cow transport decision-making than other actors. In smaller, more rural communities it is more likely that veterinarians and transporters are sympathetic to farmers economic position and that meat supply chains are less rigorously inspected. As such, the risk of fines or sanction is reduced. There is also a shortage of veterinarians and an interviewee reported that only about 2% of the cows transports are monitored by veterinarians at the starting point.
Poland		

### 10.1.8 Prioritisation of drivers

It should be noted that preventing the transport of unfit cows is not only an economic decision but an ethical issue (to protect animal welfare) and often has a social dimension (community role and status). As such, supporting farmers to be aware of the definition of cows unfit for transport is an important element of the wider framework for preventing transport of unfit cows.

Where farmers are not influenced by the ethical case and are open to transporting unfit cows, with the collaboration of transporters or dealers, the system relies on a strict process of inspections and fines at slaughter plants. The research in this study indicates that this approach has been successful in Spain and Italy. If there is not marketplace for unfit cows, the farmer will make the least-cost decision to put the animal down on farm. Again, this is encouraged if there is good provision of veterinarians and facilities to allow this.

### Conclusions

The scale of costs and benefits for farmers are very different across countries and to some degree within countries, leading to uneven prevalence of the problem. This needs to be recognised in finding a solution so that additional costs are not brought to bear where the problem is already well managed. Na combination of carrot, sermon and stick is best suited to minimise the incidence of transport of unfit cows.

It would be helpful to have more comprehensive data on the incidence of on-farm slaughter across MS, as this often inverse to illegal transport of unfit cows. Reporting of fines levied or other sanctions applied for con-complied with the regulation would also be an important indicator of non-compliance and help indicate whether this was improving or not, and highlighting good-practice initiatives at MS level.

The wider question of whether the EU economic model for milk production is adding to the problems also cannot be applied evenly. Markets need to be regulated so that milk prices cover the cost of production, including environmental and welfare costs, otherwise farmers will seek to avoid these costs where possible. Applying effective sanctions will ensure these costs are internalised but should be used in combination with market regulation and support to farmers to help them comply.

---

## 11 Case Study 5: Supply chain dynamics

### Case study theme

This case study provides evidence on the stakeholder dynamics that exist in the supply chain, influencing the transport of unfit end of career dairy cows. This case study will investigate the following research questions:

- Who bears the responsibility to choose whether a cow is transported or not?
- What are the issues around the responsibility of decision making?
- What are the pressures faced by operators

### Research questions addressed

It provides evidence for the Evaluation question: Assess the magnitude of the problem and the reasons for any possible non-compliance, including the associated costs and benefits for the concerned actors. Explain whether/to what extent the current business plan(s) have contributed to the problems. In particular it focuses on providing evidence for the sub-questions:

### Context

#### 11.1.1 Country specific background

The case studies cover the following Member States, which have been separated according into the typological groups identified through a cluster analysis in the study by Poczta et al. (2020):

- **Germany, France, Belgium and Italy** – These countries have medium-scale (in terms of actual and economic size), medium-intensive (in terms of inputs and outputs) dairy farms. Germany, France and Italy are the top three producers of cheese in the EU. Germany is the largest dairy exporter, the largest producer of raw cow's milk and has the largest number of dairy cows in the EU, though France has a higher output (€) from dairy farms. Germany and France also have the largest number of organic dairy cows. France and Italy sit within the top five EU raw cow's milk producers alongside Germany. Belgium ranks 9th in the EU terms of raw cow's milk production and dairy exports (Eurostat data; Poczta et al., 2020).
- **Netherlands, Ireland and Denmark** – These are countries with relatively large-scale, high-intensive dairy farms (with the important nuance that Ireland is a lower cost input and therefore lower output system than the Danish and Dutch ones). Netherlands is the second largest EU exporter of dairy. Netherlands and Ireland have a significant level of butter production, contributing around 30% of all the butter produced in the EU (behind France and Germany who contribute around 38%). All three countries are within the top 10 EU producers of raw cow's milk, and all three have relatively high livestock densities – with the Netherlands having one of the highest at 3.6 livestock units/hectare. Denmark also has a relatively large number of organic dairy cows (the fourth highest number in the EU). Ireland has the largest proportion of family farms in the EU (97%) (Eurostat data; Poczta et al., 2020).
- **Poland** – The dairy farms in these countries are small scale, medium-extensive farms. Poland is in the top five Member States for production of raw cow's milk. Poland has large numbers of dairy farms with relatively low outputs (together they account for 50% of all dairy farms in the EU by number, but only around 13% of the total output (€)) (Eurostat data; Poczta et al., 2020).
- **Spain** – Dairy farms in Spain are small-scale and extensive, though Spain is still one of the 10 largest raw cow's milk producers and dairy exporters in the EU. (Eurostat data; Poczta et al., 2020).

An overview of some of the characteristics of the dairy farming sectors of the nine selected Member States is shown in *Table 2021*.

*Table 2425 Dairy farming in the nine Member States selected for case studies*

<b>Member State</b>	<b>Raw cow's milk delivered to dairies (Thousand tonnes) (2019)</b>	<b>Number of dairy cows (Thousand animals) (2019)</b>	<b>Standard output (€) for cattle-dairying, rearing and fattening combined (2016)</b>	<b>Livestock density (livestock units per ha of UAA*) for cattle-dairying, rearing and fattening combined (2016)</b>
Denmark	5 614.69	563	€6 507 650	1.8
France	24 526.9	3 485.59	€1 579 320 210	1.3
Germany	32 442.21	4 011.67	€1 047 612 530	1.6
Ireland	8 226.62	1 425.76	€347 411 040	1.6
Italy	11 965.01	1 875.72	€563 572 920	1.6
Netherlands	13 787.9	1 590	€85 093 200	3.6
Poland	12 174.96	2 166.9	€349 082 260	1.2
Belgium	4 288.22	538	€707 508 540	2.8
Spain	7 265.21	812.87	€162 879 520	1.6

\*Utilised agricultural area. Eurostat data.

### **11.1.2 Information on key stakeholders**

---

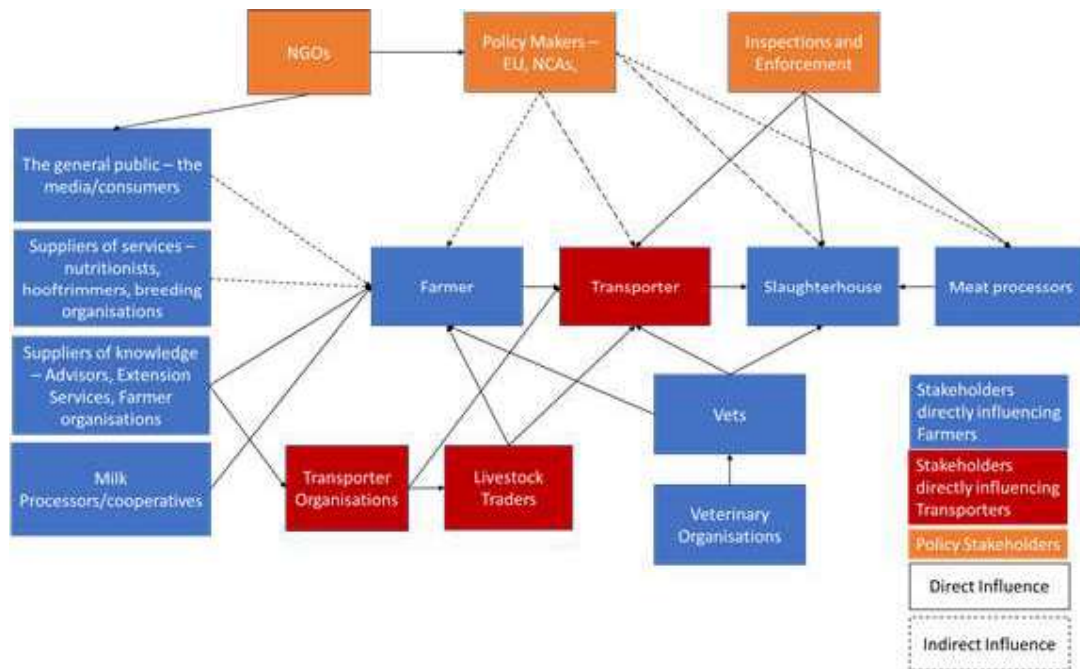
*Figure 4030* displays a stakeholder map, adapted from the one that was built during workshops with experts. As shown, there are several actors that influence farmers, transporters and slaughterhouses in the transport of animals. Stakeholders can be directly involved in the decision to transport or can have an indirect influence. For example, veterinarians are directly involved in the decision to transport because they can be called by the farmer to make the final decision. Whereas, farmers can be indirectly influenced by the general public, because they can be concerned about the public image of farming.

Nutritionists, suppliers, and breeding companies were identified as performing important roles in the industry, including providing information for farmers on animal welfare.

*'The farmer is all alone around a myriad of actors [it is] not easy to navigate for him and the animal health is strongly impacted'*

French Veterinarian Stakeholder Interview.

Figure 4030 Stakeholder Map, adapted from the stakeholder workshop.



### Stakeholders directly involved in the decision to transport an unfit end-of-career dairy cow

There are multiple stakeholders that are directly involved in the decision to transport an unfit end-of-career dairy cow. The stakeholder with the most influence was identified as being the farmer, they make the decision to call the veterinarian if they are unsure of an animal's fitness to be transported and they are responsible for the health of their herd.

Veterinarians were identified as being important stakeholders in deciding whether an unfit cow is transported because they provide the final decision when the farmer is unsure and they monitor the cows arriving at the slaughterhouse. Additionally, the transporter is responsible for carrying the animals to the slaughterhouse and they can receive a fine if they transport unfit animals. However, as identified in Case Study 4: Costs and Benefits to Prevent the Transport of unfit End-of-Career Dairy Cows, all stakeholders involved in this decision point have an economic interest in transporting the animal.

Slaughterhouses also have an economic incentive in accepting an animal that has been unfit to transport because they are able to be paid for the carcass, as long as the animal is not condemned as unfit for consumption. However, the slaughterhouse is likely to focus on the fitness for consumption of a cow because the animal has already been transported when it arrives at the slaughterhouse.

Relationships exist between these stakeholders which affect whether an unfit end-of-career cow is transported. For example, it was identified that typically farmers and veterinarians have long term relationships, and the veterinarian may be lenient with the unfitness of an end-of-career dairy cow because they know the farmer and do not want to damage the relationship. Similarly, the veterinarian may consider the distance and the transport conditions that a cow is transported in and allow borderline cases to be transported.

It was identified in the workshop and qualitative interviews that veterinarians can be concerned that if they act too strictly they will gain a bad reputation and lose customers because farmers will move to a more lenient veterinarian. This reputational



---

risk was also highlighted as being a concern for transporters who also typically had longstanding relationships with farmers, and who may worry that if they refuse to transport animals that are unfit, they will lose customers. Transporters were identified as transporting animals to the slaughterhouse that were able to walk on all four legs up the ramp onto the truck, but stakeholders stated that it can be difficult for transporters to see every single cow that walks up the ramp because they are loaded quickly, and the transporter often has multiple journeys to complete in a day. In Spain, it was identified that the transport industry is dominated by family businesses with longstanding relationships with farmers. Therefore, the transporter can face pressure from farmers to accept cows that could be perceived as unfit.

### **Knowledge sharing stakeholders**

In the evidence collected, knowledge sharing stakeholders were identified as having an indirect influence on the decision to transport unfit end-of-career dairy cows. These knowledge sharing stakeholders were identified as being farmer organisations, NGOs, Assurance Schemes and government extension services, or advisory companies. Typically, these stakeholders often have a professional relationship with farmers and communicate through formal channels, such as workshops and information events but they can also reach a significant audience through informal communication, such as social media, e.g. Twitter. Farmers typically perceive information that is communicated by knowledge sharing stakeholders as being trusted, as they are usually not trying to sell their services.

Farmers are often able to choose whether to engage with information communicated by knowledge sharing stakeholders. Quality Assurance schemes are optional for farmers but they can increase their market by participating in these schemes and their contract with the supply chain may necessitate them being part of a quality assurance scheme. As part of their participation they are required to comply with conditions identified in the scheme but they are likely to receive support from these programmes. Stakeholders highlighted that herd health plans are often promoted through Quality Assurance schemes and there is a significant opportunity for these schemes to increase their role in reducing the transport of unfit-end-of career cows. This opportunity is due to private standards schemes having frequent communication with farmers, collecting data on each farm and being trusted. However, it was identified that dairy farmers are often connected with dairy schemes, whereby the end-of-production meat is not their priority.

Advisory services were identified as being trusted among farmers and being able to indirectly influence their decisions on transport and also overall animal health. Teagasc in Ireland was highlighted as being trusted by farmers and providing impartial advice. It was suggested that advisory services, such as Teagasc, could work to help combat the issue of transporting unfit end-of-career dairy cows. However, organisations usually communicate to farmers on perceived widespread problems and opinion from stakeholders was typically that low numbers of unfit end-of-career animals are being transported.

### **Regulators**

Regulators are organisations responsible for deciding the legislation and monitoring the effectiveness of the legislation. Regulators are the European Commission and NCAs. They indirectly influence the farmers decision to transport animals. The European Commission has defined animals that are unfit to transport according to Council Regulation (EC) No 1/2005. This is the standard that all EU countries are required to comply with when transporting animals. Stakeholders identified that the definition is often interpreted differently by stakeholders and animals may not fit into a category defined by the European Commission in the Annex, but they would still be considered unfit for transport. Fractures were given as an example of instances where an animal may be able to walk up the ramp onto the transporter vehicle but vehicle journeys that are uneven and have a lot of turns can mean that the cow will be further

---

injured during transport. Additionally, it was identified that transporters do not inspect every individual animal and that it can be difficult to determine fitness when the loading process happens quickly. It was suggested that

Additionally, it was reported that farmers perceive the likelihood of an inspection or a fine as being low. Stakeholders identified that often inspections and enforcement occurs in a local area, whereby those performing inspections are integrated into local networks and may have informal relationships with farmers. This has reportedly led to farmers being unofficially pre-warned about upcoming inspections. Similarly, it was identified that farmers and transporters are aware of checkpoints where they may face an inspection, therefore, they are able to avoid these penalties. In the workshop, it was identified that

### **Milk Processors**

Milk processors were viewed as indirectly affecting the decision to transport unfit end-of-career dairy cows. Stakeholders identified that the milk industry prioritises production of milk. This can lead to dairy cows becoming unfit at the end of their career, for example, they are required to calf as much as possible and they are often genetically bred to maximise their production.

This focus on production was viewed as indirectly contributing to the transport of unfit-end-of-career dairy cows because they are not valued by the dairy processors. A stakeholder stated that, "Milk processors drive what happens on a dairy farm... not many will care about end-of-career [dairy cows] because its not coming into the processing for them so they don't see it as their issue". It was suggested that dairy processors have a significant influence on farmers and they should perceive unfitnes in the transport of end-of-career dairy cows as a significant reputational risk.

### **Non-Governmental Organisations**

NGOs were identified as indirectly affecting the decision to transport unfit end-of-career dairy cows, as they typically do not have a close relationship with farmers. NGOs are involved in directly engaging with Policy Makers both at a European and NDC level, as well as other farmer groups and industry. NGOs perceived that the scale of the issue of transporting unfit end-of-career dairy cows as being more widespread than it was reported by other groups, such as veterinarians and Dairy organisations. Additionally, it was highlighted that NGOs did not perceive the European Commission legislation to be strict enough. For example, an NGO stakeholder felt that being able to transport an animal up to 90% of its gestation period was too high and the legislation should promote transport at a lower point through pregnancy. NGOs typically do not have a close relationship with farmers, but they can influence the future policy.

### **Conclusion**

Stakeholder dynamics have a significant impact on the decision to transport unfit end-of-career dairy cows. Farmers and veterinarians were identified as having the most direct influence, followed by transporters and slaughterhouses.

---

## 12 Case Study 6: Controls and Sanctions

### Case study theme

This case study presents an overview of the controls and sanctions that are enforced to attempt to combat the problem of transporting unfit end of career cows. Sanctions are generally designed by the national authorities. Enforcement might vary from country to country depending on the designated monitors of each of the actors in the supply chain.

The case study deepens into the different sanctions and controls implemented in Europe, as well as their impact on the industry.

### Research questions addressed

It provides evidence for the Evaluation question: Assess the magnitude of the problem and the reasons for any possible non-compliance, including the associated costs and benefits for the concerned actors. Explain whether/to what extent the current business plan(s) have contributed to the problems. In particular it focuses on providing evidence for the sub-questions:

- Which measures have been taken by the authorities to fight illegal transport of unfit dairy cows to slaughterhouses and to monitor the situation? What are the measures adopted in slaughterhouses? What are the practices at slaughterhouses to sort animals at arrival?

### Context

#### 12.1.1 Country specific background

The case studies cover the following Member States, which have been separated according into the typological groups identified through a cluster analysis in the study by Poczta et al. (2020):

- **Germany, France, Belgium and Italy** – These countries have medium-scale (in terms of actual and economic size), medium-intensive (in terms of inputs and outputs) dairy farms. Germany, France and Italy are the top three producers of cheese in the EU. Germany is the largest dairy exporter, the largest producer of raw cow's milk and has the largest number of dairy cows in the EU, though France has a higher output (€) from dairy farms. Germany and France also have the largest number of organic dairy cows. France and Italy sit within the top five EU raw cow's milk producers alongside Germany. Belgium ranks 9th in the EU terms of raw cow's milk production and dairy exports (Eurostat data; Poczta et al., 2020).
- **Netherlands, Ireland and Denmark** – These are countries with relatively large-scale, high-intensive dairy farms (with the important nuance that Ireland is a lower cost input and therefore lower output system than the Danish and Dutch ones). Netherlands is the second largest EU exporter of dairy. Netherlands and Ireland have a significant level of butter production, contributing around 30% of all the butter produced in the EU (behind France and Germany who contribute around 38%). All three countries are within the top 10 EU producers of raw cow's milk, and all three have relatively high livestock densities – with the Netherlands having one of the highest at 3.6 livestock units/hectare. Denmark also has a relatively large number of organic dairy cows (the fourth highest number in the EU). Ireland has the largest proportion of family farms in the EU (97%) (Eurostat data; Poczta et al., 2020).
- **Poland** – The dairy farms in these countries are small scale, medium-extensive farms. Poland is in the top five Member States for production of raw cow's milk. Poland has large numbers of dairy farms with relatively low outputs (together they

account for 50% of all dairy farms in the EU by number, but only around 13% of the total output (€) (Eurostat data; Poczta et al., 2020).

- **Spain** – Dairy farms in Spain are small-scale and extensive, though Spain is still one of the 10 largest raw cow's milk producers and dairy exporters in the EU. (Eurostat data; Poczta et al., 2020).

An overview of some of the characteristics of the dairy farming sectors of the nine selected Member States is shown in *Table 2021*.

*Table 2526 Dairy farming in the nine Member States selected for case studies*

Member State	Raw cow's milk delivered to dairies (Thousand tonnes) (2019)	Number of dairy cows (Thousand animals) (2019)	Standard output (€) for cattle-dairying, rearing and fattening combined (2016)	Livestock density (livestock units per ha of UAA*) for cattle-dairying, rearing and fattening combined (2016)
Denmark	5 614.69	563	€6 507 650	1.8
France	24 526.9	3 485.59	€1 579 320 210	1.3
Germany	32 442.21	4 011.67	€1 047 612 530	1.6
Ireland	8 226.62	1 425.76	€347 411 040	1.6
Italy	11 965.01	1 875.72	€563 572 920	1.6
Netherlands	13 787.9	1 590	€85 093 200	3.6
Poland	12 174.96	2 166.9	€349 082 260	1.2
Belgium	4 288.22	538	€707 508 540	2.8
Spain	7 265.21	812.87	€162 879 520	1.6

\*Utilised agricultural area Eurostat data.

### 12.1.2 Information on key stakeholders

#### Stakeholders involved:

Actor	Role
Farmers	<p>Farmers usually decide if a cow is transported or not. Although there are several reasons behind the final decision, a farmer is likely to consider the possible sanctions that come with sending an unfit cow for slaughter. If an unfit cow makes it to the slaughterhouse, the farmer is most likely to be sanctioned before any other stakeholder.</p> <p>Farmers should be aware of the general conditions under which cows have to be transported, but the transport of unfit end-of-career cows could be caused by other underlying issues. Sanctions and controls aim to discourage this practice, often through economic fines.</p>
Veterinarians	<p>Although veterinarians might not see the cows unless in need of a medical check-up, they often fulfil the role of monitors, either before or after a sanction. Veterinarians have the knowledge to determine if a cow is fit or not for transport and in some cases, they can be called by insurance companies to assess the</p>

Actor	Role
	<p>applicability of their coverage (in countries like Spain, the insurers might even decide if the cow can be transported or not).</p> <p>In some cases, veterinarians might be called after a sanction, serving as monitors of animal conditions in farms (France, for example). Overall, veterinarians are the most likely to lead the monitoring and reporting efforts, usually backed by the national authorities or private companies.</p>
Transporters	<p>Cows that have been selected to leave the farm will most likely need special transport services to reach their destination. Farmers can decide to send an unfit cow, but there are situations where the loading or unloading of a cow can cause injuries. In such cases, there can be some responsibility that falls upon the drivers or the transport company.</p> <p>In terms of rules, loading or unloading a cow should provide an overview of its conditions and its general physical mobility. Transporters are an essential stakeholder for this study case, as they mainly serve as a connection between the farmers, the cows, and the slaughterhouses. In countries like Poland, they have more economic advantages when transporting cows, thus having more power when deciding if a cow that is unfit will be transported. In most countries, transport companies should refuse a cow if it is unfit.</p>
Slaughterhouses	<p>Once a cow is transported, they are likely to end up in a slaughterhouse. In some countries, the slaughterhouse can refuse a cow if they are unfit, since processing them could mean fines for them. However, some other countries also report clandestine slaughterhouses, or slaughterhouses that operate under illegal conditions. In this sense, they can be both the solution and the cause of the problem. Most of the studied countries reported that controls happen in the slaughterhouses, and fines will be sent to farmers if they discover unfit cows.</p>
Authorities	<p>Usually, sanction documents are produced by local, regional, or national authorities. In some countries, the Ministry or private companies might send inspectors to slaughterhouses to ensure that cows are fit by the time they are slaughtered. Fines will often be issued by police forces.</p> <p>Policymaking and the willingness to start sanctioning any violations to EU regulations usually need government support for them to work.</p>
Private companies	<p>Although not directly involved in the process, private companies have increased their requirements for quality meat. As a result, they have influenced the industry and sometimes hire private contractors to further ensure welfare and quality before and during the end of a cow's life.</p>

### 12.1.3 Who performs controls?

In general, findings seem to indicate that controls are performed by veterinarian associations supported by the national authorities or private entities. When performed, controls tend to happen at the slaughterhouses, where the cows' fitness is evaluated, or it is evident. In theory, if there is a cow that is unfit for travel, the veterinarian or controller should be able to report the issue and find the owner to send a fine after performing an emergency euthanasia. At this point, the farmer will either receive the

fine or try to prove that the cow was not unfit when it left the farm, meaning the transporter would be to blame for the conditions of the animal. These controls can be performed by private audits, which is the case in bigger slaughterhouses in Poland and Spain.

For some countries like Poland, controlling the activities of the slaughterhouses has proven problematic, as there have been reports of night slaughtering, meaning the veterinarian controllers were not present at the time of the cow's death.

Other controls may happen during the transport phase, although these controls are more likely to happen during longer trips or trips that cross borders. In countries like France, a veterinarian might be sent to control the wellbeing of the cows as the sanction for breaking regulations. In other countries like Spain veterinarians are also sent by insurance companies to evaluate cows and the possibilities for reimbursement.

Overall, when performed, official controls are usually done by veterinarians that have previously been selected by the authorities or an external company. These veterinarians should then build the appropriate cases in response to unfit cows or violations of EU regulations. These cases might then be handled by police or legal authorities, which will decide on the appropriate sanction. The annotated diagram below summarises some of the possible controls during the process, highlighting some of the stakeholders of interest.

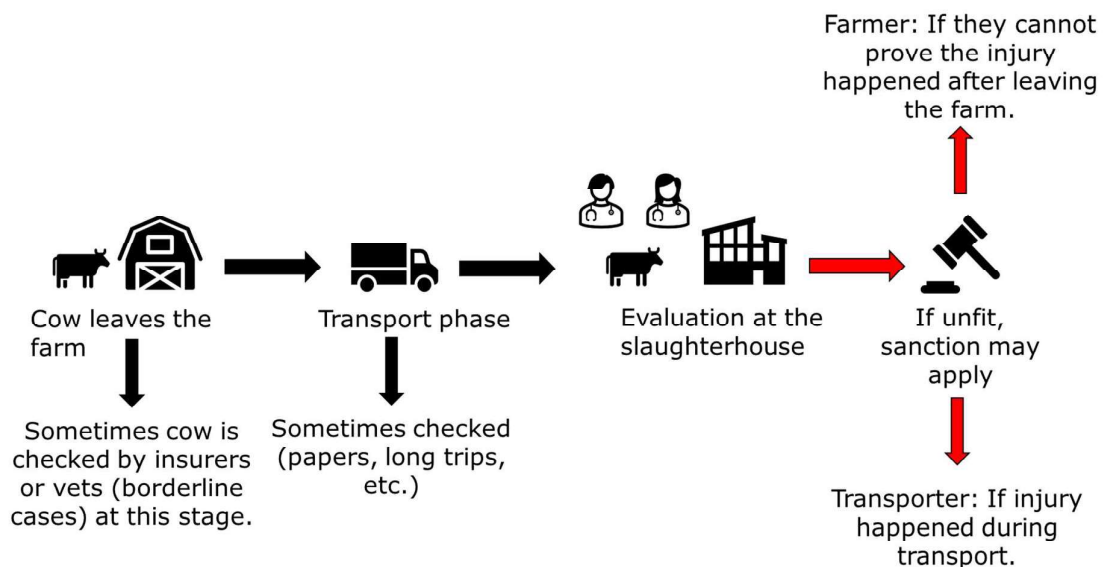


Figure 4131 Control points highlighted from the fieldwork

## Similarities between Member States

Member States display certain similarities regarding controls and sanctions for breaking EU regulations on cow transport. The first part of this section will deepen into the similarities, followed by a table with some of the identified differences:

### 12.1.4 Knowledge/awareness of regulations

As a base, there seems to be a general awareness of the regulations, and stakeholders tend to know the conditions under which animals should be transported. Some countries like Ireland have specifically conducted programmes and trainings to increase the knowledge and awareness of the national and EU animal welfare standards. Overall, farmers and stakeholders involved in the supply chain tend to be aware of what would be the reasons for a fine, thus transporting an unfit cow is mostly considered a choice and not an accident unless the cow is considered as a

---

'borderline' case (meaning its condition does not deteriorate until transport, or its condition was invisible/undetected).

#### **12.1.5 Types of fines**

Most countries will issue monetary or administrative fines upon discovering a violation, although others will have further sanctions or alternatives to monetary fines. Although awareness is good, there have been reports of stakeholders avoiding fines by avoiding control points or simply by deciding to transport cows after doing a cost-benefit analysis (where fines are not high enough to discourage the illegal practice). This is one of the points where countries implemented different solutions.

#### **12.1.6 Control locations**

Although there are some variations to the rule, checks are often done in the slaughterhouses to control the quality of the cow before it is out for consumption. This is also the last opportunity to detect if a cow is unfit. If the cow is unfit when it arrives to the slaughterhouse, this can only mean two things: either the cow was unfit when it left the farm, or it got injured during transport. Overall, the initial procedure will often issue a fine to the farmer, which should then try to prove the cow was not unfit when it left the farm.

Other forms of controls will often happen at control points (such as borders), but in practice they tend to happen during longer trips or more transited areas of a Member State.

#### **12.1.7 Controllers/Monitors**

Veterinarians are the most common monitors of choice when designating the person to determine if a cow was fit for transport or not. Most countries will either be in contact with public or private veterinarians or veterinarian associations. There is no controversy about their knowledge or qualifications on the matter, but some countries face difficulties when there is pressure, bias, or possibilities for veterinarians to lose clients (arising from blackmailing, lack of staff, etc).

#### **12.1.8 Differences between Member States**

*Table 2627 Member state differences*

<b>Member State</b>	
Denmark	More recently, slaughterhouses in Denmark have started to issue a lot more warnings instead of calling the police. By doing this, the slaughterhouse veterinarian can dialogue with the farmer, while the police would only issue a fine. The authorities have also held webinars about good conditions for transport.
France	Sometimes veterinarians will be sent as monitors as part of the sanctions for breaching EU regulations/sending unfit cows to slaughterhouses.
Germany	Germany does not perform as many monitoring activities, and slaughterhouses are expected to report any unfit cows or farmers engaging in suspicious activities.
Ireland	Farmers will only get money if cows go to the slaughterhouse. If this is not the case, the costs for euthanasia and disposal are paid by the farmer. In this sense, there might be more cost pressure to send cows even if unfit.
Italy	A 2007 decree heavily increased the controls and fines for the transport of unfit cows in Italy. In addition to the slaughterhouses, vehicles are likely to be inspected too. Besides the police, veterinarians can also issue fines if they identify unfit animals during

Member State	
	ante mortem inspections (nowadays only public veterinarians can perform this evaluation, but private veterinarians could do it before 2020)
Netherlands	In addition to a pilot to try mobile slaughterhouses, there are strict regulators present in the slaughterhouses to check as many cows as possible. There are also controls at the export points (border controls). Fines are economically high, and the farmers end up with a label of 'bad animal welfare'.
Poland	Unlike other countries, transport companies seem to have more control over the unfit cow transport decision-making than other actors. Although there are transport controls, reports seem to indicate that transport companies know ways to avoid them. Checks by authorities and veterinarians are time limited and staff is limited in harder-to-access regions or villages.
Belgium	In Belgium, although fines are high, farmers are in no obligation to get veterinarian clearance to transport animals, and slaughtering cows inside the farm is now illegal. In addition to this, slaughterhouses are going bankrupt in some regions of the country, limiting the options farmers have when dealing with end-of-career cows. In some cases, the transporter's permit can be removed if an unfit animal has been transported.
Spain	In Spain, when farmers hire insurance for their cows, they might send a veterinarian to evaluate a cow before transport. They will also control if the cow has been medicated and refuse its transport to the slaughterhouse if not good for consumption. Once in the slaughterhouse, if a cow is unfit/found out to have been previously medicated, they can be easily traced back to the farmer to issue a fine. Spanish providers will often offer emergency slaughter services when dealing with an otherwise healthy cow that cannot move for exceptional reasons (for example, broke a leg the same morning)

### Overview of findings

The quantitative and qualitative investigations revealed certain patterns worth consideration.

#### 12.1.9 Pressure to maximise profit and keep clients in smaller communities

Especially when dealing with private stakeholders, qualitative findings showed that sometimes there will be pressure to hide any breaches of EU regulations. For example, veterinarians in smaller communities would have probably formed a close relationship with the farmers and reporting them could cause these private veterinarians to lose their clientele (as reported by results in Germany). In fact, although the regulations seem strict, whistle-blower reports have shown that veterinarians will find themselves blackmailed to approve farm papers without having even visited the farms.

Because of the nature of this field, authorities might have close relationships with the farms they oversee and might not be as thorough as they could be. Similarly, scheduled visits might give farmers and other stakeholders opportunities to hide any irregularities. In this sense, qualitative data suggested more 'sporadic' visits could alleviate the pressure on private veterinarians and other monitors. Another example was provided by Poland, where transporters will take cows to maximise profit, and will know ways to avoid controls and eventually reach the slaughterhouses that will take unfit cows.



---

### 12.1.10 Potential challenges that competent authorities face in applying controls and sanctions

Member States seem to have the provisions to protect EU regulations. The interviews revealed that controls are implemented, and that fines are a common way to sanction illegal practices. However, in some cases, these sanctions are either too low or hard to deliver, ultimately failing to deter stakeholders from engaging in the transport of unfit end-of-career cows.

In practice, these measures are sometimes difficult to implement across full territories, especially in hard-to-access rural areas. As a result, controls are more likely to happen in bigger slaughterhouses, borders, or more transited cities, leaving certain areas unattended.

Distance also plays a role in efficiency, as shorter trips might not even reach control points and longer ones might not provide the ideal conditions for the animals. When these measures are implemented efficiently and the sanction-profit rate for transporting unfit cows is not beneficial for the stakeholder, the incidence of illegal practices is lower.

### 12.1.11 Staff and facilities

In a similar way, the investigation concluded that staffing has a major influence on how effective controls are when preventing the transport of unfit end-of career cows. The lack of qualified veterinarians to run controls has a negative effect on how efficient and regular the checks are, increasing the risk of violations. Success stories are usually preceded by the engagement of enough staff and the access to the correct facilities.

In countries where rural communities are not easy to access, farmers might find themselves lacking the facilities that would maximise their profit and still guarantee the welfare of their cows. Overall, it does not seem like farmers would have any reasons to injure their cows or want to transport them when unfit, but lacking access to facilities would put pressure on them to keep the cows for as long as possible, even past their retirement stage, and then get them to the slaughterhouse to avoid losing more money.

### 12.1.12 Overall controls and sanctions across Member States

The table below provides an overview of specific sanctions in each of the studied Member States. It must be noted that these sanctions mostly refer to Council Regulation (EC) No 1/2005, which refers to animals in general and not cows specifically. However, these measures are an important indication of the direction Member States are taking towards animal welfare.

*Table 2728 Summary of sanctions*

Member State	Overall Summary of Sanctions
Denmark	Fines range from €2000 to €13000, cases against drivers and transport companies are handed over to the police and prosecution services and can end up in imprisonment.
France	A legislation from 2018 extends the offence for animal abuse in rearing to transport and slaughter activities, punishable with one-year imprisonment and a €15000 fine. There might be other sanctions resulting from transporting unfit animals.
Germany	Germany has defined around 35 offences in accordance with Council Regulation (EC) No 1/2005, which can be punished with fines that

Member State	Overall Summary of Sanctions
	go up to €5000. Inflicting significant pain on an animal without reasonable cause is also punishable by a fine of up to €25000.
Ireland	In practice, Ireland tends to opt for administrative sanctions such as withdrawal of licenses.
Italy	Fines go between €1000 and €600. Severe fines concern the fitness of animals and their mistreatment, but also vehicle requirements for transport or the lack of authorisations. The fines usually go to stakeholders involved (farmers, drivers, organisers, etc.). Animals and vehicles can be seized as well.
Netherlands	Violations are usually processed through administrative law. The base fine for violations of Council Regulation (EC) No 1/2005 is €1500. In severe cases, violations can lead to a doubling of fines (€3000). But the fines can also be halved if risks are minor. Repeated violations might end up with higher fines. Other sanctions include removing permits and introducing the case to criminal courts (when very severe), but withdrawals are practically impossible, as they are considered disproportionate.
Poland	The Polish Animal Protection Act provides rules and indications when there are violations to animal welfare. Fines and arrests are mentioned as some of the punishments for violating the provisions in the act.
Belgium	The procedures are slightly different from region to region regarding who deals with the violation report. However, they mostly end in administrative fines. There are also possibilities to remove a transporter's permit.
Spain	Each autonomous community has rules dating from before the creation of Council Regulation (EC) No 1/2005. Violations are generally minor will not exceed €600 or a warning. Violations to local rules can be fined at €150 or €300

*Source: European Parliamentary Research Service, Animal Legal and Historical Centre, and World Animal Protection*

- Financial/administrative sanctions (fines)
- Withdrawal of transport permits
- Supervision sanctions (France, for example)
- Veterinarian controls at the slaughterhouse, either upon arrival or post-mortem
- Border controls
- Some transit checks at non-border points (depends on the country)

### **12.1.13 Type of information that was available.**

Access to information regarding official regulations is easy to obtain, in fact, many of these regulations follow EU regulations as a base. However, difficulties arise when trying to understand their effectiveness and how different stakeholders follow them. Apart from NGOs and other targeted reports, it is difficult to understand the extend to which illegal transports happen in each Member State. In some cases, precise numbers of administrative fines are hard to find as well.

During the interviews, stakeholders were able to share their opinions and experiences on the matter, and the results confirm the points mentioned at the beginning of the

---

section: it is easy to access official information, but it is hard to give solid numbers on illegal practices. Their anecdotes do indicate that illegal practices happen even in countries with good official figures (such as Germany and Spain), but not necessarily to a dangerous scale.

Overall, stakeholders have access to information and countries like Ireland have promoted information sharing to spread good practices across the country. Word of mouth is an important resource when trying to improve the situation for cows in Member States. For example, if a sanction is issued for a certain practice or if a service is offered in a region, it is possible that farmers in the area will quickly spread the word, so it does not happen to others within the community.

#### **12.1.14 Effectiveness of controls and sanctions**

Continuing the point above, controls and sanctions do seem to have an influence when implemented correctly, as seen in countries like Spain, where increased controls and expectations from providers have improved the welfare situation for cows. However, the investigation can also conclude that it is important to have alternatives for stakeholders to access when facing a situation where an unfit cow could be sent to a slaughterhouse. Sanctions on their own might not be enough to deter stakeholders from transporting the cow, and controls on their own might not be widespread enough to fully control the entire farm and transport populations of a Member State. Therefore, there should be preventive measures in place to target the problem on different levels and different stages of the process. Additionally, Member States should be able to offer solutions to deal with borderline cases, where a cow that is healthy simply cannot reach the slaughterhouse. Finally, controls and sanctions are only effective if there are enough people working on them. In this sense, countries where staff members are adequately managing the workload and are available (both in time and numbers) seem to have a better management rate of the issue.

#### **12.1.15 Need to implement sanctions and controls**

Quantitative results further contribute to some of the comments previously explored. Immediate actions reported by the NCAs as part of the quantitative survey suggest the majority of the countries use cautions and warnings to the farmer and transport, followed by raising awareness of the issues and imposing fines, *Figure 4132*. Over half of the NCAs also reported returning the cow to place of departure or to their destination, depending on what was best for the welfare of the cow.

- Immediate slaughter on transport.
- Prioritised slaughter at arrival at slaughterhouse.
- Police reporting.
- Sanction process initiated.

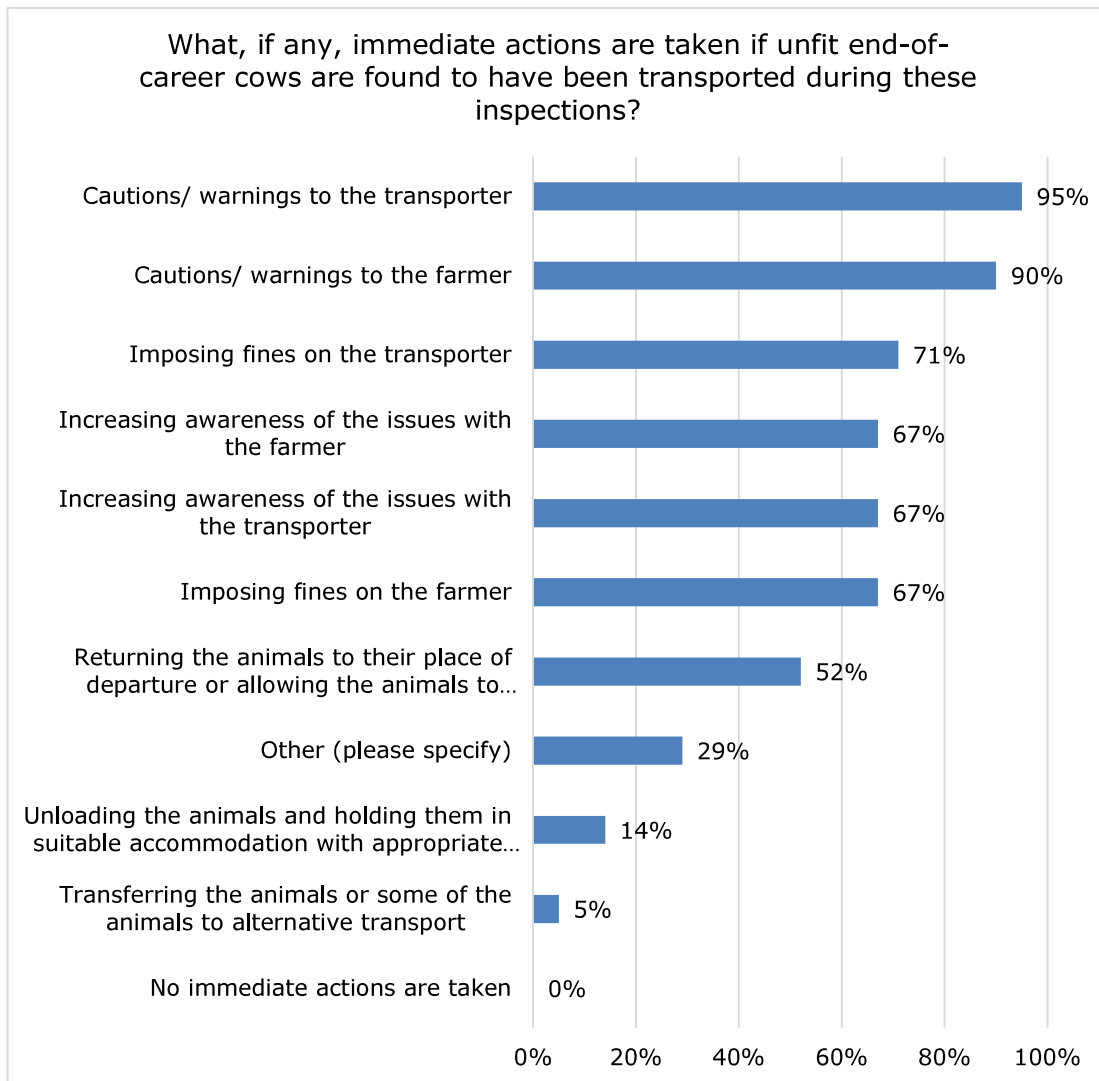


Figure 4132 Immediate actions taken if unfit end-of-career cows are found

Similarly, participants were asked about the effectiveness of the actions taken. When thinking about increasing sanctions, more than nine in ten (92%) think they have been either very or fairly effective, while the remaining 8% think they have been somewhat effective, [Figure 4333](#). When thinking about increasing inspections/monitoring, around six in ten (61%) think these measures have been either very or fairly effective. One third think they have been somewhat effective (33%), and only less than one in ten (6%) think they have been slightly effective.

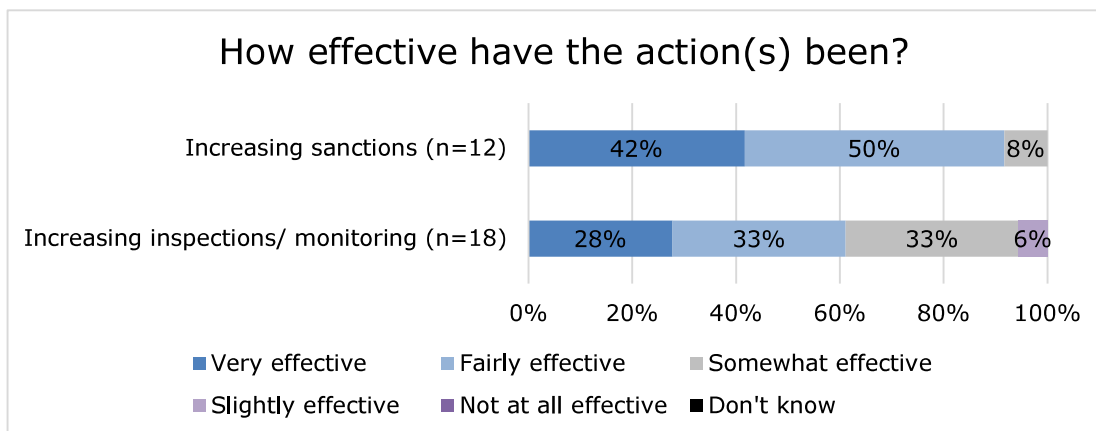


Figure 4333 Effectiveness of sanctions and inspections

Results further add to the topics explored during the qualitative phase, showing the importance of measures and controls, but also adding the training approach some Member States have implemented inside their borders to ensure animal welfare.

#### 12.1.16 Role of actors in enforcing compliance

The table below shows the relevant stakeholders and their responsibility in enforcing compliance of EU regulations.

Stakeholder	Description of responsibilities in compliance
Farmer	Farmers are the first decision-makers in the process. They ultimately have the biggest decision-making power in determining when a cow is ready or not to end its career and be transported to a slaughterhouse. Their knowledge and expertise are an important element to consider when thinking about compliance.
Veterinarian	Veterinarians are the main controllers of most, if not all, Member States. Whether private or public, veterinarians are in direct contact with the cows that will lead to a fine or the people involved in transporting them. Results show that risky environments for veterinarians will hinder compliance and how credible their evaluations are. Additionally, veterinarians can face blackmailing and risk their jobs if their clients do not receive additional checks (especially in private settings)
Transporter	In general, most farmers will need a transport service to get their end-of-career cows to a slaughterhouse. From the results, transporters might sometimes feel pressured to deliver cows to get the profit from the service, even if the cows are unfit. In this sense, the cost-benefit relation is an important element to consider in compliance, as sometimes compliance might not be as profitable as transporting unfit cows.
Slaughterhouse	As the last step before the end of the cows' life, slaughterhouses can be considered as the focus of Member States' controls. Although the findings indicate that controls in the slaughterhouses are generally enforced and pursued, there should be more provisions to ensure they are staffed and that hygiene measures are followed.
Authorities	It is important to mention that there might be gaps in the implementation of regulations from the authorities' side. Results

---

show that, when there are community ties between the residents and the authorities, there are chances that fines and sanctions might become more relaxed. Therefore, authorities have an important role in enforcing compliance as much as the other stakeholders, especially since these are still human interactions in communities that might have been working in the cow industry for generations.

## **Conclusions**

Although access to official sanctions and regulations was available during the elaboration of this case study, the implications and real-life effects of these regulations are difficult to measure. Additionally, aside from anecdotal or NGO reports, real numbers on illegal practices are rare or not representative. In this sense, the reporting on qualitative data might be subject to contextual particularities or situations that do not necessarily reflect the reality of the EU. However, these contributions are important to understand the disconnection between data, regulations, and reality.

The recollection of results indicates that there are certain trends among Member States (such as difficulties enforcing regulation when there is no staff, the cost-benefit analysis that some stakeholders use to decide to transport an unfit cow or not, etc.). These results are reinforced by the investigations conducted by NGOs and other organisations across Europe, as well as the anecdotes shared by interviewees involved in the industry.

Understanding the effectiveness of measures requires both a formal, statistical approach, as well as the interaction with the stakeholders on the field. This case study can conclude that, although fines are a standard procedure that should be kept as a sanction for a violation, there should be other controls that come with them to prevent stakeholders from engaging in the transport of unfit end-of-career cows. Stakeholders seem aware of the regulations and the basics of welfare practices, but compliance requires both knowledge and practice for it to be effective. Overall, Member States have worked on their internal measures to obey EU regulations, but more effort should be done to ensure stakeholders do not have reasons to transport unfit end-of-career cows.

---

## 13 Case Study 6: Preventing the transport of unfit end-of-career cows: Mobile Slaughterhouses

### Case study theme

Mobile abattoirs or slaughterhouses are defined as facilities constituted by containers equipped and mounted on trailers. These modular are transportable and could be temporary used or permanently. Usually, the mobile slaughterhouses are composed of 3 modulars: one for the slaughterhouse, a second truck for the cooling and conservation of animal's carcasses, and the third serves as office for slaughterers and veterinary services to conduct properly sanitary controls. Some semi-mobile units allow the slaughter of animal and bleed them on site; however, the carcass will be transported then to a fix slaughterhouse for the evisceration.

Legislation in Member States prohibit animals slaughtering on the farm (excepting euthanasia for injured animals) which impacts the transport of unfit animal to slaughterhouses. Consequently, the stakeholder workshop and qualitative interviews highlighted that both public authorities and industry see mobile slaughterhouses as a solution to this issue. The literature identifies guidance indicating that mobile slaughterhouses are perceived as an effective measure in the reduction of transportation of unfit livestock, reducing the need for animals to be transported over long distances and therefore potentially contributing to the safeguarding of animal welfare (European Council, 2009, Environment and Forestry Directorate, 2020).

### Research questions addressed

It provides evidence for the Evaluation question: Assess the magnitude of the problem and the reasons for any possible non-compliance, including the associated costs and benefits for the concerned actors. In particular it focuses on providing evidence for the sub-questions:

- Which measures have been taken by authorities to fight illegal transport of unfit dairy cows to slaughterhouses and to monitor the situation? What are the measures adopted in slaughterhouses? What are the practices at slaughterhouses to sort animals at arrival?
- Amongst the identified measures, including mitigation measures, are there any best practices which could be promoted? How do they address the problems? What measures taken by the dairy industry are best practices that could be promoted?
- What measures taken by authorities are best practices that could be promoted? What measures adopted in slaughterhouses are best practices that could be promoted?

### Context

The case studies cover the following Member States, which have been separated according into the typological groups identified through a cluster analysis in the study by Poczta et al. (2020):

**France** has medium-scale (in terms of actual and economic size), medium-intensive (in terms of inputs and outputs) dairy farms. France is in the top three producers of cheese in the EU. France also has one of the largest number of organic dairy cows. France sits within the top five EU raw cow's milk producers alongside Germany. Belgium ranks 9th in the EU terms of raw cow's milk production and dairy exports (Eurostat data; Poczta et al., 2020).

**Netherlands** has relatively large-scale, high-intensive dairy farms. Netherlands is the second largest EU exporter of dairy. Netherlands and Ireland have a significant level of butter production, contributing around 30% of all the butter produced in the EU. Netherlands has one of the highest at 3.6 livestock units/hectare. (Eurostat

data; Poczta et al., 2020). An overview of some of the characteristics of the dairy farming sectors of the nine selected Member States is shown in Table 3.

Table 28 Dairy farming in the nine Member States selected for case studies

Member State	Raw cow's milk delivered to dairies (Thousand tonnes) (2019)	Number of dairy cows (Thousand animals) (2019)	Standard output (€) for cattle-dairying, rearing and fattening combined (2016)	Livestock density (livestock units per ha of UAA*) for cattle-dairying, rearing and fattening combined (2016)
France	24 526.9	3 485.59	€1 579 320 210	1.3
Netherlands	13 787.9	1,590	€85 093 200	3.6

\*Utilised agricultural area  
Eurostat data.

### Overview of findings

According to a report from Eurogroup for animals, the lack of local slaughterhouse availability is considered one of the major issues in animals transportation across the MSs.<sup>90</sup> Between 2014 and 2017, the EU intra-trade flows have increased in 8,3% for live cattle. The study recommended the development of mobile slaughter facilities across countries to meet the decreasing number of local slaughterhouses. A report by DG SANTE in 2015 stressed out that mobile slaughterhouses are available in some Member States, but not at a large scale.<sup>91</sup> In December 2020 a Belgian deputy at the European Parliament raised a question to the Commission on actions required to support the use of mobile slaughterhouses in Member States.<sup>92</sup> Identifying that mobile slaughterhouses may prevent the transportation of unfit animals, and reduce the intensive workload in fixed ones (5 to 12 slaughters per day against 500 to 800 animals per day for traditional slaughterhouses) and the distances travelled by animals in general. The latter echoes another important challenge, the decreasing number of industrial slaughterhouses observed in some Member States over the past years. The low profitability and recent health scandals widely covered by media have change general public opinions on slaughterhouses and discouraged many from continuing their activities.

Belgian authorities working in Wallonia region, have observed chain closure over the time. The same applies to France, where 268 slaughterhouses were counted in 2018, against 1 200 in 1970. This evolution resulted in the creation of monopoly such as the company Bigard. Methods and protocols used in these massive infrastructures are embarrass farmers and are subject to recurrent health scandals denounced by animal welfare associations. In addition, most of slaughterhouses are concentrated in the west country increasing consequently the travelled distance for animals. Thus, mobile slaughterhouses would improve animal welfare by avoiding removing them from their usual environment at farms. The slaughter process is done on site and allow breeders to keep track of the situation. From our survey results it can be seen that 68% of NCAs and 77% of respondents from cattle industry, agreed on the lack of alternative slaughter facilities such as mobile slaughterhouses. However, research evidence shows that few Member States have turned the corner and did not invest massively in this solution mainly due to the high cost of investment.

<sup>90</sup> [https://www.eurogroupforanimals.org/files/eurogroupforanimals/2020-12/Eurogroup-for-Animals\\_A-strategy-to-reduce-and-replace-live-animal-transport.pdf](https://www.eurogroupforanimals.org/files/eurogroupforanimals/2020-12/Eurogroup-for-Animals_A-strategy-to-reduce-and-replace-live-animal-transport.pdf)

<sup>91</sup> [https://ec.europa.eu/food/audits-analysis/overview\\_reports/act\\_getPDF.cfm?PDF\\_ID=670](https://ec.europa.eu/food/audits-analysis/overview_reports/act_getPDF.cfm?PDF_ID=670)

<sup>92</sup> [https://www.europarl.europa.eu/doceo/document/E-9-2020-006912\\_EN.html](https://www.europarl.europa.eu/doceo/document/E-9-2020-006912_EN.html)



---

Several MSs identified this issue and have launched pilot projects/programmes on mobile slaughterhouses among them Ireland, Germany, Netherlands and France.

#### **13.1.1.1 Netherlands**

The initiatives tend to be run in cooperation between Industry and Competent National Authorities. For instance, Netherlands has a longer experience back to 2010-2011 when the government mandated the research centre of Wageningen University (WUR) to carry out a feasibility study on the use of mobile slaughterhouses.<sup>93</sup> According to the study semi-mobile units are feasible and profitable. In 2018, a pilot programme was launched in the northern part of the country. Currently, the programme implementation is supervised by the Office for Risk Assessment & Research (BuRO), which published a guideline on work protocols and preconditions for the deployment of a Mobile Slaughter Unit in the Netherlands.<sup>94</sup> The office indicated that Mobile Slaughter Unit should be used only to slaughter animals on a farm; animals that are fit for slaughter, but not fit for transport. Some private initiatives have emerged offering mobile slaughterhouse solutions for cattle and pigs. In the cattle sector, ongoing pilot projects, such as MobielSlachthuis, are implemented with the collaboration of the Dutch Food and Consumer Product Safety Authority (NVWA) and will be deployed in other regions.<sup>95</sup>

The benchmarking between the Dutch experience and other Member States on the use of mobile slaughterhouses shows that in the country, mobile slaughterhouses are used to value carcass of 'low quality animals' while abroad they are used for the slaughter of 'high quality' beef cattle, in specialised sectors. Also, animals should be slaughtered inside the box and not outside, as it is done in other countries, but the Dutch legislation does not give a time limit for the transportation to slaughterhouses for further process. On the design of the pilot project, the BuRO pointed out the lack of clear definition of fitness for transport in the national legislation (from the Council on Animal Affairs (Raad voor Dierenangelegenheden, RDA)).

#### **13.1.1.2 France**

In France, the law EGalim adopted in October 2018 established the legal framework to develop mobile slaughtering solutions. In February 2020, the French Court of Auditors even considered that this mobile slaughter could replace public slaughterhouses whose management is considered too expensive. This pilot project is led by the Ministry of Agriculture in collaboration with the private sector under the 'France Relance' plan launched in July 2021. Emilie Jeannin, at the head of 'Le Bœuf Ethique' company was a precursor as a breeder when she discovered in Sweden, the mobile slaughterhouses and pushed public authorities to setup such facilities in France. Despite the adoption of a new legal framework in 2018, the project could not take shape due to a lack of funding. Under the framework of the France Relance program, the French government granted to the project a subsidy amounted to EUR 500 000 to complete the EUR 1.8 million raised from banks and private investors and equity loans. The project is currently implemented in the Côte d'Or region (West France) and aims to meet strong economic and social expectations from farmers, improving the territorial coverage and thus increase slaughter capacities as well as protecting animal welfare.<sup>96</sup> From an economic perspective, the project aims as well to ensure farmers a better remuneration of animal carcasses by reducing intermediaries. Another project involved an association "Quand l'abattoir vient à la ferme" that started in 2015 by Jocelyne Porcher, Research Director at INRA and Stéphane Dinard, breeder in the Dordogne

---

<sup>93</sup> <https://www.wur.nl/en/project/Feasibility-of-mobile-slaughterhouses.htm>

<sup>94</sup> <https://english.nvwa.nl/documents/animal/welfare/buro/documents/advice-from-buro-on-the-mobile-slaughter-unit-pilot-project-in-the-north-of-the-netherlands>

<sup>95</sup> [https://www.eurogroupforanimals.org/files/eurogroupforanimals/2020-12/Eurogroup-for-Animals\\_A-strategy-to-reduce-and-replace-live-animal-transport.pdf](https://www.eurogroupforanimals.org/files/eurogroupforanimals/2020-12/Eurogroup-for-Animals_A-strategy-to-reduce-and-replace-live-animal-transport.pdf)

<sup>96</sup> <https://agriculture.gouv.fr/plan-abattoirs-un-nouveau-plan-ambitieux-pour-des-resultats-concrets>

---

region (West France). Now the association has offices in different part of the country and counts around 2 000 adherents.

The main achievements observed during the pilot programme are<sup>97</sup>:

- 922 farms used mobile slaughtering units with a total of 1934 animals.
- Around 10% of the animals were rejected after the ante mortem inspection but this percentage slightly decreased over the course of the pilot.
- The main reasons for the slaughter were lameness (65-80%), followed by 'downer' animals (10-13%) and the rest were supplied for various incidental reasons.
- Two thirds of farmers supplied only 1 animal, roughly a quarter supplied 2 animals and 8% supplied three or more animals.

The study reported a monthly increase in the number of animals supplied with a peak in November 2019 of 245 animals.

### **13.1.1.3 Germany**

In Germany, most of the initiatives concerned pigs farming excepting the project called "Extrawurst", launched in January 2017 focusing on cattle outdoors all year round and currently working for other breeding models. Nonetheless, the Mobiler Metzger located North Rhine-Westphalia gives us an overview of the cost induced by mobile slaughtered facilities. The Eurogroup for animals study reported that provided mobile slaughter service is roughly 50% more expensive than conventional one (EUR 150 per pig against EUR 100), calling this service a niche only available at a significant premium price with relatively limited capacity. To put this the region context, in 2019 around 700,000 cattle and 17 million pigs were slaughtered.<sup>98</sup>

In terms of risks assessment, the study pointed out a higher likelihood of refusal of access to slaughter with a negative impact on animal welfare. However, the absence of routine transport (load/unload process and risk of being injured during transportation) is reducing the distress on animals. The main risk for animal welfare when using mobile slaughterhouses is the risk of regaining consciousness if incorrect stunning and incorrect bleeding. Finally, on food safety the study revealed that a lower likelihood of a sick animal being admitted for slaughter in the mobile units, while there is a higher risk of microbiological contamination of the tissue around the cut, which could lead to the transmission of animal pathogens between farms (if the unit is used by multiple farmers), as well as delayed eviscerations of the animal carcass and the risk of incorrect disposal of waste water, especially the high quantity of blood.

### **Challenges associated with Mobile Slaughter**

Experiences from Netherlands, Germany and France pointed out that on-farm slaughter solutions such as mobile slaughterhouses are usually more expensive than transporting injured dairy cows. Moreover, interviewees noted that farmers are reluctant to use mobile slaughterhouses due to hygiene aspects such as important volume of blood released at farms.

Qualitative interviews highlighted experiences from Netherlands, Germany and France pointed out that on-farm slaughter solutions such as mobile slaughterhouses can have a positive impact, but it does come with a number of risks.

- Providing a mobile slaughterhouse may facilitate ongoing issues with low welfare in end-of-career dairy cows and encourage farmers to keep cows longer.

---

<sup>97</sup> Available data for MSU pilot - Between December 18, 2018 and December 20, 2019

<sup>98</sup> [https://www.eurogroupforanimals.org/files/eurogroupforanimals/2020-12/Eurogroup-for-Animals\\_A-strategy-to-reduce-and-replace-live-animal-transport.pdf](https://www.eurogroupforanimals.org/files/eurogroupforanimals/2020-12/Eurogroup-for-Animals_A-strategy-to-reduce-and-replace-live-animal-transport.pdf)

- Mobile slaughterhouses are usually more expensive than transporting injured dairy cows. A French stakeholder suggested that this solution is very expensive because very few animals are slaughtered at once. In addition, it can be difficult as it requires the presence of a veterinarian.
- Farmers are reluctant to use mobile slaughterhouses due to hygiene aspects such as the volume of blood released.
- There is an increased risk of contamination around the neck, as well as a risk of cross-contamination if the mobile infrastructure is used by multiple farms.

Classic slaughterhouses are struggling to find viable economic model because the value of dairy cow carcass is quite low.

## **Conclusions**

Although at first glance, mobile slaughterhouse units seem a complete solution to prevent the transportation of unfit animals, stakeholders questioned raised a number of challenges in terms of logistics and profitability for the industry. Public authorities have financially supported slaughterhouses to make them feasible. However, few other Member States have launched similar initiatives and most projects are at their initial/pilot phase. This situation does not allow a proper benchmarking on the use of mobile slaughterhouses at the European Union level, except for the Netherlands, where preliminary impact and risks assessment have been done. Traditional slaughterhouses are not all profitable and face financial difficulties. Thus, they could see mobile units as potential competitors. It is therefore likely stakeholders will want to make both slaughtering methods complementary, in particular with semi-mobile units, to meet the demands from farmers and consumers in compliance with animal welfare rules. Finally, additional information and data is required to support the implementation at a larger scale of mobile slaughtering unit by industry and public authorities.

## **References**

EU Consortium (Europgroup for animals, UECEBV, Animal's angels, ELT, FVE, IRU) Guide Pratique pour Évaluer l'Aptitude au Transport des Gros Bovins, 2012.

INTERBEV, Guide des bonnes pratiques Maîtrise de la protection animale des bovins à l'abattoir, 2013

BuRo (NL), Advice of the Director of the Office for Risk Assessment and Research Animal welfare, animal health and food safety risks of the Mobile Slaughter Unit pilot in the Northern Netherlands region, 2020.

Ministère de l'Agriculture et de l'Alimentation, Plan abattoirs : un nouveau plan ambitieux pour des résultats concrets, 2021.

European Commission, Pilot projects on best practises for animal transport, 2019.

Le Boeuf Ethique Website.

Radio Classique, Qu'est-ce que l'abattoir mobile, pour lutter contre la maltraitance animale ? 2021.

Sésame (INRAE), Des abattoirs « comme sur des roulettes », 2019.

Web-agri, Le premier abattoir mobile de bovins attendu au printemps, 2021.

Le Parisien, Né, élevé et abattu à la ferme » : l'abattoir mobile se déplace chez les éleveurs bovins, 2021.

EUROGROUP for Animals, A strategy to reduce and replace live animal transport. Towards a meat and carcasses only trade, 2020.

DG SANTE, Overview report Systems to Prevent the Transport of Unfit Animals in the EU, 2015.

---

Hilde Vautmans, Parliamentary questions to the Commission E-006912/2020, 16 December 2020.

En Mutation magazine, Ces éleveurs qui réinventent l'abattage, 2021.

Interview France, Mrs. Niger, Culture Viande.

Interview France, Mrs. Prietz-Ducasse, M. Jolivet, M. Perrin, Conseil National de l'Ordre Vétérinaire.

Interview France M. Cuignet, Fédération National des Producteurs de Lait.

Interview Netherlands, Nederlands Voedsel en Warenautoriteit.

Interview Netherlands, Mrs Spijk, Sustainable milk production manager at Dutch Dairy Association/ Programma manager Duurzame Melkproductie.

Interview Netherlands, David Speksnijder, ULP.

## **14 Case study 8: Guidance and information sharing.**

### **Case study theme**

This case study focuses on guidance that is provided to farmers through formal communication channels. The guidance included in this Case Study has been provided by governments, either regional or national, farmer organisations, and Non-Governmental Organisations (NGOs).

Farmer organisations, governments and NGOs were identified by stakeholders as having an indirect influence on the decision to transport unfit end-of-career dairy cows because they typically do not have close interpersonal relationships with farmers, unlike the longstanding relationships that farmers usually have with their veterinarian. Furthermore, the guidance that is communicated by these organisations can serve an educational purpose that can help to provide clarity on regulations. This can be useful in communicating in an easy to understand way to farmers and providing clarity on legislation. Additionally, as this guidance is disseminated to farmers through these formal communication channels, that are not connected to selling products to farmers, it is more likely to be trusted by them.

### **Research questions addressed**

This case study provides evidence for the sub-questions:

- Which measures have been taken by the dairy industry to prevent the transport of unfit end-of-career dairy cows to slaughterhouses?
- Which measures have been taken by authorities to fight illegal transport of unfit dairy cows to slaughterhouses and to monitor the situation? What are the measures adopted in slaughterhouses? What are the practices at slaughterhouses to sort animals at arrival?

### **Context**

#### **14.1.1 Country specific background**

The Member States covered by the case study have been separated according to the typological groups identified through a cluster analysis in the study by Poczta et al. (2020):

**Germany and Italy** – have medium-scale (in terms of actual and economic size), medium-intensive (in terms of inputs and outputs) dairy farms. Germany and Italy are in the top three producers of cheese in the EU. Germany is the largest dairy exporter and the largest producer of raw cow's milk and has the largest number of dairy cows in the EU. Italy is in the top 5 EU raw cow's milk producers, alongside Germany.

**Ireland** – has relatively large-scale, high-intensive dairy farms and has a lower cost input and lower output system than other comparable countries in Europe, such as the Netherlands and Denmark. Ireland has a significant level of butter production, together contributing around 30% of all the butter produced in the EU (behind France and Germany who contribute around 38% of it). Ireland has the largest proportion of family farms in the EU (97%) (Eurostat data; Poczta et al., 2020).

An overview of some of the characteristics of the dairy farming sectors of the nine selected Member States is shown in [Table 30](#).

- Case Study 8: Preventing cows becoming unfit for transport: Farmer Veterinarian Communication

Table 1430 Dairy farming in the nine Member States selected for case studies

Member State	Raw cow milk delivered to dairies (thousand tonnes, 2019)	Number of dairy cows (thousand animals, 2019)	Standard output for cattle-dairying, rearing and fattening combined (€, 2016)	Livestock density for cattle-dairying, rearing and fattening combined (livestock units per ha of UAA*, 2016)
Germany	32 442.21	4 011.67	€ 1 047 612 530	1.6
Ireland	8 226.62	1 425.76	€ 347 411 040	1.6
Italy	11 965.01	1 875.72	€ 563 572 920	1.6

Source: Eurostat. \*Utilised agricultural area

Although not part of the EU New Zealand and Canada have also been included as they provided interesting examples.

### Overview of findings

This section summarises qualitative and quantitative data gathered through desk research and interviews with relevant stakeholders. Some of the best practices identified are already in place in certain European Member States or extra-EU countries.

#### 14.1.2 Examples of Guidance delivered in EU Countries

##### 14.1.3 Germany

The government organisation of Landkreis Cloppenburg in Germany released a guide on how to assess the transportability of cattle. This shows photos of cows in various conditions with a table including a description, an indication of whether they are fit for transport and slaughter through a traffic light system, and what are the necessary measures to be taken<sup>99</sup> (see Figure 4234). A similar guide was published by the local government of the North-Rhine Westfalia region.<sup>100</sup>

Figure 4234 Examples of traffic light system developed by Landkreis Cloppenburg

**„Downer Cow“**



Befund / Diagnose	Transport	Schlachtung	Maßnahme
Abmagerung, chronisch krank	●	●	Schlachtverbot Tierschutz-Anzeige

**Lahmheit / Gelenkerkrankungen**



Befund / Diagnose	Transport	Schlachtung	Maßnahme
Gelenkentzündung	●	●	Transportfähigkeit mit TA klären

Source: Landkreis Cloppenburg, 2018

Note: Table headings translate as (left to right): 'Findings/Diagnosis', 'Transport', 'Slaughter', 'Measure'.

<sup>99</sup> Landkreis Kloppeburg (2018), Tierschutzgerechter Umgang mit kranken und verletzten Nutztieren

<sup>100</sup> Landwirtschaftskammer Nordrhein-Westfalen (2019), Leitfaden Transportfähigkeit und Schlachtfähigkeit von Rindern richtig bewerten

#### **14.1.4 Ireland**

Irish and European stakeholders identified Teagasc – the Agriculture and Food Development Authority in the Republic of Ireland – as providing guidance documents to farmers on topics such as reducing lameness, improving herd health, and maximising productivity. Although this guidance does not focus on transport, it addresses issues that can contribute to animals becoming unfit at the end of their career. Lameness in end-of-career dairy cows was identified as being the most common condition that affected unfit cows that were transported.

In Ireland, Teagasc were viewed as being trusted by farmers and they were identified as having a large audience, which could provide an opportunity to communicate transport fitness to farmers in Ireland in the future.

Teagasc have produced a Dairy Manual that is designed to provide practical information to dairy producers. The book is divided into 8 sections and section 8 is on Dairy Animal Health<sup>101</sup>. This section includes a chapter on lameness and identifies the risks that lameness poses to the health of the herd and the financial losses that can be incurred by the farmer. The chapter provides guidance to the farmer by clearly outlining lameness indicators that the farmer can apply to his/her herd. Additionally, they provide a checklist whereby the farmer is encouraged to implement actions on his/her farm to prevent lameness.

Figure 2 displays the information that is included in Teagasc's dairy manual and communicated to dairy farmers. As shown, the information is formatted in a clear easy to read manner whereby the farmer can direct themselves to the relevant section.

---

<sup>101</sup> Teagasc (2016). 'Section 8: Dairy Animal Health' in *Teagasc Dairy Manual*. Carlow: Teagasc

Figure 43 Example of Teagasc guidance aimed at dairy farmers

## Lameness

### 1 How do you identify lameness?

**Clinical lameness:** Walking is obviously affected, the cow is unwilling or slow to place one or more feet on the ground and is likely to be near the back of the herd when walking to the milker.

**Subclinical lameness:** Changes are more difficult to detect, and can be overlooked if animals are not locomotion scored.

Indicators include:

- an arched back while either standing or walking
- stiff joints
- one limb moving faster or slower than the others
- 'short' steps i.e. the hind legs not coming far enough forward
- the hind legs swinging either outward or inward
- standing with the front legs crossed.

### 2 Why is lameness important?

**Prevalence and cost**

- 20-35% of cows suffer some degree of lameness.
- 90% of lameness is in the hock, with 80% in the hind limbs, and 80% of these cases in the outer claw.
- Clinical lameness is estimated to reduce milk yield by 350g per lactation.
- A case of clinical lameness is estimated to cost €160 – €700.

**Costs**

- Direct costs include:**
- reduced milk yield for up to 4 months before, and 5 months after, clinical lameness.
  - discarded milk
  - veterinary bills and antibiotics
  - labour.

**Indirect costs include:**

- reduced fertility; cows are unwilling to stand in heat, jump or other cows, can have delayed oestrus after calving
- increased risk of further lameness
- increased risk of secondary disease
- cows less condition due to unwillingness to stand to feed
- increased risk of culling

### 3 What are the common causes of lameness?

**Infections**

**Bertramitis/bertramia:** Highly contagious, this entity looks like a red rot, and can develop into extensive skin/hoof and scabbing around the cleft between the claw and on the heel. Formation of copper sulphate footbaths are as effective at prevention as antibiotic footbaths, and should be carried out regularly. It is important that feet are cleaned before walking through the bath.

**Foot rot/foot in the hoof:** Symptoms include swelling above the hoof, sprayed claws, and a foul smelling secretion between the claws. It is caused by bacteria entering the foot through cracks in the skin caused by dry wet conditions. Treatment requires antibiotics.

**Claw injuries**

**Sole bruises:** Feet to dark purple discoloration, which only becomes visible about 2-3 months after the damage has been done. Cows are particularly susceptible to bruising after calving, especially if hooves are set, so the damage appears during summer. Cows with bad bruising should be kept in pastures near the parlour.

**Sole ulcers:** Can develop from very severe bruising. These occur when the tissue under the hoof becomes inflamed and can break through the horn, or cause under-run sole. Excess horn should be trimmed from around the ulcer, a shoe applied to the opposite claw, and topical antibiotic applied.

**White line disease:** Penetrates from a thin black line to complete separation of the sole and wall. It is usually located near the heel but can affect the whole hoof. It is caused by dirt, manure, and other debris getting under the sole and causing pain, under-run soles, and possible infection. Treatment involves hoof paring to remove foreign objects and dirt, providing drainage for any infection, and removing of weight from the affected area.

**Other disorders**

**Laminitis:** Claws become overgrown (high heels, long toes, and misshapen soles), and the horn is weaker than normal. Associated with concentrate feeding, and not enough roughage, and can lead to erosion of the heel, under-run soles, bruising and ulcers. Stones can pierce the sole of the foot and cause underlying tissue damage and infection. If not treated by hoof paring to reduce weight on the affected claw.

**Monitoring and recording lameness**

- All clinical cases should be recorded, and cows that consistently become lame culled out of the herd.
- Observe the cows on a level non-slip surface; stony or soft tracks can hide gait problems, or cause walking to be uneven in the absence of lameness.
- View the cows after milking as cows are less likely to have impaired walking due to a swollen udder.
- Cows walking with difficulty should have their hooves examined to determine the cause, and treatment applied.

**5 What is the standard annual preventive programme for farmers?**

**Checklist Lameness control programme**

- Record all clinical cases and causes so that ongoing problems can be identified.
- Carry out routine hoof trimming, at least once a year at drying off.
- Conduct regular foot bathing to control infectious disease.
- Get prompt treatment for critically lame cows.
- Provide clean, dry and comfortable walking and lying areas.

**4 What factors contribute to lameness?**

**Poor genetics**

- Bad hoof and leg conformation can lead to misshapen hooves that are weak and prone to injury.

**Off pasture**

- Poorly designed/used cubicles; cows need plenty of space to perform normal lying down and getting up movements. Cubicle dividers should be unappurtenant at the feet, and the head rest should be about 1.7m from the head and 1.2m high.
- Inadequate cubicle number: aim for 10% more cubicles than cows, and at least one per cow.
- Inadequate bedding: lying on concrete can cause swellings and injuries to the limbs, and inhibit changes between standing and lying behaviour. Mattresses or mats in cubicles give cows somewhere comfortable to stand as well as promoting lying.
- Poorly laid concrete floors: uneven floors with poor concrete joints causes sore haws and injury.

**6 How do I design a footbath and what should it contain?**

- Antiseptics are only necessary if there is a severe disease outbreak.
- The footbath should be 4-6 feet in front of the treatment bath to prevent dilution.
- Baths should be at least 5cm deep, 8-10 foot long, and as wide as the alley, with a non-slip surface.
- Treatment solutions remain active for approx 200 walk-throughs (more for formalin).
- Footbathing should be carried out once weekly at pasture, most frequently if cows are managed indoors.

• A cleaning bath that washes the feet first is recommended because manure contamination reduces disinfectant activity.

**5 Poor housing lay-out.** Ensure good access to feed areas, wide passages, no sharp corners especially where cows are grouped.

• Good ventilation reduces lameness.

• Heifers should be trained to use cubicles before introduction to the main herd.

• Out-wintering pens: cleanliness should be maintained and woodchip cleaned off and replaced regularly to prevent blockages and bad drainage. Ideally cows should have either staler or a turn drained area to stand on to prevent hooves becoming soft.

**Grazing season**

- Farm roadways should be free-draining, well-maintained, and free from stones and holes.
- Roughed fencing: heads of cows should not be sticking up, so cows can see when to put their feet. Poor herding causes sole bruising and white line disease.
- Backing gates: these should be used to reduce space, not to move cows. Heads of cows should not be up. If cows won't move forward, there is some other problem, such as stray voltage or a poorly designed entrance to the parlour.
- Sharp corners in raceways and the entrance or exit of the milking parlour.

**6 How do I design a footbath and what should it contain?**

- Footbathing is used for prevention, not treatment, of dermatitis (similar to test dipping for control of mastitis).
- Baths should be at the far end of the line from the parlour, to avoid jamming up of cows at the footbath.
- Footbath programmes should always contain a disinfectant:
  - copper sulphate (5-10%)
  - zinc sulphate (10%)
  - formalin (3-5%)









Furthermore, the AHDB operate in Britain and they have developed a Mobility Scoring tool that provides farmers with practical guidance on how to score their cows mobility. This scoring sheet is part of their 'Healthy Feet' initiative, whereby farmers are encouraged to score their dairy herd once a month to reduce lameness. As shown in the image the information is communicated to farmers in a more narrative way than the German tool, and farmers may benefit from learning more about their animal welfare and assessing the fitness of their herd. This is useful because farmers often work in isolation and if they do not see other farmers' cows, they can be unsure of the level of fitness that is the standard.

It was suggested by stakeholders that tools such as the one shown below are able to educate farmers by providing them with an indication of different levels of unfitness for transport.

Figure 4435 The AHDB's Mobility Score Sheet

Category of score	Score	Description of cow behaviour	Suggested actions
<b>Good mobility</b>			
	<b>0</b>	<ul style="list-style-type: none"> <li>Walks with even weight-bearing and rhythm on all four feet, with a flat back</li> <li>Long, fluid strides possible</li> </ul>	<ul style="list-style-type: none"> <li>No action needed</li> <li>Routine (preventative) foot trimming when/if required</li> <li>Record mobility at next scoring session</li> </ul>
<b>Imperfect mobility</b>			
	<b>1</b>	<ul style="list-style-type: none"> <li>Steps uneven (rhythm or weight-bearing) or strides shortened; affected limb or limbs not immediately identifiable</li> </ul>	<ul style="list-style-type: none"> <li>Could benefit from routine (preventative) foot trimming when/if required</li> <li>Further observation recommended</li> </ul>
<b>Impaired mobility</b>			
	<b>2</b>	<ul style="list-style-type: none"> <li>Uneven weight-bearing on a limb that is immediately identifiable and/or obviously shortened strides (usually with an arch to the centre of the back)</li> </ul>	<ul style="list-style-type: none"> <li>Lame and likely to benefit from treatment</li> <li>Foot should be lifted to establish the cause of lameness before treatment</li> <li>Should be attended to as soon as practically possible</li> </ul>
<b>Severely impaired mobility</b>			
	<b>3</b>	<ul style="list-style-type: none"> <li>Unable to walk as fast as a brisk human pace (cannot keep up with the healthy herd)</li> <li>Lame leg easy to identify – limping; may barely stand on lame leg/s; back arched when standing and walking</li> <li>Very lame</li> </ul>	<ul style="list-style-type: none"> <li>This cow is very lame and requires urgent attention, nursing and further professional advice</li> <li>Examine as soon as possible</li> <li>Cow will benefit from treatment</li> <li>Cow should not be made to walk far and kept on a straw yard or at grass</li> <li>In the most severe cases, culling may be the only possible solution</li> </ul>

### 14.1.5 Italy

The 2007 Legislative Decree n. 151 provides for the removal from the farm of any potential hazard that does not have reason to exist as a means to reduce risk of accidents for cows. It also provides for ventilation and cooling in warmer months, which can dramatically reduce the number of downer cows.<sup>102</sup> This was also advocated by a representative of an Italian industry organisation in an interview, who stated that, while in winter months downer cows may represent on average 1-2% of the total, this can increase to 10% in summer months.<sup>103</sup> Therefore ventilation is critical to reduce the number of downer cows, which in turn contributes to a decrease in the number of cows transported although unfit.

In Italy, after identifying an animal welfare risk related to transport of unfit cows from farm to slaughterhouse, a regional authority allocated dedicated resources to the

<sup>102</sup> Italian Government (2007), Decreto Legislativo 25 luglio 2007, n. 151. Disposizioni sanzionatorie per la violazione delle disposizioni del regolamento (CE) n. 1/2005 sulla protezione degli animali durante il trasporto e le operazioni correlate

<sup>103</sup> Interview Coldiretti

detection of unfit cattle transport and the enforcement of sanctions for the offenders (European Commission - DG Health and Food Safety, 2015).

Furthermore, the Italian Society of Preventive Medicine published an operative manual on the 'fit-for-transport' conditions of animals with pathologies and the management of downer cows (cited in European Commission - DG Health and Food Safety, 2015). The manual presents:

- Illustrations and tables to help identify whether the animals are unfit for transport;
- Suggests killing methods suitable to different levels of experience and of different costs; and,
- Includes a decision algorithm to assess the suitability for the food chain of the carcass of animals slaughtered on farm.

NGO European Guidance **Eurogroup for Animals**, with European partners, produced the Practical Guidelines to Assess Fitness for Transport of Adult Bovines (2012). The purpose of the guide is to help all operators to decide the suitability of an adult bovine animal for transport with the objective of protecting Animal Welfare and Animal & Public Health. The guide provides:

- A summary of the EU legislation;
- Conditions prohibiting transport; and,
- Conditions where further assessment is needed before transport.

In 2019, **OIE** (the World Organization for Animal Health) published the Terrestrial animal code<sup>104</sup>, which presents some best practices and guidelines around animal transport. In particular, Art. 7.2.7 (3. Fitness to travel) states:

*'Animals should be inspected by a veterinarian or an animal handler to assess fitness to travel. If its fitness to travel is in doubt, it is the responsibility of a veterinarian to determine its ability to travel. Animals found unfit to travel should not be loaded onto a vessel.*

*Humane and effective arrangements should be made by the owner or agent for the handling and care of any animal rejected as unfit to travel.*

*Animals that are unfit to travel include, but may not be limited to: - those that are sick, injured, weak, disabled or fatigued; - those that are unable to stand unaided or bear weight on each leg; - those that are blind in both eyes; - those that cannot be moved without causing them additional suffering; - new-born with an unhealed navel; - females travelling without young which have given birth within the previous 48 hours; - pregnant animals which would be in the final 10% of their gestation period at the planned time of unloading; - animals with unhealed wounds from recent surgical procedures such as dehorning.'*

## **Outside of the EU - Government Guidance**

### **14.1.5.1 New Zealand**

Although outside of the European Union, New Zealand offers an exemplary set of best practice guidance specific to the reduction of the problem of transportation of unfit end-of-career cows. The New Zealand Government provides guidelines for farmers, drivers and processors ensuring that good practice, accountability and responsibility is shared across the chain (NZ Government, 2018)<sup>105</sup>. Among these:

- The owner of the cows should check the planned journey and if there is any cause of concern for the animals' welfare, he/she can refuse the transport and request a new journey to be arranged;

---

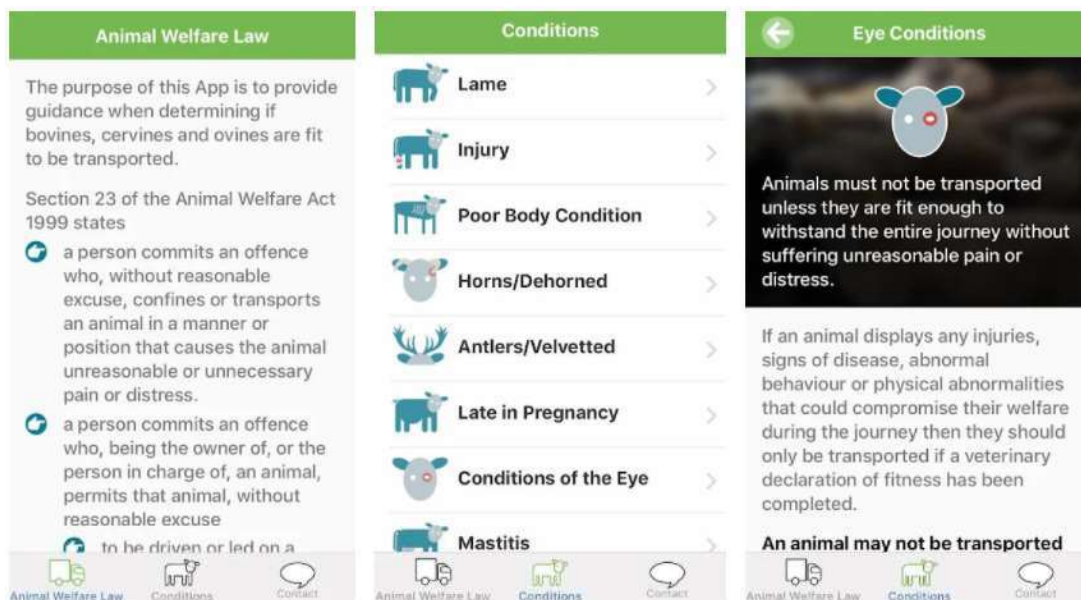
<sup>104</sup> OIE (2019), Terrestrial Animal Code (available at <https://www.oie.int/en/what-we-do/standards/codes-and-manuals/terrestrial-code-online-access/>)

<sup>105</sup> New Zealand Government (2018), Preventing downer cows while transporting to slaughter

- Drivers have the right, as well as the obligation, to refuse unfit end-of-career cows;
- Processors must assess the cows on arrival, in order to prioritise processing those at higher animal welfare risk.

Additionally, the New Zealand government has a website with multiple resources to help educate farmers and transporters. There is a 'Fit for Transport' mobile app that farmers, transporters, stock agents and veterinarians can use to help determine whether an animal is fit for transport. This is useful because it can be used whilst the decision is being made on farm and it could help to clarify discussions that are ongoing to decide whether to transport animals or not. *Figure 4536* below shows an example of three different screens of the app. As shown, the app displays the Animal Welfare Law, which has a specific section of the app. Secondly the user of the app can select conditions from the list, in this example eye conditions, and then they move onto information about the condition, shown in the right-hand side image. Also, the app includes contact information to further help the user if they require practical information regarding the decision.

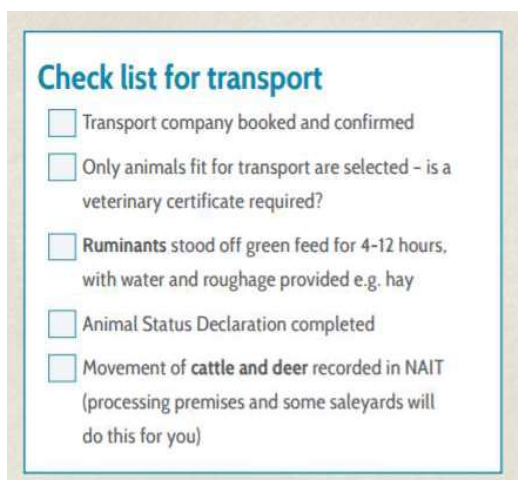
*Figure 4536 Image of the 'Fit to Transport' mobile app*



Furthermore, New Zealand have a brochure and a poster titled, 'Are your animals for Transport?'<sup>106</sup> Included in the brochure is a checklist for transport that the farmer needs to be consider before animals are transported.

<sup>106</sup> <https://www.mpi.govt.nz/dmsdocument/1454-fitness-for-transport-guidance-brochure>

Figure 4637 New Zealand Government's Checklist for Transport



#### 14.1.5.2 Canada

In Canada, the Canadian Veterinary Medical Association (CVMA) set out a position statement and identified the following guidelines<sup>107</sup>:

- Cows should be culled prior to becoming compromised, which would lead to a higher risk in the transport phase;
- Cows' fitness must be assessed before transport and this should occur only if they are thought to be able to withstand the journey without suffering;
- If routine transport to auction markets and then slaughterhouses cannot take place, possible alternatives are local slaughter, mobile slaughter, on-farm slaughter or euthanasia;
- Development of specific on-farm protocols by farmers and veterinarians to improve animal welfare.

Furthermore, the CVMA emphasised their position on the transport of unfit end-of-career dairy cows and stated that they support the 'on-farm animal welfare-based cow culling decisions', highlighting that dairy producers (farmers) bear the primary responsibility for culling decisions and should work closely with their veterinarian to develop a farm-specific culling strategy. Additionally, the CVMA promotes co-operation to improve the welfare of the cow and reduce the risk of the animal suffering further during transport.

The guidance issued by the CVMA is useful to consider for this case study because they have identified cull dairy cows as a specific category to be considered during transport. Stakeholders identified that if the Commission promoted specific guidance on end-of-career animals there would be less interpretation of the current regulation.

Additionally, in Canada a Decision chart has been developed by Dairy Farmers of Canada<sup>108</sup> that provides a checklist of conditions and then three options to farmers, answering the question, 'Should I ship this Cow?'. The decision chart is shown in Figure 6 below.

<sup>107</sup> Canadian Veterinary Medical Association (2018), The welfare of cull dairy cows - Position statement (available at <https://www.canadianveterinarians.net/documents/the-welfare-of-cull-dairy-cows>)

<sup>108</sup> [https://www.dairyfarmers.ca/Media/Files/proaction/Decision\\_Tree\\_for\\_Culling\\_Cattle\\_in\\_Canada.pdf](https://www.dairyfarmers.ca/Media/Files/proaction/Decision_Tree_for_Culling_Cattle_in_Canada.pdf)

Figure 4738 Dairy Farmers of Canada's Decision Chart for transport

Should I Ship This Cow?	
CONDITIONS	IMPORTANT NOTES
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>YES</b></p> <p><b>An animal is still fit for transport if:</b></p> <ul style="list-style-type: none"> <li>● They are in good body condition (&gt; 2.75)</li> <li>● There are no signs of lameness and she is standing and walking with strength</li> <li>● Temperature is &lt; 39.2 °C/102.5 °F</li> <li>● A cow is bright, alert, and responsive</li> <li>● Breathing rate is normal (10-20 breaths per minute)</li> <li>● Treatment has been given in the past, and the cow is through her withdrawal period</li> <li>● Her milk is normal or only mild mastitis</li> <li>● There are no other signs of illness</li> <li>● This might include cancer eye, leukosis/swollen lymph nodes, excessively swollen joints</li> </ul>	<p><b>If you are going to ship an animal, you should be comfortable saying yes to these questions:</b></p> <ul style="list-style-type: none"> <li>● Would I eat meat from this animal?</li> <li>● Is this animal strong enough to make multiple trips in a truck to be slaughtered 7-10 days after leaving the farm?</li> </ul> <p><b>A note about shipping lactating animals</b> Lactating animals may be shipped as long as they are able to:</p> <ul style="list-style-type: none"> <li>● Arrive at their destination/slaughter before udder engorgement</li> <li>● Be milked if need be, at auction or elsewhere in order to continue and finish transport without becoming engorged</li> <li>● Have a process which is set up/referenced in order to manage/monitor these animals when needed</li> </ul> <p><b>If the above cannot be managed or that animal has other conditions that hinder its condition then it must be shipped as a compromised animal.</b></p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>NO - DO NOT SHIP THIS ANIMAL</b></p> <p><b>A cow is unfit for transport if it has one or more of the following conditions:</b></p> <ul style="list-style-type: none"> <li>● Fever (temperature ≥ 39.5 °C/102.5 °F)</li> <li>● Calving</li> <li>● Weak/not stable on their feet (moderate to severe lameness)</li> <li>● Watery/severe mastitis</li> <li>● Treated, and milk or meat withdrawals are not yet met</li> <li>● Right displaced abomasum</li> <li>● Showing signs of pain</li> <li>● Poor body condition/too thin (&lt; 2)</li> <li>● She has given birth in the last 48 hours</li> <li>● Heavy lactation</li> </ul>	<p><b>The following cows should be euthanized — they are not responding to treatment and/or their conditions are untreatable:</b></p> <ul style="list-style-type: none"> <li>● Non-ambulatory/downer cow</li> <li>● Bone or spine fractures</li> <li>● Arthritis</li> <li>● Cancer</li> <li>● Emaciation (BCS &lt; 1.5)</li> <li>● Pneumonia that will not respond to treatment</li> <li>● Uterine prolapse</li> <li>● Water belly</li> <li>● Nervous disorders</li> <li>● Hernias that prevent normal movement</li> </ul>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>YES, BUT ONLY WITH SPECIAL PROVISIONS</b></p> <p><b>Ship cattle with these conditions to slaughter AS SOON AS POSSIBLE:</b></p> <ul style="list-style-type: none"> <li>● Abscesses</li> <li>● Blindness</li> <li>● Frostbite</li> <li>● Mild cancer eye (eye is intact)</li> <li>● Mild lameness - the animal is still strong</li> <li>● Left displaced abomasum - without weakness or toxicity</li> <li>● Lumpy jaw</li> <li>● Penis injuries</li> <li>● Mild pneumonia without fever</li> <li>● Prolapsed vagina or rectum</li> <li>● She has low milk production</li> </ul>	<p><b>Ship cattle with these conditions to slaughter WITHIN 12 HOURS:</b></p> <ul style="list-style-type: none"> <li>● Bloat</li> <li>● Hardware with localized signs</li> <li>● Intestinal accidents</li> <li>● Recent injuries</li> <li>● Urethral blockage (very recent)</li> <li>● Broken tail or jaw</li> <li>● Smoke inhalation</li> </ul> <p><b>NOTE</b> Animals with multiple conditions are not fit to be transported.</p> <p>Compromised animals should travel in a small compartment, either individually or with one quiet animal.</p> <p><b>When in doubt, DO NOT ship her and speak with your veterinarian!</b></p>

## Conclusion

To conclude, across European countries and beyond, organisations and governments have disseminated guidance to farmers covering topics such as herd health and specific guidance relating to fitness to transport. The organisations that disseminate this information are typically connected to farmer organisations,

dairy associations, Governments, or NGOs. The information is targeted at farmers, veterinarians and transporters and it can be displayed in a simplistic way, that could help assist to make decisions on farm, as demonstrated in New Zealand's Mobile App. Additionally, this information can perform an educational function and help to explain the rationale behind the policy and provide specific examples of conditions that determine animal fitness to travel.

## **Case Study 9: industry initiatives.**

### **Case study theme**

This case study explores the initiatives taken by the supply chain to prevent cows from becoming unfit for transport across the nine Member States included in this study. These are: Germany, France, Belgium, Italy, Netherlands, Ireland, Denmark, Poland and Spain. Sources used for the analysis consist of literature, surveys and interviews with stakeholders.

Supply chain initiatives, in this case study, are defined as efforts that organisations have taken that will reduce the number of unfit end-of-career cows that are transported. Initiatives are characterised by being concentrated, organised measures and they are usually delivered through formal knowledge exchange activities or practical training courses delivered to farmers.

### **Research questions addressed**

The evaluation question addressed in this case study is 'Gather information and evidence on alternative ways to address the problems'. In particular, it focuses on providing evidence for the sub-questions:

- Which measures have been taken by the dairy industry to reduce the number of unfit dairy cows at the end of their career and to prevent their transport to slaughterhouses? How do industry stakeholders define and identify unfit cows? Which are the rationales for mitigation measures? Why?
- Amongst the identified measures, including mitigation measures, are there any best practices which could be promoted? How do they address the problems? What measures taken by the dairy industry are best practices that could be promoted?

### **Context**

#### **14.1.6 Country specific background and economic model**

Supply chain initiatives can operate on a multi-national level and the Member States covered by the case study have been separated according to the typological groups identified through a cluster analysis in the study by Poczta et al. (2020):

- **Germany, France, Belgium and Italy.** These countries have medium-scale (in terms of actual and economic size), medium-intensive (in terms of inputs and outputs) dairy farms. Germany, France and Italy are the top three producers of cheese in the EU. Germany is the largest dairy exporter, the largest producer of raw cow's milk and has the largest number of dairy cows in the EU, though France has a higher monetary output from dairy farms. Germany and France also have the largest number of organic dairy cows. France and Italy sit within the top five EU raw cow's milk producers alongside Germany. Belgium ranks 9th in the EU terms of raw cow's milk production and dairy exports (Eurostat data; Poczta et al., 2020).
- **Netherlands, Ireland and Denmark.** These are countries with relatively large-scale, high-intensive dairy farms (with the important nuance that Ireland is a lower cost input and therefore lower output system than the Danish and Dutch ones). The Netherlands are the second largest EU exporter of dairy products. The Netherlands and Ireland have a significant level of butter production, together contributing around 30% of all the butter produced in the EU (behind France and Germany who contribute around 38% of it). All three countries are within the top 10 EU producers of raw cow milk, and all three have relatively high livestock densities, with the Netherlands having one of the highest at 3.6 livestock units/hectare. Denmark also has a relatively large number of organic dairy cows (the fourth highest number in the EU). Ireland has the largest proportion of family farms in the EU (97%) (Eurostat data; Poczta et al., 2020).

- **Poland.** Poland has small-scale, medium-extensive dairy farms. Poland is in the top 5 Member States for production of raw cow milk. Poland has large numbers of dairy farms with relatively low outputs, which together account for 50% of all dairy farms in the EU by number, but only around 13% of the total monetary output (Eurostat data; Poczta et al., 2020).
- **Spain.** Dairy farms in Spain are small-scale and extensive, though Spain is still one of the 10 largest raw cow's milk producers and dairy exporters in the EU. (Eurostat data; Poczta et al., 2020).

An overview of some of the characteristics of the dairy farming sectors of the nine selected Member States is shown in *Table 3029*.

*Table 3029 Dairy farming in the nine Member States selected for case studies*

Member State	Raw cow milk delivered to dairies (thousand tonnes, 2019)	Number of dairy cows (thousand animals, 2019)	Standard output for cattle-dairying, rearing and fattening combined (€, 2016)	Livestock density for cattle-dairying, rearing and fattening combined (livestock units per ha of UAA*, 2016)
Belgium	4 288.22	538	€ 707 508 540	2.8
Denmark	5 614.69	563	€ 6 507 650	1.8
France	24 526.90	3 485.59	€ 1 579 320 210	1.3
Germany	32 442.21	4 011.67	€ 1 047 612 530	1.6
Ireland	8 226.62	1 425.76	€ 347 411 040	1.6
Italy	11 965.01	1 875.72	€ 563 572 920	1.6
Netherlands	13 787.90	1 590	€ 85 093 200	3.6
Poland	12 174.96	2 166.90	€ 349 082 260	1.2
Spain	7 265.21	812.87	€ 162 879 520	1.6

Source: Eurostat.

\*Utilised agricultural area

### 14.1.7 Information on key stakeholders

Table 3130 below provides an overview of the key stakeholders that are involved in supply chain initiatives.

*Table 3130 Overview of the industry actors that are involved in initiatives*

Industry Actor	Role
<b>Non-Governmental Organisations</b>	These actors work to conduct research that supports the development of policy and they usually operate at a national and European level. Larger NGOs will usually have a head office location and then staff working across Europe. Typically, these NGOs will be concerned with Animal Welfare or supporting industry.
<b>Dairy Associations</b>	Bring together actors in the supply chain to ensure fair trade deal arrangements for farmers. Member States



	usually have a national Dairy Association but there is also a European Dairy Association that works across Europe.  National Dairy Associations are typically membership organisations and farmers opt in to participate in them. In return for membership, they will be supporting the association's work to co-ordinate the industry and to influence national and European policy.
<b>Farmer Organisations</b>	Farmer Organisations usually represent farmers at a national scale. They can be funded by farmers themselves or government. Their main role is to act as an advisory service and they will cover the full spectrum of agriculture, providing advice and information to all farm types.
<b>Milk Co-operatives</b>	Milk cooperatives are owned by dairy farmers. An example is Arla, who is owned by 12,000 farmers across Europe. This ownership means that profits go to farmer owners and the farmer owners play an active role in deciding how the business is developed.
<b>Milk Processors</b>	Private sector actors that operate on a multi-national level. They collect milk from the farm and process it into food products. Examples of the main dairy processors in Europe are Danone who has demonstrated initiatives to promote animal welfare.

### Overview of findings

This section summarises qualitative and quantitative data gathered through desk research and interviews with relevant stakeholders. Best practices promoted by supply chain initiatives were identified as already being in place in certain European Member States or extra-EU countries, whilst others are suggestions by NGOs or Academics.

Initiatives that are promoted across the supply chain usually relate to broader efforts to improve animal health and welfare. Therefore, if animal welfare leads to an improvement in animal health there could be a reduction in the number of unfit dairy cows at the end of their career, therefore a reduction in the number transported.

Table 3231 shows an overview of initiatives aimed at increasing cattle welfare along the production chain, also serving as best practices to tackle the transport of unfit cows.

Table 3231 Overview of some initiatives promoting best practices in animal welfare across the EU

Scheme/ Programme name	Relevant country	Objectives
<b>Naseva Health</b> <sup>109</sup>	Finland	Naseva Health is a voluntary registry maintained at a national level by the dairy industry and slaughterhouses. This allows all the actors along the cattle supply chain – farmers, slaughterhouses, veterinarians and other partners – to develop and monitor information related to animal health and welfare and food

<sup>109</sup> <https://www.naseva.fi/PublicContent/IntroductionInEnglish>

Scheme/ Programme name	Relevant country	Objectives
		safety. The initiative covers 75% of dairy farms in Finland.
<b>IZSLER-CReNBA</b> <sup>110</sup>	Italy	IZSLER-CReNBA developed a welfare assessment system for dairy cattle was developed by the Italian National Animal Welfare Reference Centre (CReNBA). Veterinarians examine the cattle based on indicators for lameness, skin lesions and udder health.
<b>AMA and QS Kuh</b> <sup>111</sup>	Austria	The programme ran from 2015-2019 and focused on measures for welfare of dairy cows particular at birth. There is an assessment plus educational events and consultation.
<b>Växa</b> <sup>112</sup>	Sweden	Växa – Sweden’s largest animal welfare association - introduced the initiative ‘Ask the cow’ in 2010. It presents dairy farmers a reliable overview of the strengths and weaknesses of their management system, providing a starting point to improve both animal welfare and profitability. A random sample of cows are assessed by trained assessors, both at individual and group level. Parameters observed are for example cleanliness, body condition and lameness. The results are presented in a flower diagram where each petal represents a parameter. Based on the results of the assessment, the assessors provide the farmers with suggestions on potential improvements to the cattle condition.
<b>KoeKompas</b> <sup>113</sup>	Netherlands	A similar initiative to the Swedish ‘Ask the cow’ initiative, KoeKompas monitors the condition of the cows and displays the results of the assessment on a spider diagram.

### 14.1.8 Supply Chain Initiatives

From the quantitative survey that was completed by dairy industry stakeholders it was reported that initiatives most often focused on promoting farming practices and animal health and welfare.

Figure 4839 displays the responses that were received to the question about mitigation actions implemented in their country. As shown in the figure, training to farmers to improve farming practices was the most reported format of initiative.

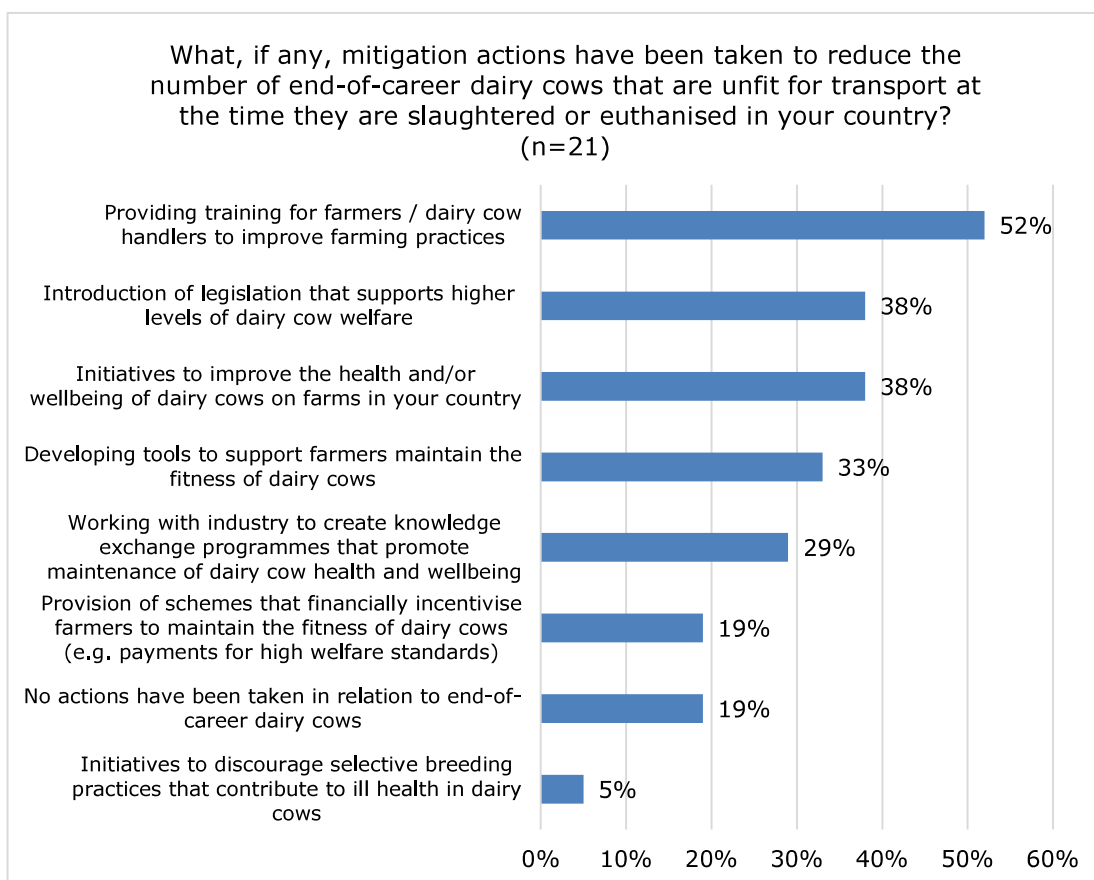
Figure 4839 Stakeholder responses to mitigation actions taken in their country

<sup>110</sup> <https://www.izsler.it/>

<sup>111</sup> <https://lkv.at/at/leistungspruefung/themen/qualitaetssicherung/QS-Kuh.php>

<sup>112</sup> <https://www.vxa.se/>

<sup>113</sup> <https://www.dkbo.nl/Koekompas>



## Best practices and farm characteristics

### 14.1.8.1 Industry Initiatives

The below sub-headings provide an overview on the industry initiatives that have been carried out and their perceived effectiveness. The industry actors that are responsible for the initiatives below have significant influence in the supply chain as farmers rely on them to take the milk from their farm. Additionally, these tools often have an educational element, where the farmer is provided with information on the importance of animal welfare for milk production. The examples below can lead to a reduction in the transport of unfit end-of-career dairy cows because cows will be in better condition when they have left the farm for slaughter.

### 14.1.8.2 Danone – Animal Welfare Assessment Tool

Danone, a global food company specialising in dairy and water products, developed an animal welfare assessment tool that has been rolled out in over 14 countries globally. This includes, Belgium, France, Spain, Germany, Poland, Romania, South Africa, Egypt, Algeria, Russia, Mexico, Brazil, Argentina and the USA.

Danone collaborated with Compassion in World Farming to help develop the tool. The assessment tool is aimed at improving dairy cow welfare. It is a digital tool that can be used on any tablet and it measures key inputs and welfare outcome measures, including lameness and mastitis, which are common conditions experienced by dairy cows.

The tool creates an individual SMART action plan for improvement, based on the data that has been inputted. By the end of 2020, over 400,000 dairy cows had been assessed using the tool, which allowed farmers to implement welfare improvements

and provided data to benchmark Danone farms against each other. Danone received a special recognition award for innovation in 2021<sup>114</sup>.

Additionally, Danone have published a guide to animal welfare, which aims to raise farmers' awareness of animal welfare, to support farmers to gain recognition for improving animal welfare and to improve milk production. As part of this they have a focus on meeting animals' needs during transport section, including a section on the management of end of life and slaughter practices on farm.

Danone – Measures to implement included in their Guide to Animal Welfare.

#### MEASURES TO IMPLEMENT

In many cases animals need to be transported over short or long distances. In all cases, drivers and handlers should be well trained to avoid unnecessary stress during transport. The vehicles must be suitable, in good condition, regularly cleaned and disinfected.

#### DID YOU KNOW?

- ▶ The vast majority of cattle are bruised during loading and transport.
- ▶ Feed and water deprivation for 14 hours results in vigorous attempts by cattle to obtain feed and water.
- ▶ Cattle prefer to remain standing during transport.
- ▶ Sufficient head height for normal head position is very important.
- ▶ Mortality of cattle during road transport increases with the length of the journey.
- ▶ Cattle have considerable difficulty negotiating steep ramps. A maximum ramp angle of 11° would be best for cattle. A maximum of 20° is acceptable, provided the ramp has a non-slip surface.

#### Basic rules for transport

- ▶ Ensure that all domestic transport operations are compliant with national regulations or international (OIE) standards, as guidelines for both domestic and international animal transport.
- ▶ Ensure that vehicles used are appropriate and that animals are not over-crowded.
- ▶ Ensure that all animals selected for transport off the farm are fit enough to withstand the planned journey, without suffering unnecessary pain or distress.
- ▶ For longer journeys, allow sufficient feeding, watering and resting times.
- ▶ For sea journeys, use appropriate ramps or approved slings for loading and unloading.

#### Specific cases for transport

- ▶ Consider the animals' physiological state (e.g. female in peak lactation), as well as the method and duration of the trip when preparing and planning for transport.
- ▶ Transport pregnant animals close to calving with particular care and consideration for their condition. They should not be transported except in an emergency or to improve their welfare, e.g. moved to a different location:
  - To improve transitional nutrition.
  - For closer monitoring during calving.
  - For veterinary care.
- ▶ Prior to transportation, feed every unweaned animal to be transported off the farm at least half of its daily ration of colostrum or milk.
- ▶ Avoid transporting animals that are unable to stand. Emergency humane slaughter should be carried out on-farm.
- ▶ Ensure transport collection areas for young animals provide adequate shelter and comfort and facilitate their handling.

#### Taking delivery of new animals

- ▶ Keep them in a quiet environment with feed and water for an appropriate adaptation time.
- ▶ Pay careful attention to their behaviour.
- ▶ Introduce them into an appropriate group at the appropriate time.

#### STANDARDS ASSESSED DURING DANONE AUDITS

##### Criteria specific to Animal Welfare

- ✓ Animal comfort and unnecessary stress avoidance during transport.

#### 14.1.8.3 BoviWell

BoviWell is a cattle welfare evaluation tool that was developed by Pilgrim's, who are an American multi-national food company. The tool was built in collaboration with academics, NGOs and scientific and technical experts.

The tool is rolled out in France and over one thousand dairy farms have been evaluated using the tool, with the ambition to evaluate all dairy farms in the next five years. BoviWell is included in France's National Charter for Good Agricultural Practices.

The tool aims to be completed within 2 hours on farm and collects information on farm profile, farming practices (dehorning, castration, time spent in pasture etc) and technical indicators (animal health, calving conditions etc). Measures are mainly animal based (body scoring, cleanliness, injuries etc) and completed by housing

<sup>114</sup> <https://www.compassioninfoodbusiness.com/awards/marketing-innovation-awards/best-innovation-award-2021/>

conditions observations, including the watering and area per animal. Results are converted into scores and then classified within the Animal Welfare Five Freedoms.

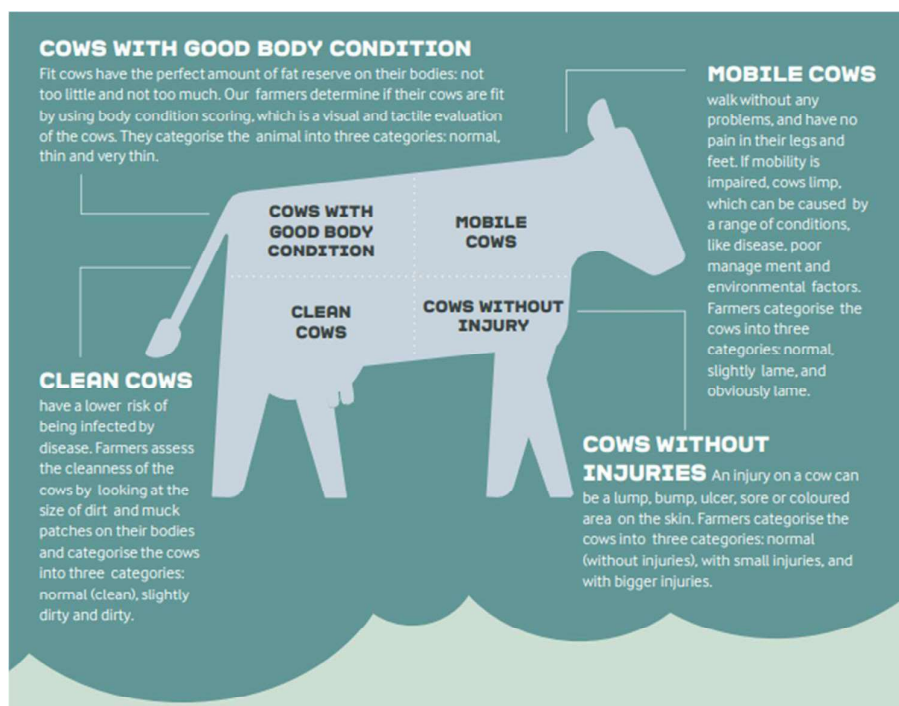
#### **14.1.8.4 Arla**

The co-operative Arla have developed the ArlaGarden Farm Management Programme. All farmer owners in Sweden, Denmark, Germany, the Netherlands, Luxemburg, Belgium and the UK must adhere to the requirements of Arlagarden.

As part of the Arlagarden programme, farmer owners are required to complete a quarterly self-assessment form and they will receive an audit by a third party to verify the information provided. A basic audit is performed on all farms with a maximum of three years between audits. As part of the self-assessment form, one requirement is for the farmer to report information on the health and wellbeing of the cow by assessing four indicators: their mobility, cleanliness, body condition and ensuring there is an absence of lesions/abrasions.

This animal welfare initiative combines education, formal auditing and awareness raising. For example, the farmer must consider the welfare of their cows every quarter, at a minimum, and they face the possibility of being inspected based on the information they provide. Additionally, Arla have presented information on the importance for animal welfare and milk production, which helps to engage farmers and provides information on welfare indicators.

Arlagarden – Farm Management Programme Animal Welfare Indicators



### **Conclusions**

This case study examined initiatives put in place by the supply chain in the EU to prevent cows from becoming unfit for transport. The supply chain actors were identified as being effective actors to prevent unfit cows from being transported because they have a significant influence over the on-farm management of their farmers. Additionally, stakeholders identified that the engagement of the supply chain actors to develop and promote initiatives can improve the image of the dairy industry.

## **GETTING IN TOUCH WITH THE EU**

### **In person**

All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: [https://europa.eu/european-union/contact\\_en](https://europa.eu/european-union/contact_en)

### **On the phone or by email**

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696, or
- by electronic mail via: [https://europa.eu/european-union/contact\\_en](https://europa.eu/european-union/contact_en)

## **FINDING INFORMATION ABOUT THE EU**

### **Online**

Information about the European Union in all the official languages of the EU is available on the Europa website at: [https://europa.eu/european-union/index\\_en](https://europa.eu/european-union/index_en)

### **EU publications**

You can download or order free and priced EU publications from EU Bookshop at: <https://publications.europa.eu/en/publications>. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see <https://europa.eu/european-union/contact>

