Comparison report of International Beef and Lamb Standards

Part 4

England and South America

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Executive summary

This report, produced by the team at Birnie Consultancy and scrutinised by a team of independent experts, outlines a forensic comparison of beef and sheep standards in England (Red Tractor, RT) to a range of other assurance schemes used in South America. Due to the scarcity of home-grown systems in South America, some of the schemes considered in this report originate from other regions, but are used in the regions being reviewed. The schemes covered in this report in addition to RT are Certified Humane (CH), INAC Meat Certification Programme (INAC) and Global SLP (GSLP). Where beef and sheep standards are contained within one standard, both have been reviewed, but only the beef standard for CH has been included.

The report also includes a high-level outline of the legislative framework in each region considered in this report.

This report is part four of a series. The first (New Zealand, Australia) was released in April 2024, the second (Europe) in July 2024, and the third (United States of America and Canada) and final reports (South America) are to be released together in the autumn of 2024. All analyses of global assurance schemes use the RT scheme as the baseline for comparison, and, where a consumer perspective was required, this was taken from the viewpoint of the English consumer. We have tried to account for the range of production conditions and practices in the different regions through the application of weightings which reflect the importance of a specific practice or assurance category in each place.

Brazil, Uruguay and Argentina were chosen for this study, as they regularly export more Beef and Lamb to the United Kingdom than other South American countries for which statistics are available (Appendix 4).

It is important to note that this report is not commenting on whether a scheme is classified as adequate or inadequate. Instead, it is a detailed comparison of the content of each scheme across a range of assurance categories, allowing the reader to understand performance in the areas which are important to them. The intention of this report is not to demonstrate that any one scheme is superior or inferior to other schemes. Rather, it is intended to evidence the current position of standards, enabling informed discussion regarding the future of regulatory and voluntary schemes/initiatives.

Analysis

To enable the analysis, and as a direct result of each assurance scheme containing its own modules and categories which did not facilitate straight comparison, a series of fourteen categories were devised, and each of the schemes were scrutinised to understand and report their performance in each of these categories:

1. Traceability, Documentation and Assurance
2. Personnel
3. Food Safety
4. Housing and Shelter
5. Feed and Water
6. Husbandry Procedures
7. Youngstock Management
8. Animal Health and Welfare
9. Animal Medicines
10. Biosecurity and Disease Control
11. Livestock Transport
12. Vermin Control
13. Fallen Stock
14. Environmental Protection

Scores were awarded to each scheme based on how well it addressed the questions in each category (Appendix 1), and the question scores were then weighted within each category. The total score for each category was then weighted between the categories, and between the different countries in the study.

Country weightings

There are many common agricultural practices between each of the countries in the study, but there are also differences in context and in application. Weightings were applied to reflect the importance of practice in the different countries relative to England, where the RT scheme was always weighted at 100. Within this specific report (Part 4), different weightings were applied in the following categories;

- **Transport**. Due to the potentially increased frequency of longer journey distances, control of transport in South America was deemed to be more important than in England because of the potentially greater distances over which animals could be transported.
- **Housing and shelter.** Cattle are much more commonly housed in England and as a consequence, housing design is important. However in South America, there is the potential for much more extreme heat and adverse weather conditions, and consequently the provision of shelter for animals farmed outside is proportionally more important that in England, meaning that this section was weighted slightly higher in South America.
- **Vermin control**. A higher level of housing of animals usually takes place in England (relative to the other countries in the study), resulting in an increased threat of vermin infestation.
- **Fallen stock.** In England, farms are generally closer to urban centres and their water supplies, presenting a greater risk of contamination. This also means that farms are generally geographically closer to many other farms, and biosecurity risks were judged to be slightly greater than in South America.

Category weightings

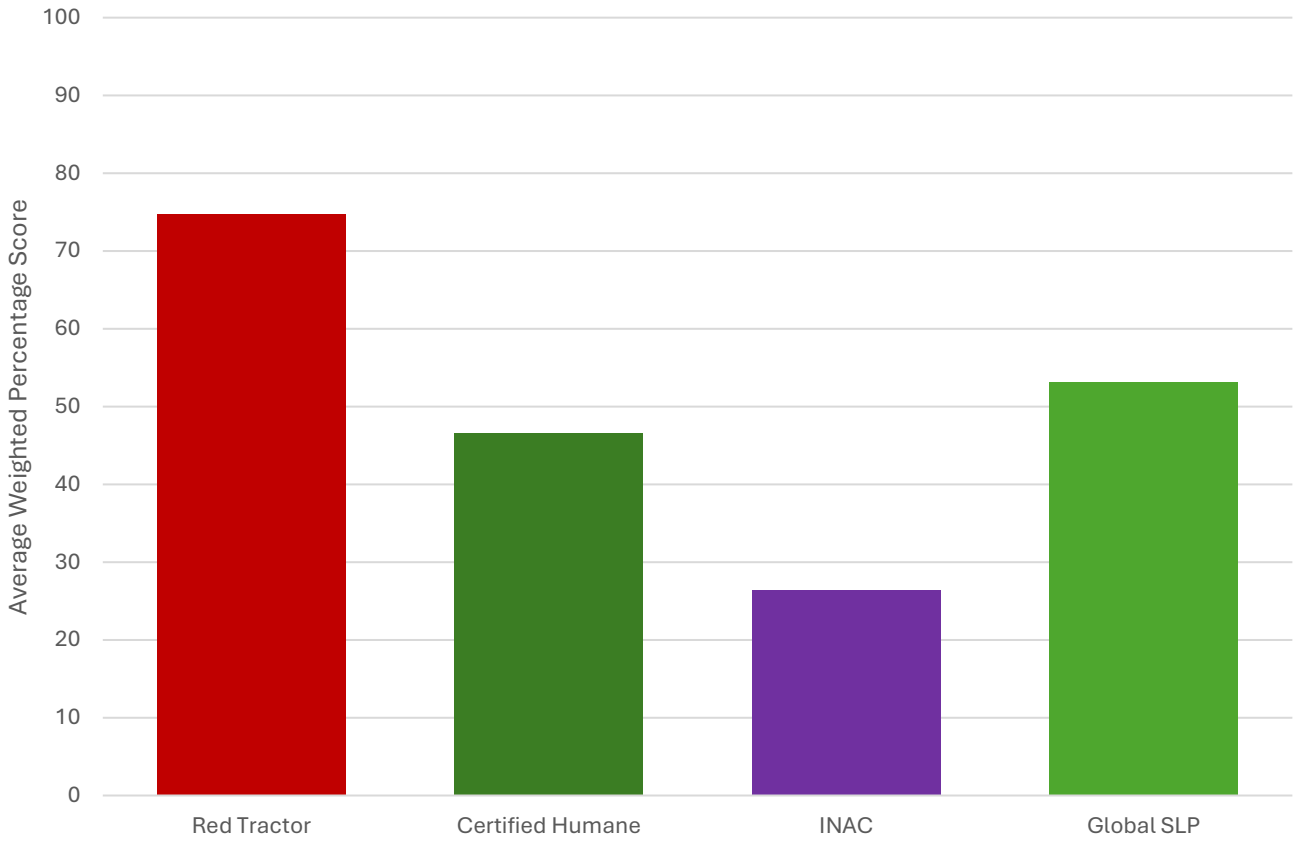
Each of the fourteen analysis categories were also awarded a weighting which reflected their relative importance to the other categories within the scheme. These weightings are shown at the end of the report.

Question weightings

Within each category some questions were recognised as more important than others, and weightings were applied to reflect the relative importance of each. The weightings are shown at the end of the report.

Summary of findings

Figure 1: Weighted percentage score for each scheme



The overall findings from this study show that, when directly compared, RT achieves higher scores than the other schemes across most areas. However, because the focus of each schemes was slightly different, this is not unexpected, and there are specific areas where individual schemes score more highly than, or take a different approach than the RT scheme does.

Within this report, although a scheme's overall weighted score may be lower than another one, this does not indicate that the scheme is sub-standard. Scheme foci differ and, as a result, assurance requirements within the schemes will also differ. For example, GSLP is very focused on food safety and worker welfare, whilst CH is primarily focused on maintaining high animal welfare.

All of the schemes provide some degree of customer reassurance, but this varies according to the scheme and the specific category of study. Audit frequency, and type of audit were used as one indicator of the effectiveness of the scheme.

Summary of legislation

The legislative framework in each country was researched as part of this project. This was not a forensic analysis, but was designed to uncover the broad base legislation against which farms operate and which will inevitably form some of the requirements within assurance schemes. Each country in this report operates within a legislative framework.

Legislation is useful, but by itself is rarely inspected. Farm assurance schemes provide a degree of assurance around adherence to legislation because this usually forms part of the inspection process.

Introduction

This report, produced by the team at Birnie Consultancy and scrutinised by a team of independent experts describes a forensic comparison of beef and sheep standards in England (Red Tractor, RT) to three other assurance schemes used in Brazil, Uruguay and Argentina; Certified Humane (CH), INAC Meat Certification programme (INAC) and Global SLP (GSLP).

The analysis of the assurance schemes uses the RT scheme as the baseline for comparison, and, where a consumer perspective was required, this was taken from the viewpoint of the English consumer. Scores were awarded out of 10 for each question, and the score awarded was in relation to what would be the 'ideal' answer to each question.

It is important to note that this report is not commenting on whether a scheme is classified as adequate or inadequate. Instead, it is a detailed comparison of the content of each scheme across a range of assurance categories, allowing the reader to understand performance in the areas which are important to them. The intention of this report is to evidence the current position of standards, enabling informed discussion regarding the future of regulatory and voluntary schemes.

The report has been produced in response to requests to AHDB from industry partners to commission a study into standards of domestic production in comparison to key international competitors, identifying strengths and weaknesses in different global standards. This is the fourth of a series of studies completed throughout 2024:

- Part One – Released April 2024: Australia and New Zealand (beef and lamb)
- Part Two – Released July 2024: Germany, Poland, Republic of Ireland, France, and Netherlands (beef and lamb)
- Part Three – US and Canada (beef and lamb): Released along with Part Four
- Part Four – South America (beef and lamb): Released along with Part Three

Agricultural context within each study region

Assurance schemes are voluntary standards which establish production standards covering (but not being restricted to) food safety, animal welfare and environmental protection. Each of the countries in this comparison operate within different frameworks and have different foci. As independent standards, they have the ability to go above and beyond what legislation requires and can help to promote farming to the general public.

England

Farm assurance in England commenced with a basic series of standards which were designed to enable the scheme to be accessible to consumers while still raising standards. Over the years, the schemes have developed, adding new requirements as consumer expectations change and issues of concern arise. There is still considerable push-back on occasion as new standards are introduced to meet emerging demands, sometimes from farmers and sometimes from processors due to the difficulties associated with meeting some expectations. Several different farm assurance schemes operate in England, but almost all of these operate alongside RT. English farm assurance schemes include:

Red Tractor

Very well established in England, RT was created to revive consumer confidence in British food. It was set up in 2000 and has been operating for over 20 years and is the most well-known and accepted scheme in England, sought after and respected by processors, retailers and consumers.

LEAF Marque
A global assurance system that recognises sustainable food production, LEAF Marque is underpinned by integrated farm management, which is a site-specific, whole farm approach to farming.

RSPCA Assured
Developed by the Royal Society for the Prevention of Cruelty to Animals (RSPCA), this standard covers every aspect of the animals' lives, including feed and water provision, the environment they live in, how they are managed, health care, transport and humane slaughter/killing.

RT was chosen as it is the most common assurance scheme applied on English farms.

South America

INAC – Meat Certification Programmes, Uruguay
INAC is focused on enabling access to demanding global markets for beef. The scheme certifies animal health, food safety and plant performance. The scheme is aimed at meeting requirements from markets and final consumers at the farm production level, during livestock transport, and finally at the industrial processing stage. A separate welfare standard also exists, which was not considered within this report.

Certified Humane
Humane Farm Animal Care Welfare Standards (Certified Humane) is a nonprofit organisation which delivers certification of farms. The scheme operates internationally and is focused on the improvement of animal welfare. The scheme operates in Argentina, Brazil, Uruguay, Peru, Chile, Colombia, Costa Rica and Mexico, as well as in several countries in Asia and the Middle East.

Global SLP
GSLP is an international scheme which is focused on the delivering good worker welfare, food safety and animal welfare. The scheme is used across the worlds, and the livestock schemes have recently transferred from Global GAP. The standards are currently identical to those which were specified under Global GAP and offer a good comparison to RT.

The Rainforest Alliance
The Rainforest Alliance was considered as an option for this report, but it does not cover livestock in the necessary depth, being primarily crop focused.

Welfcert
Welfcert (Chile) is an assurance scheme that is primarily focused on the intensive production sectors such as poultry and pork, but which also includes certification for beef and lamb. However, the fact that it is primarily focused on the intensive sectors meant that there were better options to include for comparison within this study.

Outline of farm assurance schemes chosen for study

The schemes studied within this report were chosen because they either have the widest coverage of any farm assurance scheme within their specific region, or contain standards and approaches which are of relevance to the development of standards.

Red Tractor (RT), England

All RT farms are inspected every 18 months, allowing farms to be inspected during different seasons and stages of production, e.g. if animals are housed and are out at grass at different periods of the year. Audits are carried out by independent auditors under the control of the two licenced certification bodies, NSF and Intertek SAI Global.

RT deliver approximately 60,000[1] supply chain inspections annually (farms, transporters, processors etc), delivered by over 350 independent inspectors. Approximately 3,000[2] farms of all types (livestock, arable and produce) failed the inspection and were suspended from the scheme in 2020 and had to apply corrective measures. These farms had their approval removed until the corrective measures were evidenced.

Most inspections are announced, and the farmer can prepare for the audit. However, depending on the nature and number of non-conformances found during routine inspections, members may be subject to unannounced inspections – numbers for which are not available. RT facilitate a range of commercial bolt-ons and retain the ability to create additional general access bolt-ons where this is deemed to meet the needs of the industry. The standard audited for this report was version 5.0.

Certified Humane

Humane Farm Animal Care Welfare Standards (Certified Humane) is a nonprofit organisation which delivers certification of farms. The scheme operates internationally and is focused on the improvement of animal welfare. The scheme operates in Argentina, Brazil, Uruguay, Peru, Chile, Colombia, Costa Rica and Mexico, as well as in several countries in Asia and the Middle East and certified 377,112,543 animals during 2022. Inspections are conducted yearly by *'highly qualified auditors'*. The standard audited for this report was edition 21 (beef cattle). Only the beef standard was studied for this report because it is stand alone, and separate from the sheep scheme.

INAC – Meat Certification Programmes

INAC is a Uruguayan scheme focused on enabling access to demanding global markets for beef. It is important to note that INAC has two standards, the Certified Meat Program of Uruguay (PCNCU), which was used for this report, and the Animal Welfare Program. Although it is understood that many certified producers comply with both schemes, as this is not compulsory, only the PCNCU scheme was used.

The scheme certifies animal health, food safety and plant performance. The scheme is aimed at meeting the requirements from markets and from final consumers at all stages of production, including farm, shipment and transport, and processing. The standard audited for this report was version 4 of the Beef and Sheep scheme.

Global SLP

The Global SLP (GSLP) programme is an international scheme which is focused on the delivering worker welfare, food safety and animal welfare. The scheme is used in many different countries across several continents, and the standards offer a good comparison to RT. The scheme operates differently in different

[1] Red Tractor

[2] Red Tractor, redtractor.org.uk *"Our Impact & History"*

countries because in many places it requires adherence to local legislation rather than establishing its own standards. The standard audited for this report was version 5.2.

Coverage of legislation within the study

As part of the study programme, legislation within each region was investigated. This was not a forensic study to the same level of detail as delivered for the assurance schemes, but was intended to give a broad understanding of the legislative framework in which farming and the assurance schemes operate. An important factor to note for this study is that just because a component is contained within legislation, it will not be considered to be part of the assurance scheme (and scored accordingly within this study) unless the scheme specifically refers to it and audits against it. This is because farm assurance audits take place much more frequently than government inspections against regulatory compliance and thus the presence of legislation alone does not guarantee compliance.

Authors

After a rigorous tender process, Birnie Consultancy were appointed by AHDB to undertake this series of Reports. Birnie Consultancy is a solutions-driven consultancy working with primary and secondary food processors, farmers, supermarkets, levy bodies, research institutions and governments across the UK and Europe. They have vast experience in the comparison of farm assurance standards, having previously completed several analyses of global farm assurance schemes.

Dr Jonathan Birnie

With over 25 years of comprehensive whole-chain experience in the Food Industry, Jonathan is well connected and brings vast experience to the project.

He is a graduate of Edinburgh University with a PhD from the Agricultural Research Institute of Northern Ireland/Queens University Belfast. He has worked as a Policy Advisor for the National Farmers Union in England before moving on to become Sainsburys' Agricultural Manager. Headhunted by Dunbia (one of Europe's leading red meat processors), he then spent 13 years running Agricultural Supply Chain Research and Development, finishing as Head of Agriculture and Research (reporting to company CEO) with a team spread across the UK. Jonathan is also a Nuffield Scholar (2014 year) where he studied methods of effecting change in agriculture and food production.

Dr Iain Maguire

Iain has over ten years of experience in analytical, laboratory and scientific disciplines. Before joining Birnie Consultancy, Iain graduated with a PhD in Animal Behaviour and Welfare from Queen's University Belfast. He has published a range of scientific papers and has proven experience in the collection, handling and analysis of a wide range of data. He is an experienced research project manager, having delivered multiple programmes across Queens University and Randox. As a beef suckler farmer, Iain also brings first-hand experience of farm assurance standards, and how they are applied in real-life situations.

Ashley Hassin

Ashley has over 15 years of experience working in communication and publishing. Having joined Birnie Consultancy in 2020 he has gained a wealth of knowledge on a variety of subjects, including farm assurance standards. His research, project management and communications skills have been essential to the successful delivery of project with multiple high-profile clients. These have ranged from business start-up management, farm research projects, consumer research, industry analysis, CSR report production, editing, copywriting, and auditing.

Independent experts

To ensure that this series of reports is as credible as possible, four independent experts were recruited from an open process to scrutinise findings. At different stages they were invited to provide constructive feedback to enhance the quality of each report and ensure that credible, authentic, and independent conclusions were drawn. The experts reviewed and approved the following aspects of each study;

1. *The key assessment criteria utilised by the research agency*
2. *The final scoring associated with the assessment*
3. *The relevant weightings of the scores, to ensure as accurate and robust a comparison as possible*
4. *The final report's findings, ensuring they are accurate*
5. *The final report's key conclusions, ensuring they are credible*

Mandy Lucas, farm animal welfare consultant

Subjects covered in this report: Biosecurity and disease control; fallen stock; traceability and documentation

Mandy is an experienced animal welfare specialist who is committed to socialising animal welfare throughout the supply chain, from primary producer to consumer.

She has been successful in facilitating conversations across global, diverse supply chains to understand animal production methods and welfare changes created by current farming methods, while providing practical solutions and pragmatic compromises to improve animal welfare whilst balancing the commercial business needs and sustainability goals.

Jude Capper, livestock sustainability consultant and Harper Adams University

Subjects covered in this report: Environmental protection; feed and water; livestock transport; vermin control

Jude is an experienced animal scientist, with a record of publishing results in high-impact journals, using her skills to educate and inform global food system stakeholders. She has two main roles, acting as both the ABP Chair and Professor of Sustainable Beef and Sheep systems at Harper Adams University (HAU) in Shropshire, UK; and as an independent Livestock Sustainability Consultant.

Jude's research focuses on modelling the sustainability of livestock production systems, specifically dairy, beef and sheep. She is currently working on projects relating to on-farm greenhouse gas emissions from UK beef and sheep production; the sustainability of smallholder farming, and the impacts of livestock health on system sustainability. Jude is a liveryman of the Worshipful Company of Butchers and Treasurer of the National Beef Association. She is also Chair of the Route Panel for Agriculture, Environment and Animal Care and Vice-Chair of the Green Apprenticeships Advisory Panel at the Institute for Apprenticeships and Technical Education.

Nigel Scollan, Queen's University, Belfast

Subject covered in this report: Food safety; housing and shelter; personnel; young stock

Director of the Institute for Global Food Security (IGFS) and Chair of Agriculture & Sustainability at Queen's University, Belfast, Nigel's research seeks to underpin the development of more sustainable and resilient food supply chains with focus on animal protein.

His research includes advancing the development of metrics to describe sustainability of farm systems and is using large and multi-data systems and machine learning approaches to support on-farm decision making to underpin the sustainability credentials of supply chains.

Jonathan Statham, Veterinary Surgeon, farm & livestock sustainability consultant

Subjects covered in this report: Animal health and welfare; animal medicines; husbandry procedures

A graduate of Cambridge University Veterinary School, Jonathan has over 25 years of experience in the industry. He is Chief Executive of RAFT Solutions Ltd, Chair of Bishopton Veterinary Group, and Professor of Sustainable Livestock Health & Welfare at Harper & Keele Veterinary School.

Jonathan holds, and has held many prestigious posts including President of the British Cattle Veterinary Association (BCVA) and the Yorkshire Veterinary Society as well as having sat on the GB 'Cattle Health & Welfare Group' (CHAWG), GB 'Sheep Health & Welfare Group' (SHAWG), the Veterinary Policy Group (VPG) of the British Veterinary Association (BVA) and is a past director of Cattle Health Certification Standards (CHeCS) and member of the 'Farmskills' Steering Group.

He is currently Chair of the Animal Health and Welfare Board England, a member of the GB Ruminant Health & Welfare Steering Group and Veterinary Products Committee of the Veterinary Medicines Directorate (VMD). He also chairs the InSHAW (Institute for Sustainable Livestock Health and Welfare) Leadership Group.

Methodology

We studied four schemes within this report. These were Red Tractor (RT), Certified Humane (CH), INAC Meat Certification programme (INAC) and Global SLP (GSLP).

The direct comparison of farm assurance schemes is not straightforward. Schemes are designed for different reasons and have diverse foci. Most schemes are structured differently, containing a range of modules and topics, and governing different practices. This is appropriate, as production practices differ very strongly across the world. As a consequence, we have carefully designed the analysis process to enable a balanced comparison of the standards, based on the typical production processes in the regions where the schemes are used.

Analysis by category

A series of categories were devised for the farm assurance analysis. This was a direct result of each assurance scheme containing its own modules and categories which did not facilitate a straight comparison. Fourteen categories were created and the content of each scheme for each category was compared. A score was applied subjectively, based on how well it addressed the criteria. This necessitated the summarisation of the relevant content of each scheme and its entry into a database for comparison against the other schemes for each category. This was deemed to be the fairest way to enable comparison. The categories were:

- Traceability, Documentation and Assurance
- Personnel
- Food Safety
- Housing and Shelter
- Feed and Water
- Husbandry Procedures
- Youngstock Management
- Animal Health and Welfare
- Animal Medicines
- Biosecurity and Disease Control
- Livestock Transport
- Vermin Control
- Fallen Stock
- Environmental Protection

Assessment against a series of outcome questions

Because the schemes were so different, a line-by-line comparison was not possible. Instead, each scheme was assessed against a series of questions within each category. The questions for each category are shown in each of the category analysis sections below and are also shown in the appendices.

Equivalence

The analysis has employed the principle of equivalence throughout. It is not sensible to mark a scheme down if it fails to address a practice which does not exist or is highly infrequent in the region in which it is targeted.

Application of weightings to the data to reflect the relevant impact of each component

To reflect the value of each scheme component, a series of weightings were applied to the data. Weightings are acknowledged to be at least partially subjective and are a judgement call from experts who have in mind the expectations of English consumers, as well as the scientific evidence for best practice. Three levels of weighting were applied:

1) **Within category weightings** were applied to each question within the category to reflect the fact that some of the assessment questions asked in each category are more important than others
2) **Between country weightings** were applied to the total score from each category to reflect the importance of each category within each country
3) **Between category weightings** were applied to the total score from each category to reflect the relative importance of the categories in relation to each other

A worked example is provided at the end of this section to show how the weightings were applied.

Application of weightings within each category

A first weighting was applied to each of the questions within each category. Each of the questions posed combine to give an overall assessment of the suitability of the scheme, but some of these deal with issues which are more important than those addressed by other questions. As a consequence, it is important to reflect the importance of each question using a weighting within the category, with ten representing the highest importance and one the lowest. This weighting was used with the raw score for each question to produce a total weighted score for each scheme for each category.

Application of country weightings

Within the analysis we have applied country weightings to each category within the analysis. The application of weightings is an extension of the 'equivalence' principle. In each of the different countries, there are common practices, but the frequency of these practices is very different. Consequently, for the scores applied to each analysis section we have applied them on a relative basis to England, where the RT scheme is weighted at 100 for everything, and the schemes in other countries are weighted above or below this depending on how relevant each factor is deemed to be with regard to the farming practices and systems within each region. An example of this is that the potential impact of transport in South America (except Uruguay) where the potentially longer transport distances (when compared to England) means that transport is proportionally more important and therefore receives a higher weighting. The country weightings are shown in Table 1:

Table 1. Country/region weightings adapted

	England Weighting	Brazil and Argentina Weighting	Uruguay Weighting
Traceability, documentation and assurance	100	100	100
Personnel	100	100	100
Food safety	100	100	100
Housing & shelter	100	120	100
Feed and water	100	100	100
Husbandry procedures	100	100	100
Youngstock management	100	100	100
Animal health and welfare	100	100	100
Animal medicines	100	100	100
Biosecurity and disease control	100	90	90
Livestock transport	100	150	100
Vermin control	100	70	70
Fallen stock	100	80	80
Environmental protection	100	100	100

Application of category weightings

Each of the fourteen analysis categories were also awarded a weighting which reflected their relative importance within the scheme. These weightings are shown below, and it can be seen, for example, that food safety is awarded a much higher rating than vermin control or personnel. We acknowledge that there will be

debate around these weightings and recognise that they are subjective, but in the opinion of the experts who created this study and those who peer reviewed it, they are reasonable reflections of the importance of each category from a farm assurance perspective.

Table 2 Category weightings for each farm assurance category

Heading	Relative Weighting
Traceability, documentation and assurance	200
Personnel	110
Food safety	200
Housing and shelter	120
Feed and water	150
Husbandry procedures	150
Youngstock management	105
Animal health and welfare	150
Animal medicines	150
Biosecurity and disease control	150
Livestock transport	95
Vermin control	70
Fallen stock	70
Environmental protection	150

Worked example

The following example uses illustrative data for the Housing and Shelter category to demonstrate how the weightings were applied within the scoring.

Stage 1: Within category weightings

The first application of weightings is made within each individual category. Each question has been awarded a weighting to reflect its importance against the other questions in that category. The raw score for each question (Column A) is multiplied by the question weighting (Column B) to give the weighted actual score for each question (Column C). A maximum potential score for each question is also calculated at this point (Column D).

Table 3. Category weightings for each farm assurance category

		Column A	Column B	Column C	Column D
Housing and Shelter Questions		**Question Raw Score**	**Question Weighting**	**Weighted Actual Score**	**Weighted Maximum Potential Score**
A	Is housing well-designed and safe?	8.5	10	85	100
B	Does housing promote high welfare?	6.5	10	65	100
C	Is housing hygienic?	5	10	50	100
D	Is there adequate ventilation?	8	10	80	100
E	Is housing well-lit?	7	8	56	80
F	Is housing structurally sound?	8	10	80	100
G	Is there adequate space available for each animal?	7	10	70	100
H	Are loading and unloading facilities available and to a good standard?	8	7	56	70

I	Are there appropriate isolation and birthing facilities?	8	9	72	90
J	Is housing appropriate and safe for stock managers?	7	10	70	100
K	Do animals outside have access to appropriate shelter?	10	6	60	60
L	Are animals kept outside kept in appropriate conditions, including well drained lying areas and the absence of severe poaching?	10	10	100	100
M	Are bedding requirements appropriate?	5	10	50	100
N	Are requirements for records appropriate?	8	10	80	100
Total Within Category Weighted Score for Category				**974**	**1300**

Stage 2: Between country weightings

Country weightings have been applied to the maximum potential score (Column F multiplied by Column G) for each category. This weighting adjusted the maximum potential score up or down, or left is as it was, depending on whether the weighting was above 100, below 100 or equal to 100. This meant that the final percentage calculated score rose for those countries in which the category was agreed to be less important and fell where it was deemed to be more important. The final percentage score was calculated by dividing Column E by Column H.

Table 4. Country weightings for each farm assurance category

	Column E	Column F	Column G	Column H	Column I
Housing and Shelter	**Weighted Within Category Score**	**Country Weighting**	**Maximum potential category score**	**Corrected maximum potential score for each country (F x G)**	**Calculated percentage score (E/G)*100**
Country 1 scheme	974	100	1300	1300	74.9%
Country 2 scheme	433	50	1300	650	66.6%
Country 3 scheme	302	25	1300	325	92.9%

Stage 3: Between category weightings

The final stage of weightings was applied between categories, and is delivered by multiplying the previously calculated 'within category and between country' weighted score (Column J) by the between category weighting (Column L), giving a fully weighted score for each scheme for each category (Column M).

At the same time the maximum potential fully weighted score for each category was calculated by multiplying the previously calculated 'within category and between country weighted maximum potential score' (Column K) by the category weighting (Column L).

The calculations of the actual fully weighted score and the maximum potential fully weighted score allowed the calculation of the scheme's actual performance as a percentage of the potential maximum, which has been rounded to the nearest figure. (Column O).

Table 5. Calculations of the fully weighted score

	Column J	Column K	Column L	Column M	Column N	Column O
Category	**Weighted score within Category and between Country**	**Maximum Potential weighted score for each scheme within Category and between Country**	**Between Category Weighting**	**Category, Country and within Category Weighted Score**	**Maximum potential Category, Country and within Category Weighted Score**	**Category Score as a percentage of the total potential maximum**
Food safety						
Housing & shelter	97,400	130,000	120	11,688,000	15,600,000	75%
Feed and water						

Scoring as a percentage of total maximum possible weighted score

The final reported scores from each scheme are presented as a percentage of the maximum possible weighted score. It was necessary to use percentages because in many sections the maximum total raw or weighted potential score for many of schemes differed from one another within each category (depending on whether they covered one species or two species within the one scheme), and thus a raw score was not reflective of the actual performance of the scheme.

Using percentages allowed the relative importance of the factors within each scheme to be accounted for and to be reflected fairly in the final overall scores which each scheme received.

Reflecting where specific practices or categories are not as important within a country

It should be noted that the within category scores shown in the spider diagrams are weighted percentage scores. If the scheme does not answer a particular question either comprehensively or at all, the score will be low. If, however, that question is less relevant to that country, the weightings will account for this by reducing the maximum possible score from which the percentages are calculated.

Thus, in each of the performance categories represented below, the table which follows the spider diagram shows the final weighted percentage scores for each scheme. Where the subject of the question is less important within a specific country, the country weightings which are applied will correct for this. Therefore, the spider diagrams are simply guides for scheme developers to show where a scheme has or has not addressed a specific question. The final percentage scores in the table are those which should be used to gain an understanding of how effectively the assurance scheme minimises risk within that investigative category.

Findings from the analysis

Traceability, Documentation and Assurance

The Traceability, Documentation and Assurance category was included as this is the single most important component of any assurance scheme. An effective farm assurance scheme must inspect and record against a clearly defined set of standards and must, to a high degree of confidence, be able to assure that the livestock products which are eventually sold can be traced back to the farm from which it originated. To this end, the basic scheme standards must be robust, and the documentation created by the scheme detailed and specific enough to allow the user to be confident that the scheme delivers against its stated aims.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Traceability, Documentation and Assurance category;

A. Are cattle individually identified on the farm of origin?
B. Are sheep individually identified on the farm of origin and linked to a dam?
C. Is tagging/identification required close to time of birth for cattle?
D. Is tagging/identification required close to time of birth for sheep?
E. Is there a central database recording all farm movements?
F. Do cattle movements have to be individually reported to a central database within an acceptable timeframe? (inside 3 days)
G. Do sheep movements have to be individually reported to a central database within an acceptable timeframe? (inside 3 days)
H. Is a Food Chain Information declaration (or equivalent) required to travel with animals which are being transported to slaughter?
I. Is the traceability system robust (Cattle)?
J. Is the traceability system robust (Sheep)?
K. Audit frequency?
L. Auditor training and standardisation?
M. Are cattle assured from birth?
N. Are sheep assured from birth?
O. Are the certification bodies required to be accredited to ISO17065, with the specific standard within their scope?
P. Do assured animals need to be transported by assured transporters to retain their approval status?

Figure 2. Percentage weighted scores for each question area for the Traceability, Documentation and Assurance category

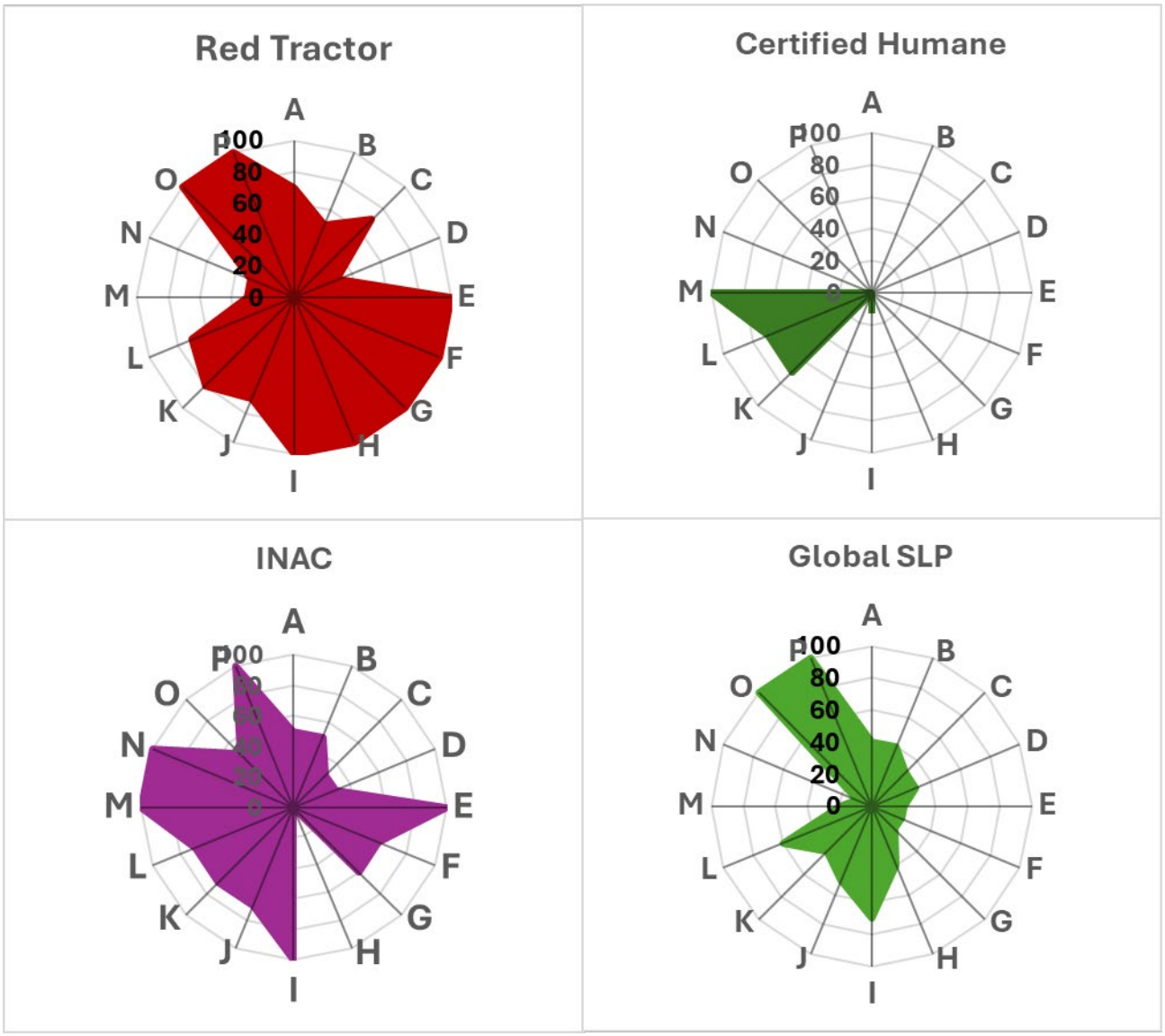


Table 6. Scores for the Traceability, Documentation and Assurance category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	120/160	77
Certified Humane	25/110	21
INAC Meat Certification	104/160	64
Global SLP	69/160	43

Summary of findings

RT receives a higher score than all the other schemes within the Traceability, Documentation and Assurance Section, although the INAC scheme also obtains a relatively high score. That RT scores highest is primarily a function of the more detailed cattle and sheep identification requirements in England (and inspection against this), the detailed record keeping requirements, the regular audit frequency and the fact that the scheme is ISO17065 accredited. None of the other schemes combine all of these features and consequently score lower.

Individual scheme findings

Red Tractor

RT requires individual identification of cattle (close to birth) and sheep (prior to leaving the holding), and also requires strong record keeping. There is a central database for recording of movement. However, assurance periods are short, with full assurance being granted after 90 days (for cattle) and 60 days (for sheep). RT does require that assured transport is used. RT inspects farms approximately every 18 months, depending on the farming system that is in place. There is good training in place to ensure standardisation between different auditors. The scheme is ISO17065 accredited.

Certified Humane

The CH scheme does not require individual identification of animals and does not discuss the timeframe within which identification should take place. The assurance period is one year. There is no requirement for reporting movement to a central database and there is no discussion about the information that must travel with animals that are being transported to slaughter. The traceability system from farm appears to be relatively robust, although not at an individual animal level. An annual audit takes place by an appointed auditor although the scheme contains very limited information around auditor training and certification.

INAC Meat Certification

INAC requires that cattle are individually identified, although this can take place up to six months after birth. Sheep are required to be traceable at a batch level once they leave the farm. Animal movements must be registered on a central database – SIRA. The timeframe for reporting of animal movements is not made clear within the scheme. There are no specifications around the information that must travel with animals when they leave the farm. Annual audit is required. Animals become approved under INAC when they have spent 90 days on the approved farm.

Global SLP

GSLP requires batch identification, and recommends, but does not require, the use of a central database. It does not contain requirements about the information that should travel with animals when the leave the farm. The scheme permits assured and non-assured animals to be present on the farm, but requires that both groups can be separately identified to ensure that they are dispatched correctly. The scheme requires that internal self-assessment occurs annually, and that inspection takes place yearly. The scheme requires a 60 day period for cattle and 28 day period for sheep to become assured. The available scheme documents do not specify training and/or procedures, although under Global GAP there were comprehensive requirements for both.

Legislative requirements

Many of the requirements in the assurance schemes for traceability and documentation are legislative and the following section provides a high-level description and identifies the main legislation.

England

RT requirements are based on a number of regulations within England governing traceability of livestock. These include Cattle identification Regulations 2015 (CIR), EC Hygiene Regulations and the SAGRIMO Order enforcing the Council Regulation (EC) 21/2004.

Under these regulations, powers are given to the competent authorities and specify requirements for keepers with respect to notification of holdings, ear tags, registration of cattle, cattle passports, notification of movements or death, and record keeping. The key requirement for traceability is the requirement to tag individual animals.

Brazil

Although there is no current federal traceability programme in Brazil. However, the state of Pará, which leads the country in the highest levels of rainforest destruction, has announced a mandatory traceability programme called the Pará Cattle Integrity and Development Programme. The Programme aims to individually trace all transported cattle in the state by December 2025, and the entire herd (over 24 million cows) by December 2026.

Uruguay

Traceability for individual animals is required by Law no. 17997 (animal identification and registration system) in Uruguay, using the National Livestock Information System (SNIG), part of Uruguay's Ministry of Livestock, Agriculture and Fisheries. Each individual animal has an ear tag with a unique identification number, enabling the traceability system to keep track of the entire cattle herd.

Argentina

In Argentina, traceability of beef and beef products is managed by the SIGSA system and animal movement control documentation. Farm details are registered on a separate system, RENSPA, and information from this system is used in conjunction with SIGSA and the documentation that controls the movement of animals (the DTA and DT-e) to deliver traceability of cattle in Argentina.

Personnel

The Personnel category has been designed to test the assurance which the schemes provide around the welfare of those who access and work on farms. This concept includes the safety of staff as they work on the farm, the induction and training that is required, the qualifications which are necessary for a person to work on the unit, the ways in which competency and training needs are assessed, and the continuous professional development that takes place.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Personnel category;

A. What qualifications are required for farm staff?
B. Is staff induction required?
C. Is staff training required?
D. What training records are required?
E. What topics are covered in training and do these meet the needs of the farm staff appropriately?
F. How often is training required?
G. Are appropriate Health and Safety policies required?
H. Is the performance of employees reviewed regularly and appropriate training given if required?
I. Is labour provision from external providers adequately covered?

Figure 3. Percentage weighted scores for each question area for the Personnel category

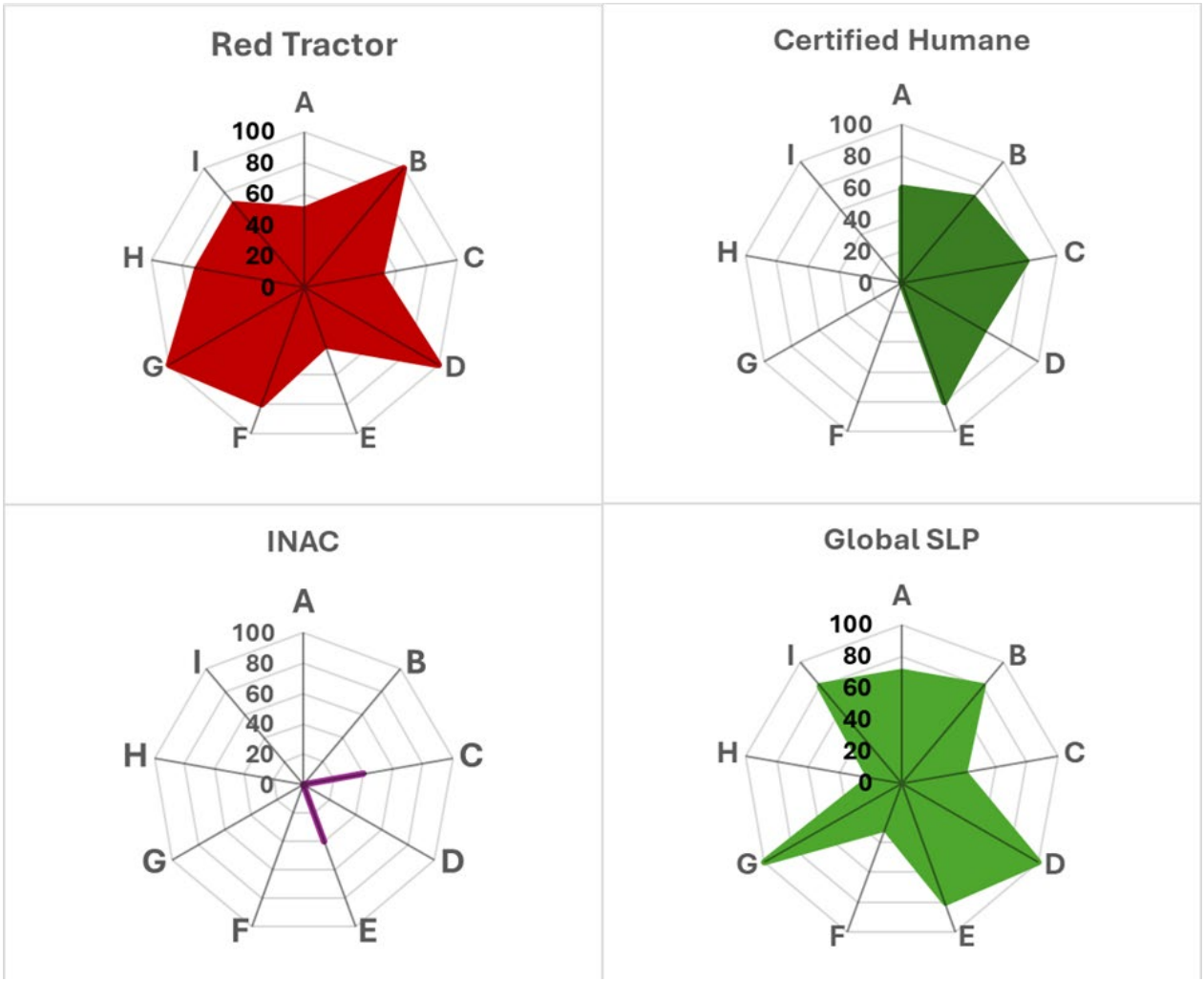


Table 7. Scores for the Personnel category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	66/90	72
Certified Humane	35/90	39
INAC Meat Certification	8/90	9
Global SLP	60/90	65

Summary of findings

RT scores highest in the Personnel category, just ahead of GSLP. Both of these schemes cover personnel safety and training, as well as supervision of staff and the ability to demonstrate competency in the tasks which each staff member undertakes. CH does not require staff induction, or a regular assessment of staff performance, and generally is less specific than RT or GSLP. INAC does not cover personnel in any detail.

Red Tractor

RT does not generally require specific qualifications for farm staff, although all staff are required to be competent. Staff training is required for certain specified activities, but to score higher, the activity list could be expanded to include activities like stock management, animal welfare, record keeping, health and biosecurity management as well as the more obvious chemical handling, and health and safety procedures. All key tasks should be specified, and the minimum level of training/qualifications indicated.

It is appreciated that RT has to walk a fine line between continuously developing the standards and remaining acceptable to English farmers, but as a number of experts have pointed out, just because someone has many years of experience in the delivery of a task does not mean that they are delivering it correctly, and that in an ideal world all farmers would have qualifications which cover all tasks which they are delivering.

Certified Humane

The CH scheme does not explicitly discuss the qualifications needed by staff, but does require that staff should be properly trained or have appropriate experience. The scheme requires staff to be able to recognise signs of abnormal behaviour and disease, and that they should also have a knowledge of correct nutrition, foot care, udder care, breeding and calf management. Staff induction is not specifically required, nor is regular assessment of staff performance. However, continuous professional development of staff is a requirement. Frequency of training is not specified, and the scheme does not discuss Health and Safety policies or procedures. Training of external providers is not discussed.

INAC Meat Certification

INAC does not discuss the qualifications that are needed by staff. No staff induction is required. INAC does indicate that staff must be aware and trained in the importance of good environmental practice, and in knowing appropriate waste treatment and disposal practices. This scheme also states that only trained personnel should have access to zootherapeutics.

Global SLP

GSLP scores highly in this section. It requires the identification of workers who are qualified for specific tasks, and who can demonstrate competence. No specific staff induction is required, but there are clear requirements about what workers need to know prior to commencing work. Annual hygiene training is required. All workers are required to demonstrate competency in Health and Safety procedures. Training records must be available for all training, and a member of management must be identified who is responsible for ensuring compliance with local labour laws. Specific training requirements include first aid, health & safety, and hygiene, as well as training or experience in specific tasks which are delivered around animal management. There is no requirement for regular performance review of staff. Labour provision from external providers is covered within the scheme.

Legislative requirements

Within each country, there is legislation which governs employment, but it is not usually specific to agriculture. Relevant legislation is normally framed as employment law and covers employment contracts and health and safety at work.

England

Within England, the Management of Health and Safety at Work Regulations 1999 requires that all employers or the self-employed assess their own risk, and the risk to anyone working for them. The Health and Safety Executive have issued the following guidance for farms:

- Be certain that all buildings are kept in good repair and that floors are not overloaded, especially in feed lofts
- Provide handrails on stairs and ramps where needed
- Make sure there are safety hoops or rest stages on long vertical fixed ladders
- Keep all workshops tidy
- Equip inspection pits with accessible escape routes and cover pits when not in use
- Provide adequate lighting and replace any old lights
- Ensure there is good drainage and non-slip flooring for wet areas

Broadly the RT scheme assesses against legal requirements, but its requirements around training and induction are above the legal standard, as is the requirement to regularly assess employee performance and to provide refresher training.

Brazil

Brazilian legislation contains a regulatory standard (NR-31 Health and Safety in Agriculture, Livestock, Silviculture, Logging and Aquaculture) which sets out the principles which must be observed in the organisation and environment of rural work. This covers:

- Personnel protection measures
- Pesticides, additives, adjuvants, and related products
- Ergonomics
- Transportation of workers
- Electrical installations
- Hand tools
- Safety in the work of machines, equipment and implements
- Dryers, silos, and confined spaces
- Material handling and storage
- Work at heights
- Rural buildings
- Sanitary and comfort conditions in rural work

Uruguay

Uruguay has a comprehensive set of health and safety laws designed to protect workers. The Constitution of the Republic establishes the right of all workers to safe and healthy working conditions. The General Labour Law (Law No. 15.996) outlines overarching principles for workplace safety and hygiene, defining the responsibilities of both employers and workers. Its laws are not specifically geared towards the agricultural sector but rather the entire workforce.

Argentina

The labour safety and health law in Argentina requires employers to provide a safe and healthy working environment and establishes preventive measures to minimize occupational hazards. This includes

requirements for employers to conduct regular risk assessments, to provide safety training, and to comply with national safety standards.

Food Safety

The Food Safety section was created to test the effectiveness of each assurance scheme in ensuring that food sourced from livestock produced under their schemes are free from contamination by chemicals, tainted food, or physical contaminants such as broken needles. A further requirement is that the food produced from each unit can be traced if a problem is discovered.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Food Safety category:

A. Does the scheme require actions which manage vermin infestation on the farm?
B. Does the scheme require activity to prevent chemical contamination of food?
C. Does the scheme require activity to prevent contamination of food with medicines?
D. Does the scheme require activity to ensure that broken needles or other physical contaminants do not reach the food chain?
E. Does the scheme restrict food types which can be offered to ruminants in order to prevent prion diseases?
F. Does the scheme require dietary restriction of sheep prior to slaughter to prevent contamination during the slaughter and processing process?
G. Is animal traceability robust (cattle)?
H. Is animal traceability robust (sheep)?
I. Is the assurance scheme robust and trustworthy, with adequate audit independence and frequency?

Figure 4. Percentage weighted scores for each question area for the Food Safety category

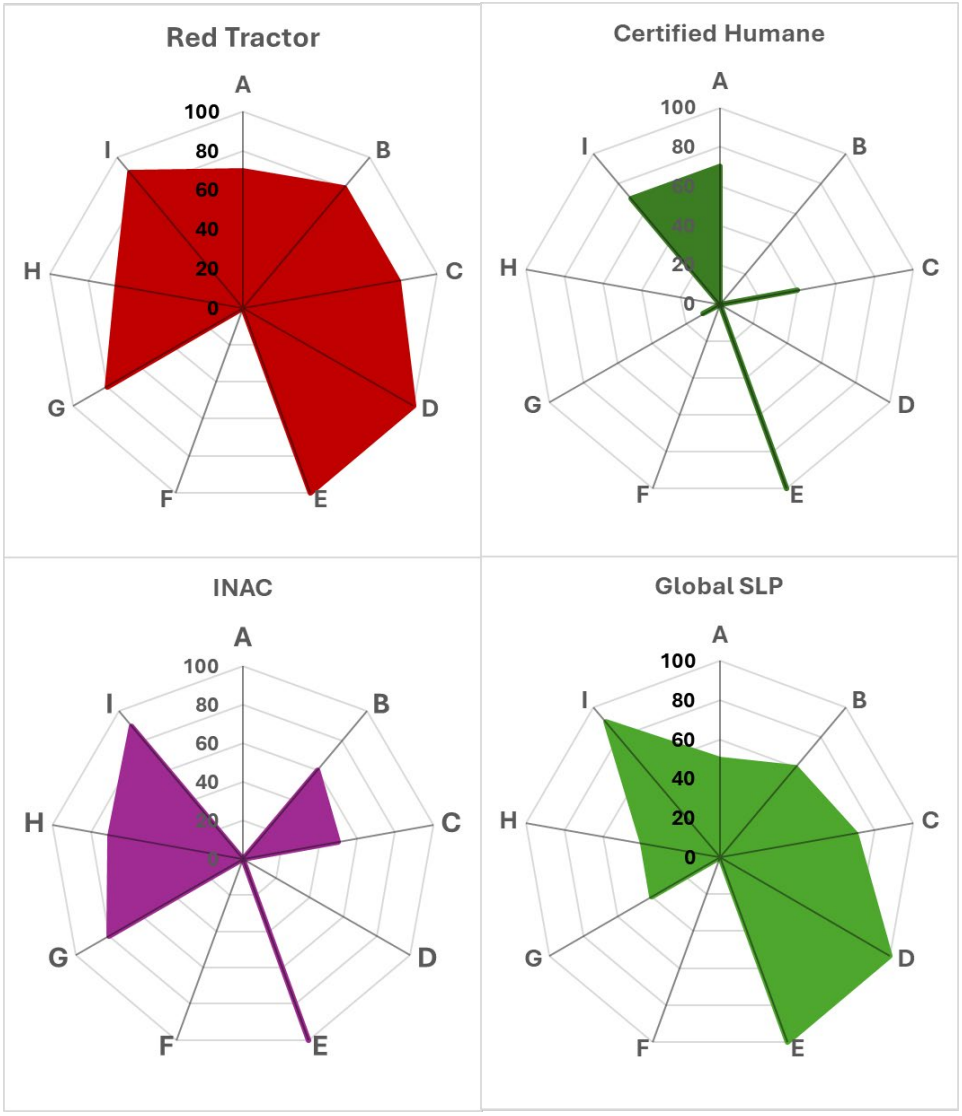


Table 8. Scores for the Food Safety category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	66.5/90	77
Certified Humane	29/70	41
INAC Meat Certification	45/90	52
Global SLP	55/90	64

Summary of findings

Within the Food Safety section, RT scores highest, followed by GSLP. RT contains an extensive range of requirements which contribute to higher food safety. GSLP also contains most of these requirements but does not specify what can and cannot be fed to ruminants. INAC and CH both contain requirements to enhance food safety, but both miss components which RT and GSLP address.

Individual scheme findings

Red Tractor

RT requires effective control of vermin as well as the removal of habitat which could harbour vermin close to buildings. An annual site survey is required. Safe storage of feed is required and explained. Scheme traceability

is robust. The scheme contains good control measures around the prevention of contamination of food by chemicals, medicines, or physical contaminants.

Certified Humane

CH requires control of vermin and outlines key actions which can be taken. The scheme does not cover measures to prevent chemical contamination of food or medicines. No broken needle policy is included, and the scheme does not cover identification of animals. Audits take place annually. There are no prohibitions around the type of food which can be offered to ruminants. No traceability recommendations are specified.

INAC Meat Certification

INAC does not discuss vermin control but does place a focus on the control of chemical products, as well as waste management. The scheme also contains controls around the use of medicines, including the requirement for trained personnel to use medicines, and that use is according to that specified on the labels. The scheme does not contain a broken needle policy. The scheme requires that Uruguayan animal traceability recommendations are followed. Audit frequency is annual.

Global SLP

GSLP contains requirements around vermin control, requiring plans and detailed records. It also requires good control measures around the prevention of contamination of food by chemicals, medicines, or physical contaminants. The scheme contains a broken needle policy. No restrictions around feed for ruminants are specified. Traceability back to the individual farm unit is required, but not at an individual animal level.

Legislative requirements

For each country in this study, there is relatively little information on the control of food safety at farm level in any of the food safety legislation, as this is primarily focused on fresh food at the consumption ready stage. The main legislation which is applicable at farm level in each country is the legislation which controls medicine usage and chemical/pesticide usage to avoid contamination of meat with medicines or other chemicals.

England

Within England, food safety is governed by the Food Standards Agency, established by the Food Safety Act 1990 which also provides the framework for all food legislation in England, Wales and Scotland. Traceability is governed by Article 18 of Regulation (EC) No. 1978/2002 and establishes the need and requirements for traceability at all stages of production, processing and distribution.

Brazil

Within Brazil, food safety is governed by the National Council for Food and Nutritional Safety (CONSEA) which has a mandate to develop and approve programmes, government actions and policies aimed at assuring the Brazilian population's health and the provision of sustainable food supplies.

Uruguay

In Uruguay, there are a range of controls which manage food safety, but these are also mainly aimed at the processing sector rather than at farm level. Processor inspection is granted in the Uruguayan Decree Nº. 369/983, Decree Nº. 238/00, DIA Resolution Nº. 13.01, and Departmental Procedure for Slaughter Establishments Nº. 13.01. All activities related to meat products are under the authority of the Official Veterinary Inspector and are subject to technical standards outlined in Article 1 of Decree Nº. 369/983.

Argentina

In Argentina, producers and primary food processors are required to comply with standards and regulations that relate to safety and health conditions in Argentina. Decree No. 4,238, incorporated by SENASA Resolution No. 233/98, regulates standard operating procedures (POES). It requires that all establishments where animals are slaughtered, and food is developed apply these POES. It also establishes that a qualified employee will be

responsible for checking and documenting compliance with the indicated corrective measures to prevent contamination or alteration of the product and to maintain the documentation available for controlling permissible and prohibited actions.

Housing and Shelter

The Housing and Shelter section has been designed to ensure that animals produced under each assurance scheme have accommodation which is appropriate to their needs. This includes housing and the provision of appropriate shelter when animals are outside.

The importance of housing and the provision of shelter is a component of assurance which is growing in importance. Climate change has increased the regularity of extreme weather events in all parts of the world. Within this section, housing design and management and/or the provision of shelter is important in both regions, particularly because of the amount of time which animals can be housed for, and the ability of climatic conditions to create heat stress or pneumonias where ventilation (for example), is not appropriate.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Housing and Shelter category:

A. Is housing well-designed and safe?
B. Does housing promote high welfare?
C. Is housing hygienic?
D. Is there adequate ventilation?
E. Is housing well-lit?
F. Is housing structurally sound?
G. Is there adequate space available for each animal?
H. Are loading and unloading facilities available and to a good standard?
I. Are there appropriate isolation and birthing facilities?
J. Is housing appropriate and safe for stock managers?
K. Do animals outside have access to appropriate shelter?
L. Are animals kept outside kept in appropriate conditions, including well drained lying areas and the absence of severe poaching?
M. Are bedding requirements appropriate?
N. Are the requirements for records appropriate?

Figure 5. Percentage weighted scores for each question area for the Housing and Shelter category

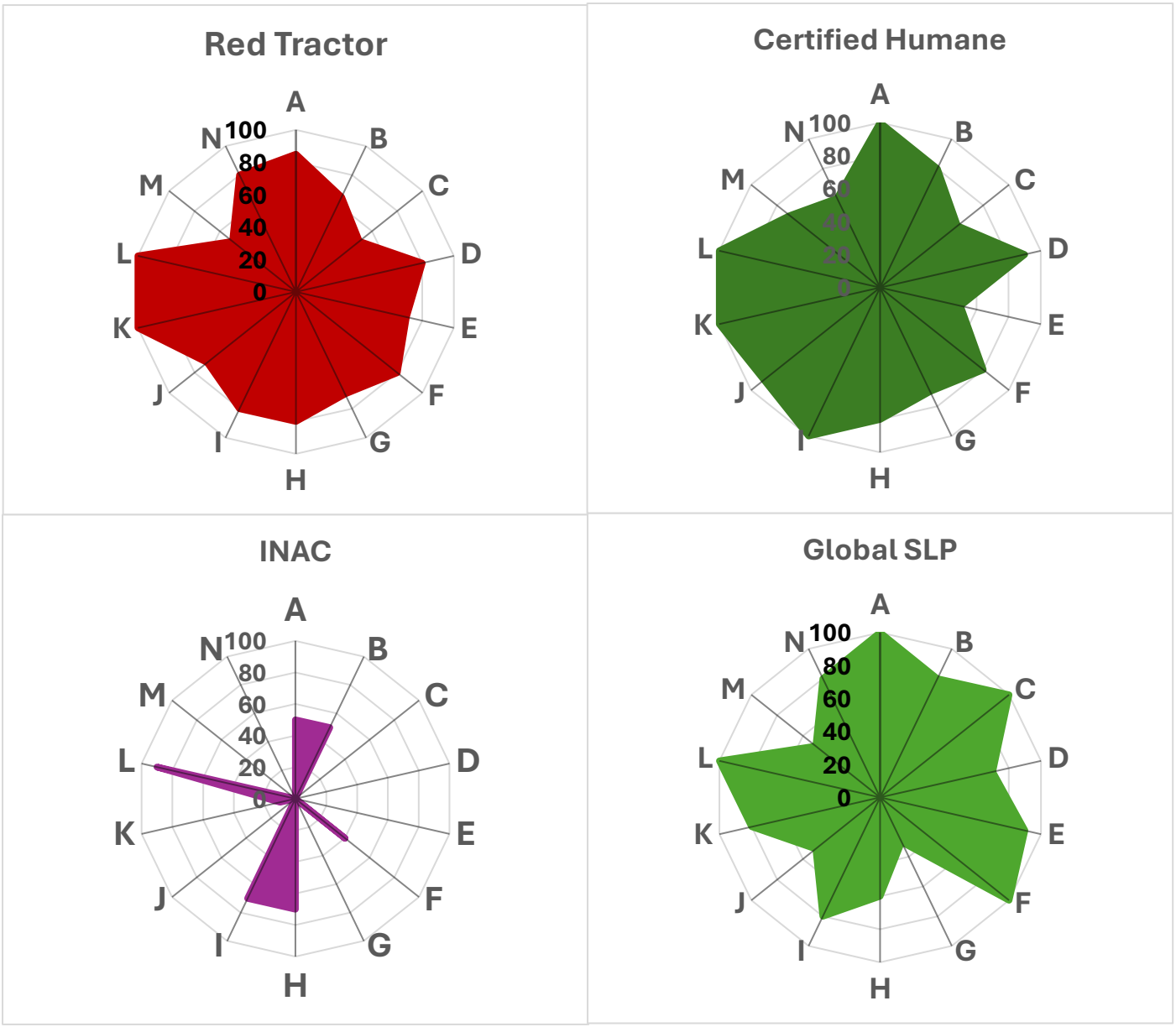


Table 9. Scores for the Housing and Shelter category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	106/140	75
Certified Humane	113/140	67
INAC Meat Certification	38/140	27
Global SLP	107/140	64

Summary of findings

With the exception of INAC, all of the schemes score relatively highly in the Housing and Shelter section. Within this section, we have applied a higher weighting to Argentina and Brazil (120), due to the greater potential for exposure to extreme climatic conditions, and this weighting is applied to CH and GSLP. This explains why the weighted scores for CH and GSLP are lower than RT, despite their raw scores being higher. The three higher scoring schemes in this section include requirements around the design and maintenance of housing, and CH requires that animals have access to the outdoors. These schemes cover ventilation, odour

build-up, lighting etc. INAC is a Uruguayan scheme and broadly assumes that animals will always be outside, and hence does not contain the same level of detail about housing, as this component is not deemed to be necessary.

Individual scheme findings

Red Tractor

RT achieved the highest fully weighted percentage score in this category. The scheme requires that housing meets the basic needs of the animal and that the yard is kept tidy, and that cleaning chemicals and equipment are available. The scheme requires appropriate ventilation, avoidance of humidity and odour build up, and a comfortable temperature for the animals. The scheme requires that there is adequate lighting and that the housing is structurally sound. Space allowances are specified and are adequate. Loading facilities must be fit for purpose. Bedding is not required, although where bedding is supplied, it must be appropriate.

Certified Humane

The CH scheme achieves the highest raw score in this section, although it falls behind RT when weightings are applied. The scheme requires that beef cattle have continual access to the outdoors and requires appropriately designed and maintained housing. CH also provides indicators that may suggest housing problems that need to be addressed. The scheme is very specific about handling equipment, bedding and total space allowed. Ventilation and hygiene requirements are clearly specified, and the buildings must be adequately lit. The duration of light or dark periods are not discussed. Loading and unloading facilities are required, as are isolation facilities for sick animals. The scheme also requires that housing is safe for personnel to work in.

INAC Meat Certification

INAC does not contain many requirements around housing standards, as it is mainly focused on outdoor production as very few cattle need to be housed because of the Uruguay's more temperate climate (in comparison to Brazil or Argentina). However, it does require that any facilities on the unit are of a good standard, and that they are designed to prevent any risk of injury to animals. Housing hygiene, ventilation, lighting or space allowances are not discussed. Appropriate loading and unloading facilities are required. Isolation facilities are required for sick or injured animals. Safety of farm personnel is not discussed.

Global SLP

GSLP requires that on-farm facilities are appropriately designed and well maintained, and that a management plan identifies key risks and the management of these. There are detailed requirements around housing hygiene, and ventilation is required to be appropriate to each type of animal. Animals must have access to natural daylight, and supplementary lighting must be available to inspect calves during the hours of darkness. Space allowances are defined for calves and are acceptable, whilst space allowances for adult animals are not defined, but are required to be appropriate. Hospital facilities are required to be available for young calves. The scheme requires shelter for animals that are kept outside.

Legislative requirements

England

Within England, the Welfare of Farmed Animals (England) Regulations 2007 requires that any person who employs or engages a person to attend to animals shall ensure that the person attending to the animals:

- Is acquainted with the provisions of all relevant statutory welfare codes relating to the animals being attended to
- Has access to a copy of those codes while he or she is attending to the animals
- Has received instruction and guidance on those codes

The legislation states that “any person who keeps animals, or who causes or knowingly permits animals to be kept, shall not attend to them unless he has access to all relevant statutory welfare codes relating to the animals while he is attending to them, and is acquainted with the provisions of those codes”.

This has application to the housing of animals, and the legislation goes on to state that “the causing of unnecessary pain or unnecessary distress to any livestock on agricultural land is an offence under Section 1(1) of the Agriculture (Miscellaneous Provisions) Act 1968”. The breach of a code provision whilst not an offence, can nevertheless be used in evidence as tending to establish the guilt of anyone accused of causing unnecessary pain or distress under the Act (Section 3(4)),

Consequently, animal housing in England must be appropriate and must not cause discomfort or pain. However, the legislation is non-specific and each incident would be treated on a case-by-case basis.

Brazil

In Brazil, instruction No. 56 establishes appropriate practices within the Good Practice Guidelines for the Welfare of Animal Production and Economic Interest. This covers farm animal rearing systems and transportation. Article 3 outlines general principles for animal welfare, including management through having a basic knowledge of animal behaviour, providing an appropriate diet, and ensuring the use of properly designed production systems for different species to ensure that animals can rest and experience good welfare.

Uruguay

In Uruguay, the general anti-cruelty provisions contained in Article 12(A) of Law 18471 apply to animals used for farming Article 9(A) and require that every animal holder should maintain the animal 'in proper physical and sanitary conditions, providing suitable accommodation and food and shelter for each species, as stated by the regulations established by the World Organisation Animal Health (OIE) and the guidelines of the World Society for the Protection of Animals’.

Argentina

In Argentina, Law 14346 of 1954, prohibits animal cruelty and certain forms of animal abuse, and applies to farm animals. Decree 1248 of 1975 regulates the treatment of animals during the transport. Article 3 contains the requirements for transport modules and require that they are species, breed and weight appropriate. Sufficient space must be provided for each animal.

Feed and Water

The Feed and Water category questions are designed to test whether the assurance scheme can ensure that cattle and sheep have ready access to appropriate, clean, fresh feed and water, and whether the nutritional needs of the animal are fully met.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Feed and Water category:

A. Do animals have enough feed and water to maintain normal bodily function?
B. Do animals have easy ready access to fresh, clean water?
C. Is the feed offered to animals appropriate?
D. Are the feed storage requirements appropriate?
E. Are Hormone Growth Promoters permitted?
F. Are any types of feed prohibited?
G. Are systems and records in place to prevent livestock being contaminated via feed?
H. Do young animals receive enough colostrum?
I. Is feeding equipment checked regularly and maintained?

Figure 6. Percentage weighted scores for each question area for the Feed and Water category

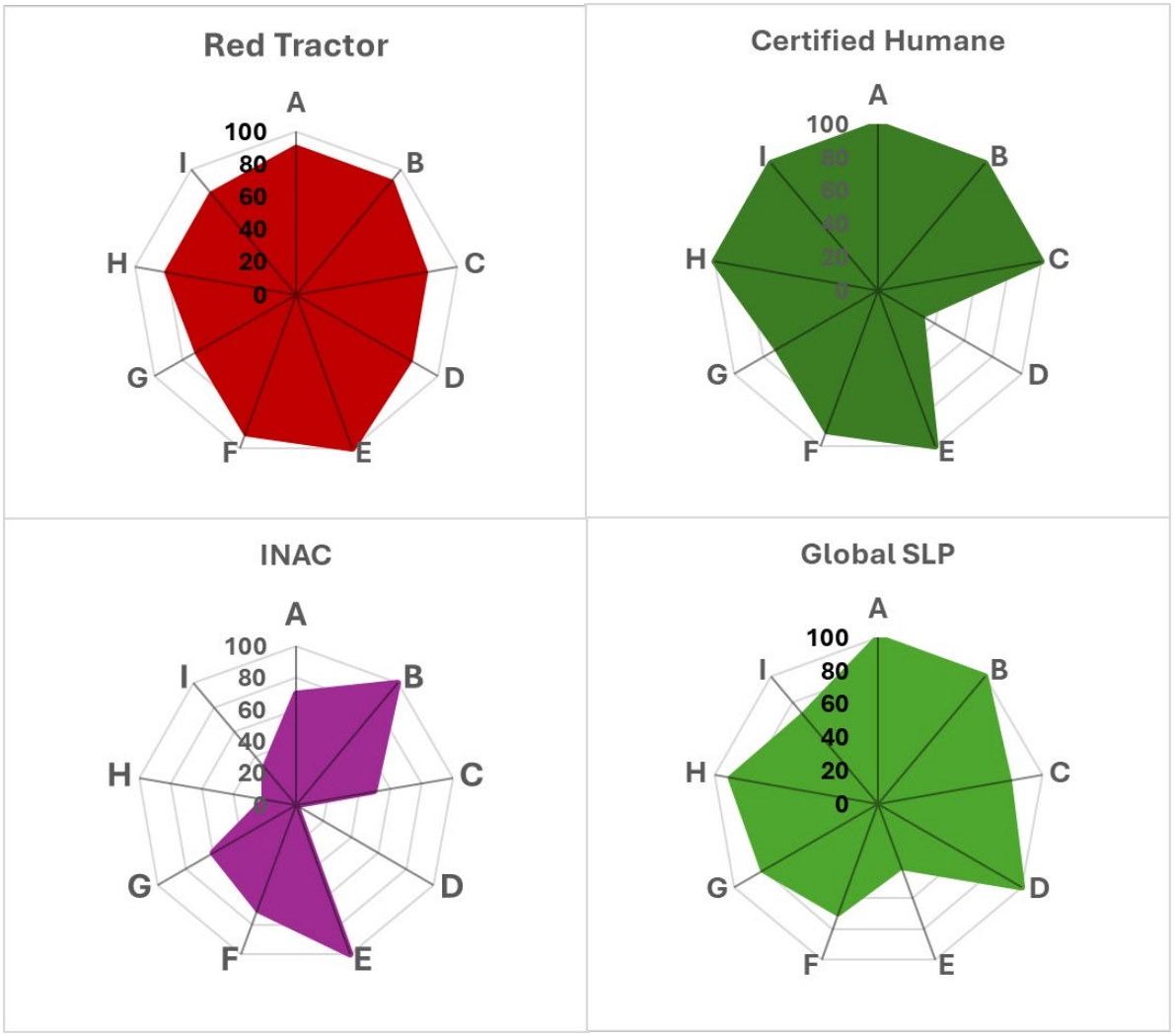


Table 10. Scores for the Feed and Water category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	76/90	85
Certified Humane	79/90	89
INAC Meat Certification	50/90	58
Global SLP	73/90	81

Summary of findings

CH scores highest in this section, but RT and GSLP also score highly. All three schemes require ready access to appropriate food and water and the prevention of feed contamination. INAC contains fewer requirements and does not focus on the nutritional quality of the diet of the animal.

Individual scheme findings

Red Tractor

Although RT did not justify full scores in this section, there were no significant gaps and the scheme aims to ensure that animals receive an appropriate diet, and that they have access to enough water. RT specifically considers rumen health. RT requires that food is appropriate to the class of animal, and that the food is stored appropriately to prevent cross-contamination. RT considers the nutritional health of young animals, requiring appropriate access to colostrum.

Certified Humane

CH requires that animals receive wholesome, nutritious feed which is appropriate for age and species and which fully meets the nutritional needs of the animal. Cattle are required to have free access to food at all times unless under veterinary direction. Animals must also have constant access to an adequate supply of clean fresh drinking water. Emergency water provision must be considered. Control practices are required to prevent contamination of stored feeds by birds and vermin. Growth Promoting Hormones are prohibited. Animal derived products are prohibited in feed (with the exception of milk or milk products). Antibiotics are prohibited in feeds. The scheme requires that newborn animals receive enough colostrum, and that feeding equipment is regularly inspected, maintained and cleaned.

INAC Meat Certification

INAC focuses on the type of diet rather than its nutritional content, requiring that 60% of dry matter comes from forage. The scheme does require that animals have access to enough water of sufficient quality. The scheme does not discuss feed storage. Growth Promoting Hormones are not permitted, and animal feed must not contain any animal protein (other than milk). The scheme requires that drinking troughs are clean and maintained.

Global SLP

GSLP requires that animals are able to access their daily ration and requires that it meets the nutritional requirements of the animal. The scheme does not discuss feed storage requirements. Growth Promoting Hormones are permitted, and the scheme does not specify prohibited feeds. Colostrum feeding is not discussed. There is no requirement to maintain feeding equipment.

Legislative requirements

As for many of the other categories, the feeding of animals falls under general animal welfare legislation, the interpretation of the farm manager and of those who enforce the legislation.

England

The legislation governing the provision of food and water in England is the Animal Welfare Act 2006. It requires that animals must have a suitable diet, including access to water. The Codes of Practice for cattle cover what constitutes a suitable diet in extensive detail. The majority of the RT standard in this case is essentially a less detailed repeat of these Codes of Practice. Feed storage *per se* is not generally covered in the legislation, but falls under the concept of the provision of clean, fresh and appropriate food. Growth promoting hormones are not permitted.

Brazil

Within Brazilian law, Instruction No. 56, dated 6th November 2008, establishes general procedures of Good Practice Guidelines for the Welfare of Animal Production and Economic Interest, covering farm animal rearing systems and transportation. Article 3 outlines the general principles for animal welfare including management through basic knowledge of animal behaviour; the provision of an appropriate diet; and the presence of properly designed production systems for different species to ensure good animal welfare as well as the avoidance of unnecessary suffering.

Uruguay

Uruguay's Law 18471 on the Responsible Tenure of Animals is the country's main animal welfare legislation. This law prohibits cruelty to animals and highlights the importance of responsible ownership and requires that any holder of an animal is responsible for keeping the animal in proper physical and hygienic conditions, providing accommodation, food and shelter that is appropriate to each species.

Argentina

The National Service of Health and Quality of Agricultural Food (SENASA) is the main body that oversees the laws surrounding animal heath in Argentina. ARTICLE 6 in this covers the key competencies including imports, quality controls, monitoring, registration etc.

Husbandry Procedures

The Husbandry Procedures section is designed to identify which procedures are permitted under each scheme, and the measures which are taken to protect animal welfare during the procedures.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Husbandry Procedures category:

A. Is castration permitted?
B. What age is castration permitted up to without anaesthetic and by what means?
C. What age is castration permitted to with anaesthetic and by what means?
D. Is disbudding permitted?
E. What methods of disbudding are permitted? Is anaesthetic required?
F. What methods of dehorning are permitted? Is anaesthetic required?
G. Is branding permitted? If so, hot branding, freeze branding or both?
H. Is tail docking permitted? If so, what rules govern this?
I. What other miscellaneous procedures are permitted? Are they acceptable?
J. Is mulesing permitted?
K. Who is permitted to carry out each procedure, and what qualifications are required?

Figure 7. Percentage weighted scores for each question area for the Husbandry Procedures category

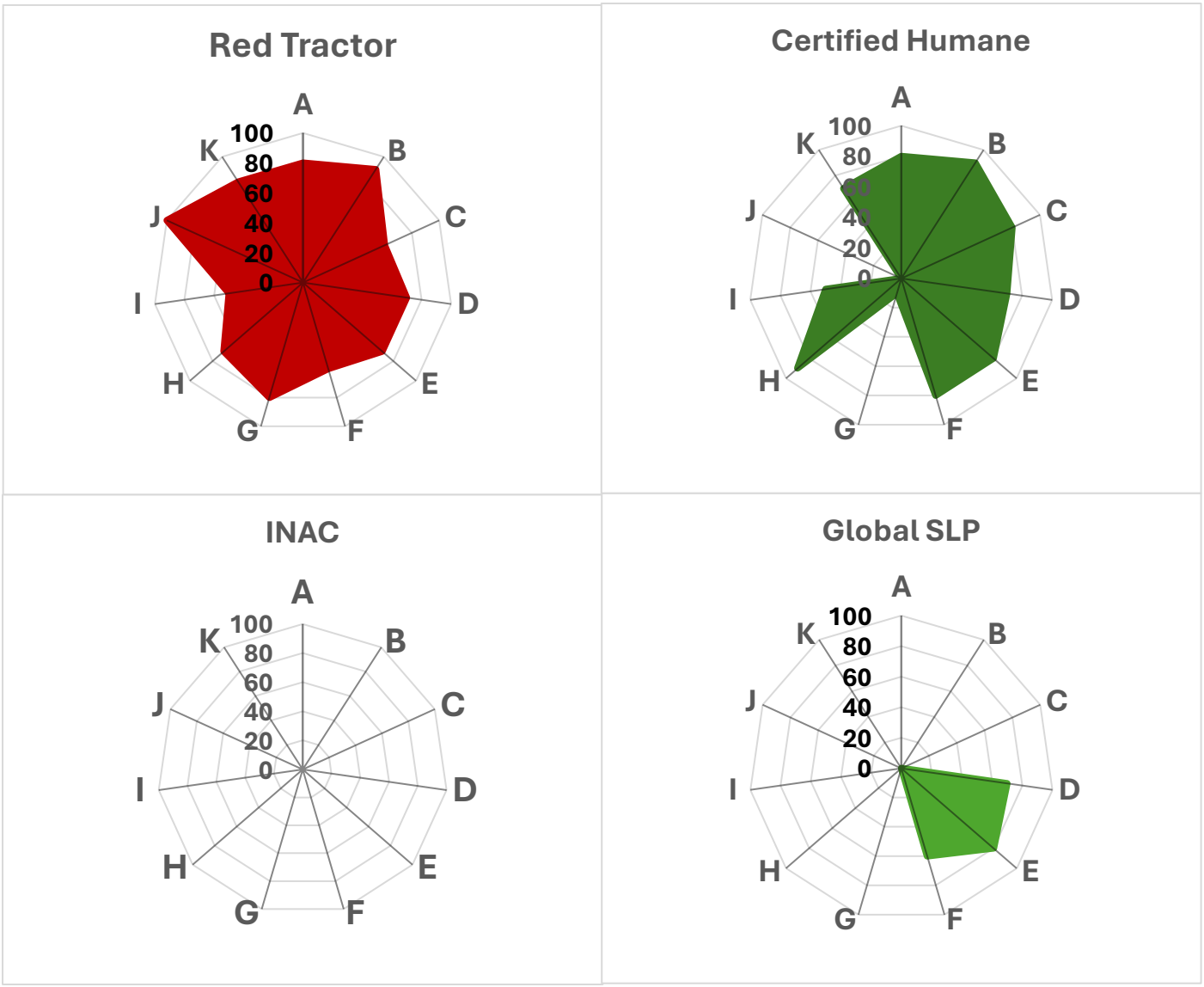


Table 11. Scores for the Husbandry Procedures category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	81/110	74
Certified Humane	70/100	70
INAC Meat Certification	0/110	0
Global SLP	21/110	19

Summary

RT scores highest in this section, containing very specific requirements about the procedures that can take place and the conditions under which they can be implemented. CH also scores highly, covering much of the same detail as RT, although it does permit branding. The other two schemes score lower than RT and CH. INAC does not contain any detailed requirements around husbandry procedures, and GSLP does not address many of the common husbandry procedures such as castration, branding or tail docking.

Red Tractor

RT contains very specific requirements around castration and disbudding procedures. It is prescriptive about what methods are permissible, who can carry out each procedure and the use of analgesics or anaesthetics.

Dehorning is permitted but discouraged. Tail docking is not permitted for cattle, unless under specific veterinary direction following trauma or infection.

RT has relatively tight age restrictions at which a competent stockperson can deliver husbandry procedures. Beyond these, a vet is required to deliver the procedure, which will have the effect of limiting the number of older animals which undergo these type of husbandry procedures.

Certified Humane

CH permits castration, but recommends that it is done at the earliest possible age. Rubber rings (up to 7 days), Burdizzo (7 days to 6 months) and surgical castration (any age) are all permitted, although pain management is required for all of these procedures. Disbudding of cattle is permitted with pain management, and cauterisation paste may also be used. Horn removal is permitted to the age of 6 months, but is prohibited via sawing, banding and embryonic wires. The removal of horns above the age of 6 months can only be performed by a vet using pain management. Branding is permitted. All permissible practices must be performed by trained and competent managers.

INAC Meat Certification

The INAC scheme does not contain any detailed requirements around husbandry procedures. The scheme does allow producers to use tail docking as a means of identifying non-certified animals from certified animals which could be viewed as an unnecessary mutilation.

Global SLP

The GSLP scheme does not discuss castration. It does permit disbudding, but only by physical methods within 6 weeks after birth, and requires local anaesthesia. Chemical cauterisation is prohibited. Dehorning of cattle over 90 days of age is only permitted in cases where it is medically necessary, and then only by a vet. The scheme does not discuss branding or tail docking. The scheme, with one or two exceptions, does not specify who can carry out husbandry procedures or the training they must have.

Legislative requirements

England

The Welfare of Farmed Animals (England) Regulations 2007 are made under the Animal Welfare Act 2006 and set the minimum welfare standards for all farm animals. The regulations cover standards for stockmanship, health, feed, water and other substances, accommodation, equipment, management, fire and other emergency precautions, pregnancy, rearing, and breeding.

Under The Protection of Animals (Anaesthetics) Act 1954, as amended, it is an offence to disbud calves or dehorn any cattle without the use of an anaesthetic other than when chemical cauterisation is used. In England, the use of a rubber ring, or other device, to restrict the flow of blood to the scrotum, is only permitted without an anaesthetic if the device is applied during the first week of life. The Protection of Animals (Anaesthetics) Act 1954 makes it an offence to remove a supernumerary teat from a calf which has reached three months of age without the use of an anaesthetic.

Brazil

The Brazilian Constitution mandates that all practices which represent a risk to the ecological function, cause the extinction of species or subject animals to cruelty is prohibited by law (article 225, para 1, item VII).

Article 4 of Instruction No. 56 on Good Practice Guidelines for Farming (Productive) Animals and Animals of Economic Interest provides for the production of Manuals of Good Practice with recommendations for specific procedures for each animal species. The Ministry of Agriculture, Livestock and Food Supply has developed a number of these manuals, including manuals on humane slaughter of cattle, pigs and poultry and on animal transport.

Uruguay

Within Uruguay, Law 18471 on the Responsible Tenure of Animals defines its objective as to 'protect animals' life and wellbeing' (Article 1) and has a general prohibition against causing death, inflicting pain, or inducing 'excessive stress' to animals, unless it is for reasons specified in law, such as during veterinary treatment. Article 12(A) prohibits the mistreatment or injury of animals, meaning that abusive action causing excessive harm or stress or impairment to bodily integrity can be prosecuted.

Argentina

Argentinian Law 14346 provides basic animal protection by prohibiting certain types of conduct towards animals. The law refers to two types of offences: harsh treatment or abuse of animals, and cruelty to animals.

Article 2 defines which conduct is considered abusive to animals: using instruments which cause them unnecessary pain, over-working animals, using animals which are not in good physical health, or stimulating animals with drugs which do not have a therapeutic application.

Youngstock Management

Youngstock Management was included in this report because of its critical importance to the long-term health of the animal. The conditions under which animals are farmed can vary substantially between the countries in this study.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Youngstock Management category:

A. Do animals have comfortable and safe indoor accommodation?
B. Is there adequate fresh air?
C. Is there adequate clean water?
D. Is there adequate bedding?
E. Do animals have access to appropriate amounts of feed?
F. Is there adequate light?
G. Is there adequate darkness?
H. Is there an absence of unnecessary and painful husbandry procedures?
I. Are animals able to safely and easily access feed and water?
J. Are animals permitted to be kept on their own when very young?
K. Are animals permitted to be kept on their own when older?
L. Is the animal's diet nutritious and appropriate?

Figure 8. Percentage weighted scores for each question for the Youngstock Management category

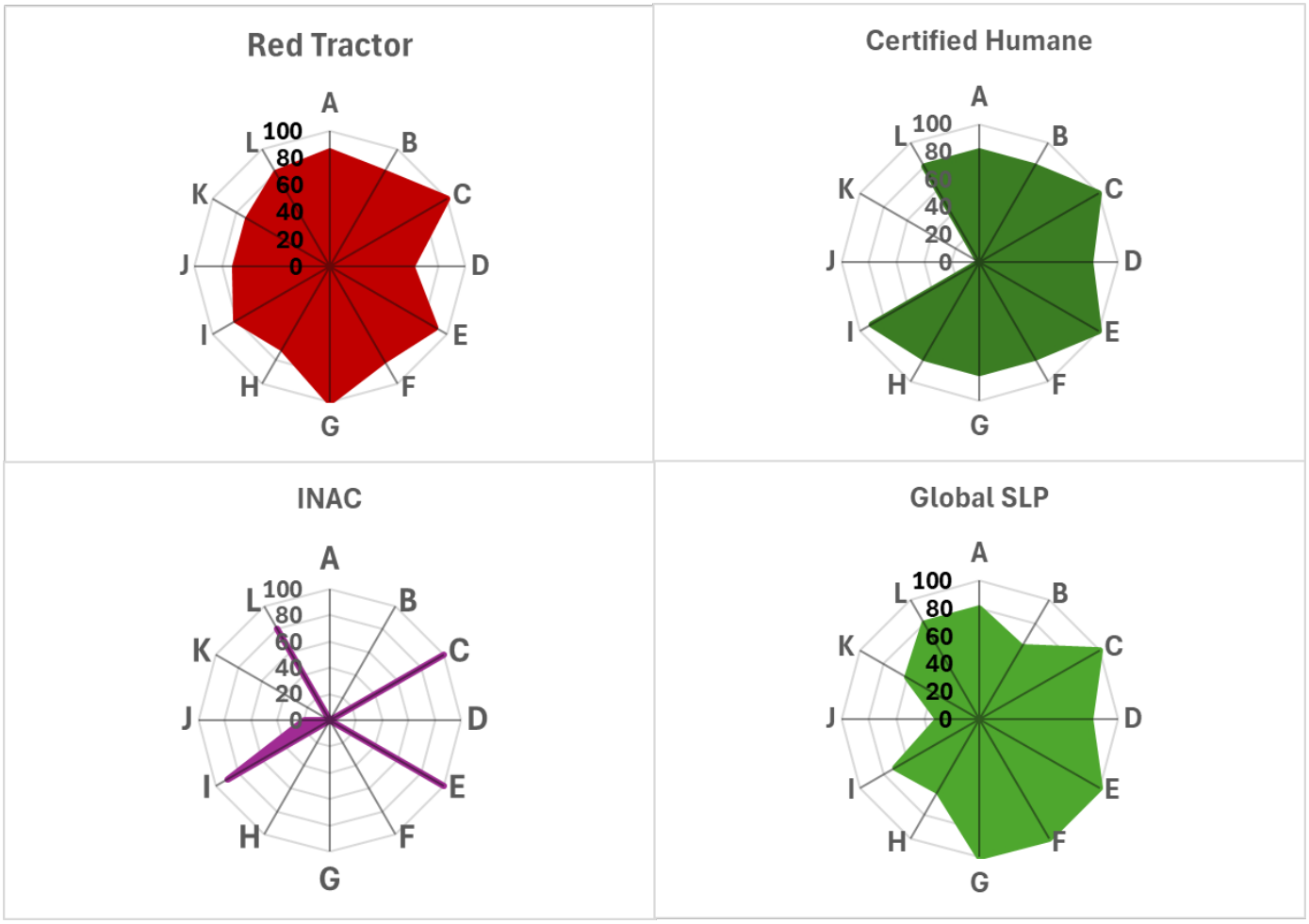


Table 12. Scores for the Youngstock Management category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	96.5/120	81
Certified Humane	85/120	74
INAC Meat Certification	39/120	35
Global SLP	92/120	78

Summary of findings

RT scores highest in this section, containing requirements which are specific to youngstock, requiring conditions that are conducive to good health and welfare, and that housing is appropriately designed and maintained. CH and GSLP also contain good detail around youngstock management. INAC is focused on non-housed systems and contains less detail than the other schemes, although it does require appropriate feeding.

Individual scheme findings

Red Tractor

RT contains information specific to youngstock, requiring that housing must be effectively ventilated, avoiding high humidity, odour build up and a comfortable temperature. Artificially reared youngstock must be provided with unrestricted access to clean fresh drinking water. Guidance around husbandry procedures is clear and adequate. Calves must not be housed in individual hutches after eight weeks of age.

Certified Humane

CH contains many requirements that are focused on maintaining the health and welfare of youngstock. Housing design is required to be appropriate, and the scheme contains requirements around ventilation, heating and insulation. Bedding is required. The scheme also requires appropriate access to water and feed. Access to natural daylight is required, but there are no specifications around periods of darkness. The scheme does not discuss isolation of young animals.

INAC Meat Certification

INAC is primarily focused on outdoor rearing as this is the usual system within Uruguay. As a consequence, the scheme contains very little detail with regard to housing of youngstock. The scheme does require that animals have access to sufficient food and water of the appropriate quality to maintain good health. The scheme does not discuss isolation of young animals.

Global SLP

GSLP requires appropriate housing design and maintenance to enable good animal welfare to be delivered. Sufficient ventilation is required, and animals must have access to enough food and water of appropriate quality. Animals are not allowed to be kept in isolation above the age of eight weeks. Calves under two weeks of age must be bedded. Access to natural daylight is required and lighting is required to be appropriate. Calves cannot be kept in permanent darkness.

Legislative requirements

In general, legislation within each jurisdiction considers the welfare of all animals, rather than that of youngstock specifically, and therefore provisions within farm assurance schemes can help to ensure that the proper care and attention is given to this specific category.

England

Within England, the legislation does not differentiate youngstock from mature stock in most incidences. The Codes of Practice for the management of cattle and sheep do describe the required nutrition for younger stock

and the necessity of them receiving adequate levels of colostrum inside the first few hours of birth, as well as appropriate ongoing nutrition.

EU Directive 2008/119/EC, which is part of UK legislation, lays down minimum standards for the protection of calves, including housing.

Brazil

In Brazil there is no separate legislation to govern youngstock management.

Uruguay

In Uruguay there is no separate legislation to govern youngstock management.

Argentina

Argentinian legislation contains several requirements around the transport of youngstock, focused on ensuring optimal health, and on verifying fitness for transport.

Animal Health and Welfare

The Animal Health and Welfare category was included within our assessment because, outside of food safety, this is the area which is of most importance to consumers[3]. The questions in this section have been designed to identify if the various assurance schemes promote good animal health and enable the animals to experience conditions which promote high welfare.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Animal Health and Welfare category:

A. Are animal welfare scoring/outcome measures required?
B. How effective is each welfare score?
C. How regularly are welfare scoring measures required to be taken?
D. Are welfare measures reported to external organisation?
E. Is a Veterinary Health Plan required and accessible to staff?
F. Is the plan active?
G. Are medicine records fully up to date?
H. Does the scheme require isolation facilities in a separate air space?
I. Is locomotion scoring required?
J. Is body condition scoring required?
K. Is a review of the Veterinary Health Plan required?
L. Is it a requirement to regularly monitor the health of stock? How often? How often is a vet visit required?
M. Are miscellaneous circumstances, including euthanasia, well managed, and equipment controlled to maintain high welfare?
N. Are staff appropriately trained? Is a competent individual available?

[3] AHDB/Blue Marble, 2022

Figure 9. Percentage weighted scores for each question for the Animal Health and Welfare category

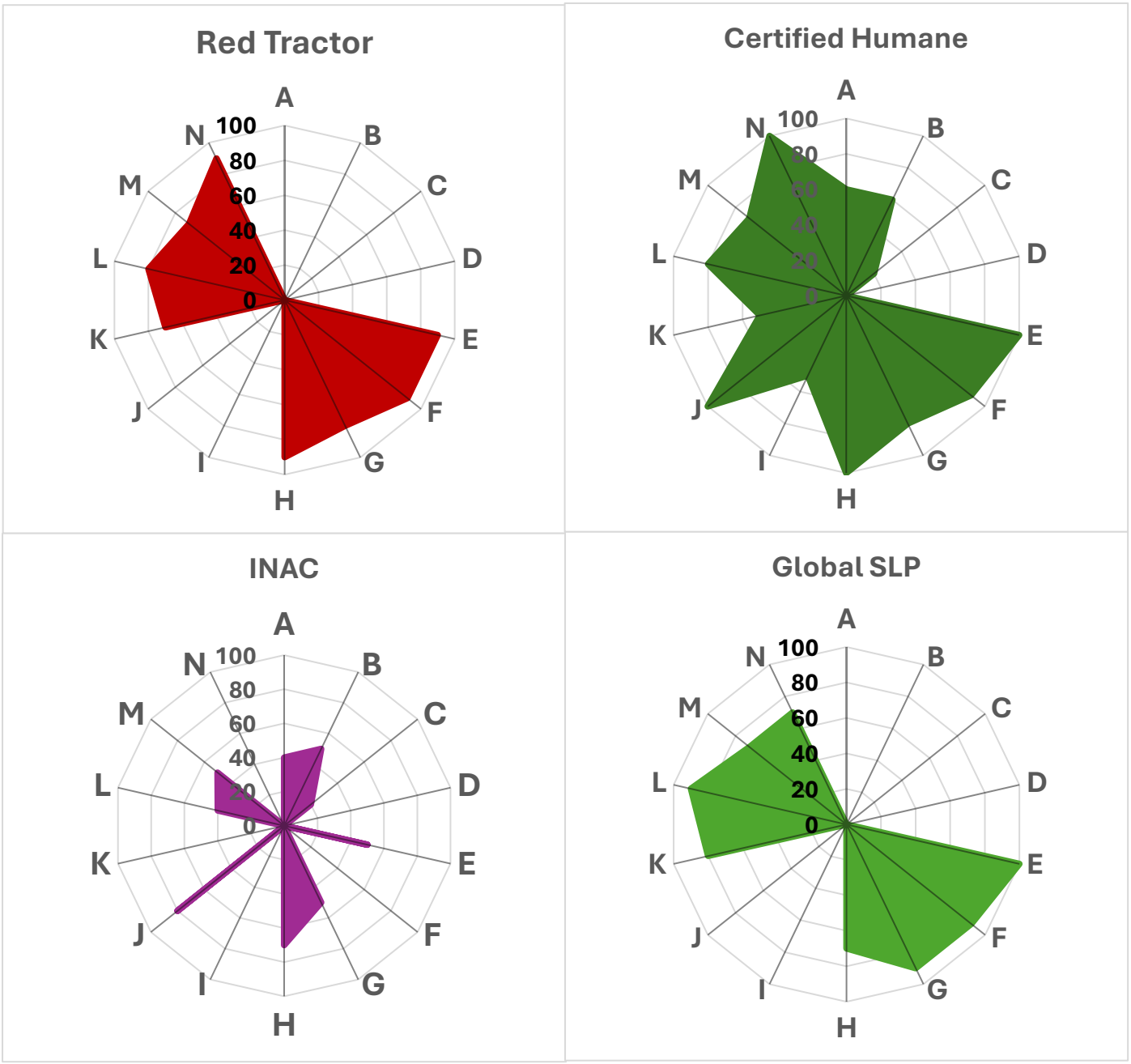


Table 13. Scores for the Animal Health and Welfare category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	66/140	59
Certified Humane	96/140	75
INAC Meat Certification	45/140	32
Global SLP	66/140	59

Summary of findings

CH scores the highest in this section because it contains requirements for body condition score monitoring, ongoing health monitoring, and staff training. RT and GSLP do not require body condition scoring or reporting of

outcome measures, but they do both require Veterinary Health Plans. INAC scores lower due to fewer requirements around staff competency and training in this area.

Red Tractor

RT has a clear focus on the maintenance of health and welfare of animals, however it scores lower than CH in this category. RT requires daily checks for animal health (twice daily when housed), and inspects against the availability of feed and water. RT does not require animal welfare scoring or the reporting of outcome measures but does use records of animal health recording to assess activity within a health plan. RT does require a Veterinary Health Plan that is active and up to date. This plan must identify all key individuals responsible for livestock management and welfare, and be available to all staff. Medicine records must be appropriate, and staff must be adequately skilled and able to demonstrate competency.

Certified Humane

CH scores highest in this section. It requires that body condition scores are monitored, enabling body condition change to be planned. It also requires ongoing health monitoring. The scheme recommends but does not require locomotion scoring. An animal health plan is required to maintain health and welfare, and this must be regularly reviewed and updated. Training of staff is covered in detail with reference to the management of animal welfare.

INAC Meat Certification

INAC requires that animals are managed to ensure high animal welfare, but there is no requirement for welfare scoring. An animal health plan is required, and it must be adapted on a continuous basis. Regular health monitoring of animals is required. The scheme contains a high level of detail about other factors which must be controlled to maintain animal welfare (such as noise, use of sticks, dogs etc.).

Global SLP

GSLP does not require welfare scoring, but does require a Veterinary Health Plan, although no reference is made to regular updating. Regular inspection of stock is required (twice daily inside, daily when outside). A range of factors are required to be controlled to enable high welfare to be maintained. Staff training requirements are not clear.

Legislative requirements

England

In England, under The Protection of Animals (Anaesthetics) Act 1954, as amended, it is an offence to disbud calves or dehorn any cattle without the use of an anaesthetic other than when chemical cauterisation is used. The Welfare of Farmed Animals (England) Regulations 2007 sets the minimum welfare standards for all farm animals. It covers standards for stockmanship, health, feed, water and other substances, accommodation, equipment, management, fire and other emergency precautions, pregnancy, rearing and breeding. England also provides animal welfare Codes of Practice which guide farmers on the most appropriate practice to deliver good animal welfare.

Brazil

Brazilian law establishes general procedures for animal health and welfare in ‘Good Practice Guidelines for the Welfare of Animal Production and Economic Interest’ relating to farm animal rearing systems and transportation. Article 4 of Instruction No. 56 provides for the production of ‘Manuals of Good Practice’ which contains recommendations for specific procedures for each animal species.

Uruguay

The general anti-cruelty provisions of Article 12(A) of Law 18471 apply to animals used for farming. The article prohibits mistreating or injuring animals, meaning that actions that cause excessive harm, stress or injury can be prosecuted. Law 3606 on Animal Health Policing constitutes the basic framework of all regulations related

to animal health and public health. Its objective is to ensure the protection of livestock production with hygiene and biosecurity measures that prevent the introduction of exotic diseases.

Argentina

In Argentina, Law 14346 prohibits animal cruelty and certain forms of animal abuse for all animals, including those used in farming. A legislative framework on farm animal health is provided in Law 27233. Law 3959 covers Animal Health Policing which is focused on protecting livestock against contagious exotic diseases.

Animal Medicines

The Animal Medicines category was created to assess the ability of a scheme to control the use of medicines, and to ensure that they are used effectively and cannot enter the food chain.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Animal Medicines category:

A. Is medicine usage and administration appropriate?
B. Are movement documents required which show what animals have been treated and their withdrawal periods?
C. Are withdrawal periods appropriate and adhered to?
D. Are medicine storage, handling, use and disposal of a good standard?
E. Is responsible antibiotic use required and assured?
F. Are critically important antibiotics prohibited or permitted?
G. Is a central monitoring system required to permit the use of antibiotics?
H. Is sensitivity testing required prior to use?
I. Is off-label (cascade) use of veterinary medicine permitted?
J. Is a broken needle policy and records required?
K. Is the person administering medicines competent?
    a. How is this assured?
L. Are detailed medical records required (including purchase records and broken needle records)?

Figure 10. Percentage weighted scores for each question area for the Animal Medicines category

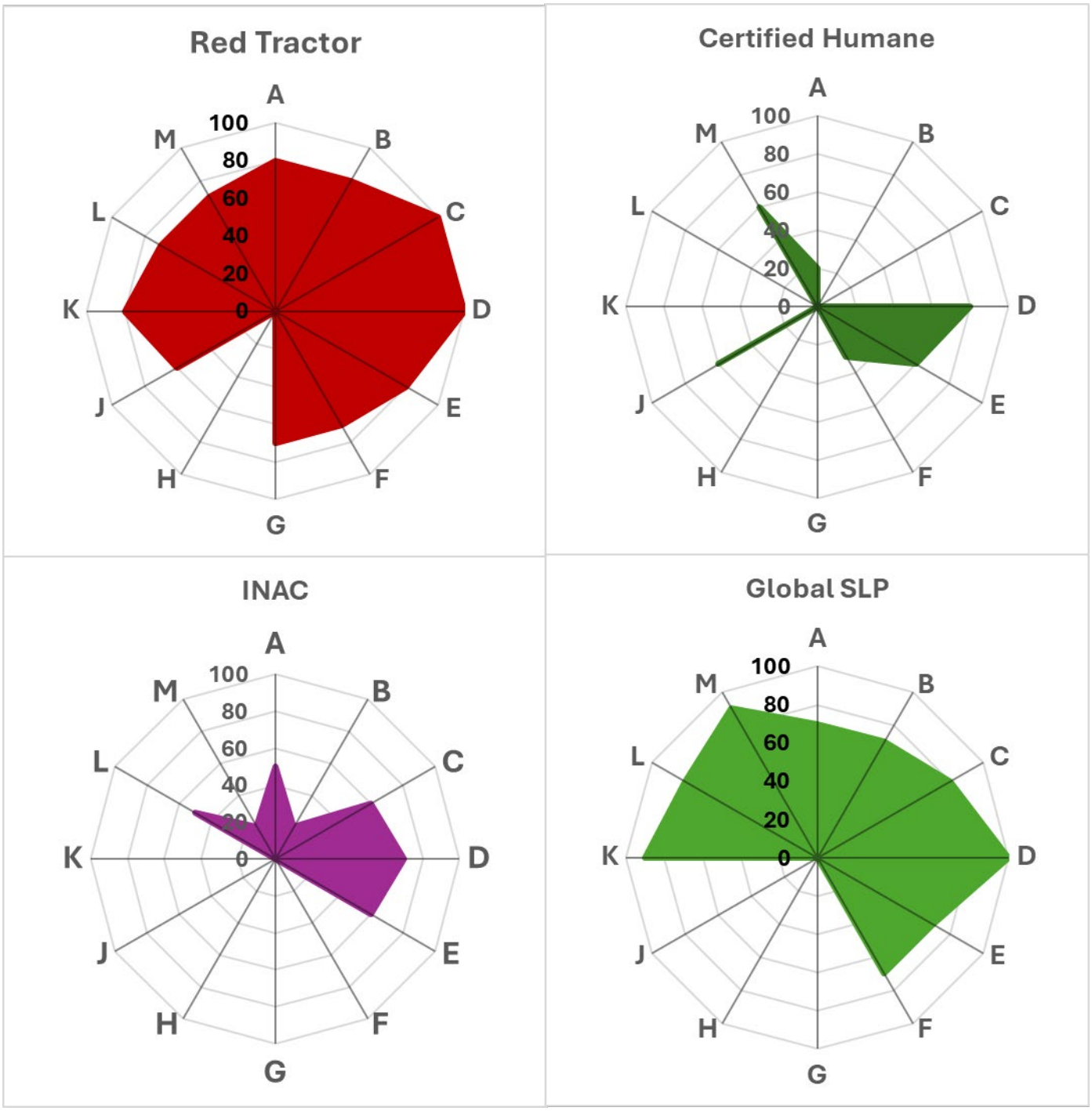


Table 14. Scores for the Animal Medicines category

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	86/120	77
Certified Humane	31/120	26
INAC Meat Certification	33/120	30
Global SLP	72/120	66

Summary of findings

RT scores highest in this category. It contains requirements around training, detailed recording, and appropriate management and administration procedures. GSLP scores slightly lower than RT, but still contains

strong controls around the storage, recording and use of medicines. INAC and CH contain little guidance around the use of medicines, failing to cover methods of application or withdrawal periods.

Individual scheme findings

Red Tractor

RT achieves the highest score in the animal medicines section and requires relevant experience or training for those who are administering the medicine, and that withdrawal periods are carefully adhered to. RT requires a good level of detailed management and recording, and requires appropriate training or experience for staff that are administering medicines.

Certified Humane

Medicine usage and administration is not clearly guided under CH. The scheme does not discuss withdrawal periods, although it does require that medicine is stored safely under the control of a designated individual. The scheme permits the use of antibiotics for therapeutic treatment, but does not permit medicated feed. Central monitoring of antibiotic use is not required. The scheme contains no guidelines on the use of critically important antibiotics. Off-label use of medicines is permitted, but only under veterinary direction. The scheme requires the recording of medicine usage. There are no requirements for movement documents to record and report medicine usage.

INAC Meat Certification

INAC contains very little guidance around the use of medicines. Administration of medicines is not discussed, and neither are withdrawal periods. Acceptable medicine storage is required. Antibiotic use is permitted for therapeutic use, but cannot be used in feed. Critically important antibiotics are not discussed, and central monitoring of antibiotic use is not required. Competency of those administering medicines is not discussed, and there is no requirement for detailed medical records. There are no requirements for movement documents to record and report medicine usage.

Global SLP

GSLP contains good guidance around the use of medicines. Administration of medicines, and competency of those administering medicines are well covered within the scheme, and there are detailed requirements around the provision of movement documents containing details of any medical treatment. Withdrawal periods must be adhered to. The scheme contains a high level of detail around the storage, handling and use of medicines. The scheme rules out the use of critically important antibiotics. No central recording of use of antibiotics is required.

Legislative requirements

Animal medicine usage is controlled in all regions by the country (or state) regulations. The rules around the use of medicines which are permitted and what they may be used for are almost all legislative, and the assurance schemes simply reflect this. The use of medicines by those who are not professionally trained is permitted in each jurisdiction.

England

In England, keeping accurate records of medicine use on farms is a legal requirement. The owner or keeper of food-producing animals must maintain records related to the purchase of all veterinary medicine products. Records should be kept for a minimum of five years. The following information needs to be recorded: Name of the product and its batch number, date of acquisition, quantity acquired, name and address of the supplier.

When administering medicine, farmers must record: Name of the product, date of administration, quantity administered, withdrawal period, identity of the treated animal(s). If a vet administers the medicine, they must also record the batch number and their name in the farm's records or provide this information in writing for the

farmer to enter. If a veterinary medicine is disposed off (other than by treating an animal), the following must be recorded: Date of disposal, quantity of product involved, details of how and where it was disposed of.

There are four levels of treatment of antibiotics for veterinary use in England[4];

1. Category A: Antibiotics in this category are not authorised as veterinary medicines and should not be used in food-producing animals. They may be given to companion animals under exceptional circumstances.
2. Category B: antibiotics in this category are critically important in human medicine and use in animals should be restricted to mitigate the risk to public health, and their use should be considered only when there are no antibiotics in Categories C or D that could be clinically effective. Their use should be based on antimicrobial susceptibility testing, wherever possible.
3. Category C: for antibiotics in this category there are alternatives in human medicine. For some veterinary indications, there are no alternatives belonging to Category D. Category C antibiotics should be considered only when there are no antibiotics in Category D that could be clinically effective.
4. Category D antibiotics should be used as first line treatments, whenever possible. Again, they should be used prudently, and only when medically needed.

Within England the Veterinary Medicine regulations have recently been updated. These regulations set out the controls on the marketing, manufacture, distribution, possession and administration of veterinary medicines. The main changes for farm animal veterinary surgeons include the fact that anyone selling medicines online will need to be registered to ensure they are compliant with medicine laws, including the responsibility for safe storage of medicines until they arrive with the customer. From November 2024 vets, pharmacists and SQPs must record the reason for prescribing a POM-V/POM-VPS product. The prescriber now has a duty to give the withdrawal period information to the owner in a particular way, and there are new calculations to work out what those safe limits are. Subject to the professional obligations of a veterinary surgeon to ensure the health and welfare of animals under their care, antibiotics may not be used routinely or prophylactically to compensate for poor hygiene, inadequate husbandry, or poor farm management practices. It is now a specific criminal offence to promote breach of the cascade – a series of steps that a vet legally has to follow if they want to use medicines which are not licensed for that particular purpose in that particular species of animal.

Brazil

In Brazil, only vets are allowed to prescribe antibiotics to animals. Brazil clearly defines[5] all the conditions for prescription of medicines (clinical examination, experience and diagnostic) in legislation and uses a priority scale for use based on the OIE and WHO list of important antibiotics for human and veterinary medicine. However, there is no stipulation for producers to keep records of the veterinary products used in animal production.

Brazil has a marketing authorisation system to register veterinary medical products containing antibiotics. Retail distributors and animal feed manufacturers must be authorised by a government authority.

Uruguay

Within Uruguayan law, Act No. 98/0011 prohibits the use of antibiotics in sheep and cattle feed. National guidelines indicate that prescription should be based on clinical examination, experience and diagnosis, but there is no priority scale for use based on the World Health Organisation list and it is only recommended that,

[4] NOAH Technical Briefing: Categorisation of Antibiotics and Updated Guidance to Support Responsible use and UK Animal Health and Welfare

[5] Moreno A. O Uso Prudente e Eficaz de Antibióticos na Suinocultura. 1st ed. Associação Brasileira dos Criadores de Suínos; Brasília, Brasil: 2022. Recomendações para o uso racional de antimicrobianos; p. 83

whenever possible antibiotics should be administered under veterinary supervision, and where not a vet should give clear instructions including dosage, route of administration and withdrawal period.

Uruguay has a marketing authorisation system to register veterinary medical products containing antibiotics. Retail distributors and animal feed manufacturers must be authorised by a government authority.

Argentina

Argentinian law does not appear to contain any restrictions or conditions around the administration of antibiotics in livestock. It does have a marketing authorisation system to register veterinary medical products containing antibiotics. Retail distributors and animal feed manufacturers must be authorised by a government authority.

Biosecurity and Disease Control

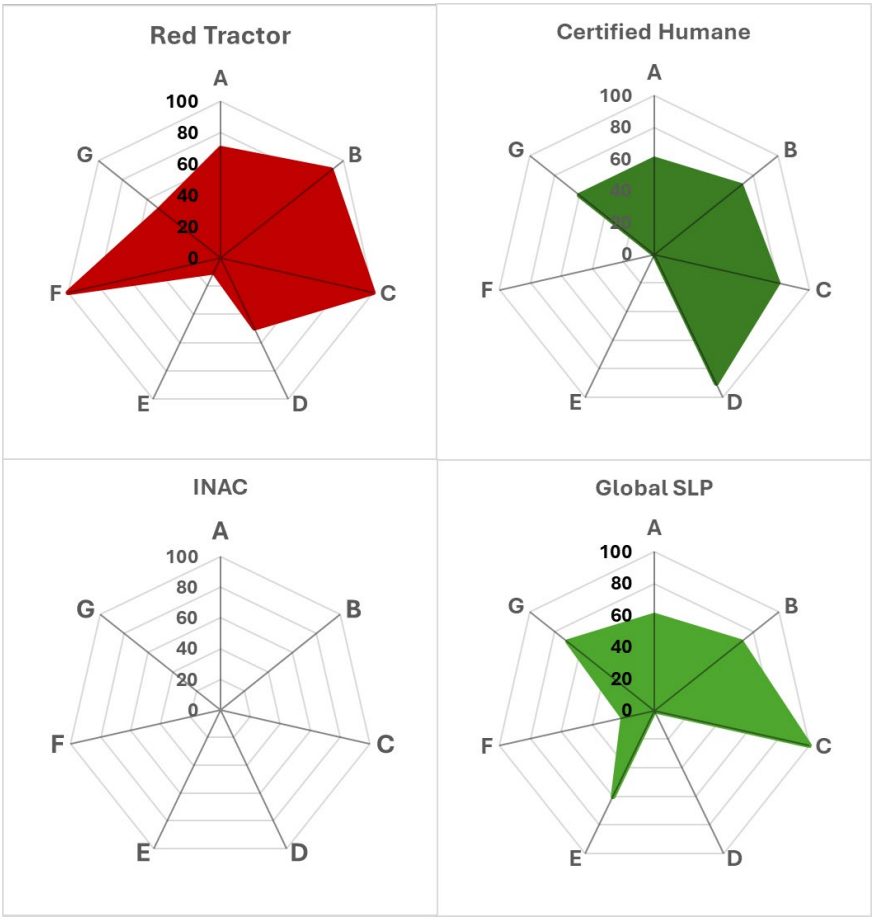
There is a genuine importance to the prevention of the spread of disease. This has traditionally been an area where beef and sheep farms have underperformed[6] in comparison to other sectors such as pig and poultry. Beef and sheep farms have fewer restrictions about who can enter and have contact with animals, often take animals to and from market, and often do not isolate newly purchased animals. Farm assurance can have a key role in improving biosecurity practice. Strong biosecurity requirements in farm assurance schemes can encourage better animal health and welfare, as well as improved animal performance through drawing the attention of the farmer to its importance.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Biosecurity and Disease Control category:

A. Does the scheme require the creation of a Biosecurity Plan?
B. Does the scheme check adherence to the Biosecurity Plan?
C. Does the scheme require updating of the Biosecurity Plan?
D. Does the scheme require a known health status for animals brought onto the farm?
E. Is there a record of people, vehicles and machinery entering the farm?
F. Does the scheme require appropriate cleaning material to be available on-farm?
G. Does the scheme require appropriate activity to deliver good biosecurity?

Figure 11. Percentage weighted scores for each question area for the Biosecurity and Disease Control category



[6] Cennydd Owen Jones et al, *'Biosecurity in UK Livestock Farms: An Insight Into current Practice'* Jan '23

Table 15. Scores for the Biosecurity and Disease Control category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	47/70	67
Certified Humane	36/70	62
INAC Meat Certification	0/70	0
Global SLP	38/70	59

Summary of findings

RT scores highest in this category, but CH and GSLP only score slightly lower. Each of these three schemes requires the creation of Biosecurity Plans, and its ongoing implementation. No schemes require a known health status for animals which are brought onto the farm. INAC does not cover biosecurity.

Individual scheme findings

Red Tractor

RT requires the creation of a detailed Biosecurity Plan, and assesses adherence to this plan as well as how up to date it is. The scheme requires appropriate activity to deliver good biosecurity. The scheme does not require a known health status for animals brought onto the farm, and does not require a visitor book to record details of those who visit the farm. RT does not specify how key biosecurity risks should be mitigated, and although it requires approved cleaning chemicals to be present, it does not require their use. It also does not require that the health status of incoming animals is known. RT also does not assess the appropriateness of the Biosecurity Plan – it will simply inspect against the plan.

Certified Humane

CH does not require a stand alone Biosecurity Plan, but requires that biosecurity is contained within an overall Animal Health Plan. The plan must be updated on a regular basis. The scheme does not require a known health status for animals brought onto the farm, but has clear requirements around their quarantining and treatment. A visitor record is not required. The scheme does not require regular cleaning, although it does require that pens and surfaces can be easily cleaned.

INAC Meat Certification

The INAC scheme does not cover biosecurity.

Global SLP

Within GSLP, Biosecurity is contained within the Veterinary Health Plan, and this must be updated when farm practice changes. A known health status is not required for purchased stock. A record of visitors is required, and the scheme does require good hygiene practice.

Legislative requirements

There are very limited requirements in legislation in any of the countries with regard to biosecurity and the prevention of transmission of disease. It could be argued in all countries that the legislation could be used to prosecute a manager whose gross negligence permitted the transfer of disease which caused a very substantial welfare problem. However, this is extremely rare, and the main aim of good biosecurity is the prevention of disease, loss of thrift and general underperformance as this is much more common at farm level.

England

The Codes of Practice within England do contain references to the importance of good biosecurity (disease prevention measures) and recommend a focus on it within the Veterinary Health Plan.

Brazil

There is no public evidence that Brazil has in place legislation and/or regulations related to farm biosecurity.

Uruguay

There is no public evidence that Uruguay has legislation and/or regulations in place which are related to farm biosecurity.

Argentina

There is no public evidence that Argentina has legislation and/or regulations in place which are related to farm biosecurity.

Livestock Transport

The Livestock Transport category has been included because it is a critical control point for the welfare of meat animals. Poor or difficult transport conditions can severely compromise the health and welfare of animals over a short period of time and can also reduce the quality of the meat which comes from the animals. As such this is an animal welfare, animal health and food quality indicator and is therefore an important consideration within a farm assurance scheme.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Livestock Transport category:

A. Is there a maximum permitted journey time?
B. Is there a maximum permitted journey distance?
C. What assurance requirements are there for vehicles/companies which are permitted to transport animals?
D. Is there a requirement for assured transport throughout the lifetime of the animal?
E. What are the conditions in which animals can be transported?
F. Is water/feed available during transport?
G. Is there a maximum/minimum stocking density during transport depending on species?
H. Are there speed recommendations during transport?
I. Are drivers aware of good animal welfare principles and are they effectively trained or certified?
J. Is certification and documentation in place?

Figure 12. Percentage weighted scores for each question area for the Livestock Transport category

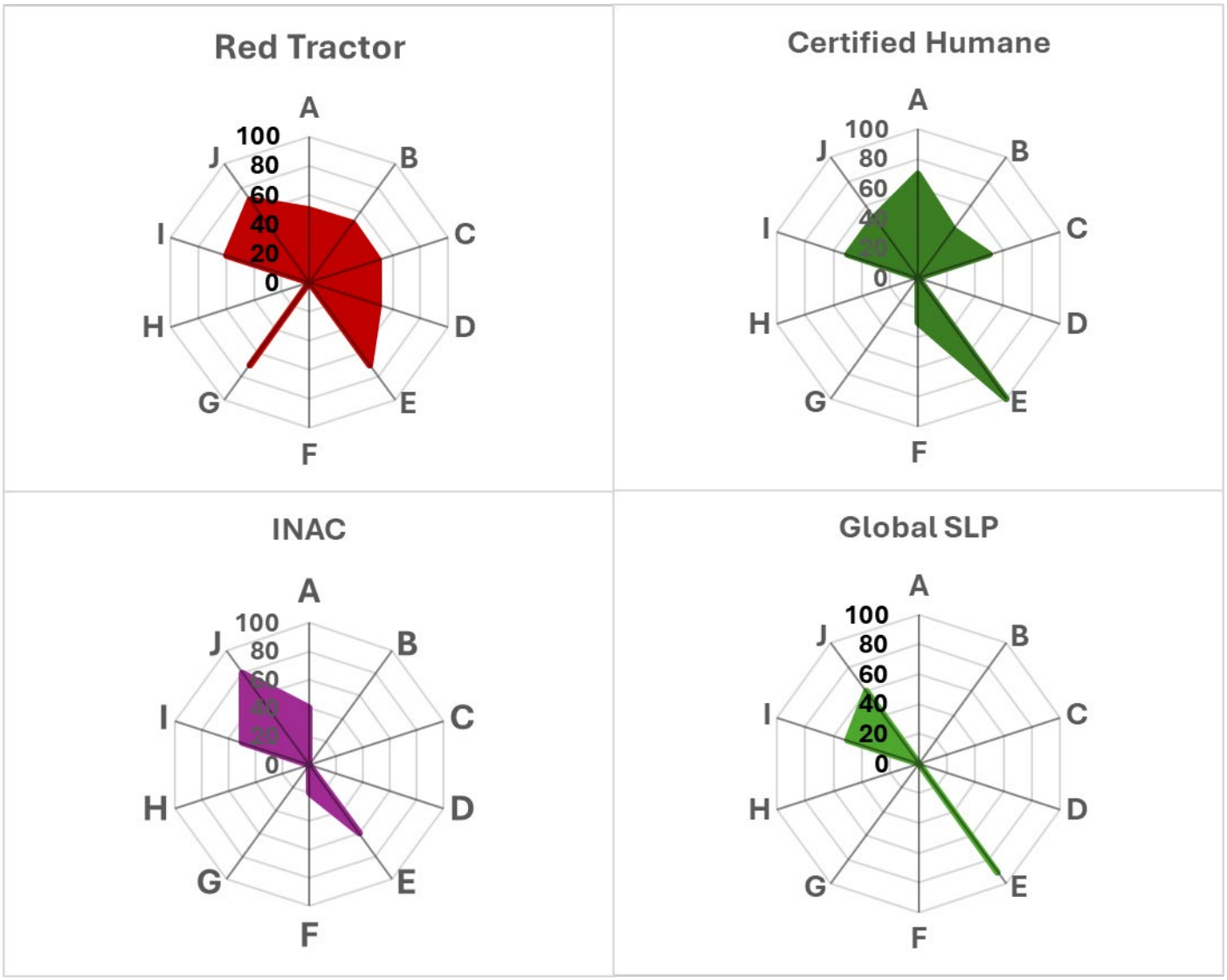


Table 16. Scores for the Livestock Transport category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	47/100	52
Certified Humane	39/100	28
INAC Meat Certification	25/100	28
Global SLP	20/100	16

Summary of findings

RT scores higher than any of the other schemes regarding livestock transport. It is important to note that a weighting of 150 has been applied to Brazil and Argentina and consequently the CH and GSLP schemes. RT requires assured transport (if a haulier is used) and requires driver certification. The scheme gives guidance around transport conditions. The other schemes achieve lower scores in this section, missing large sections of detail around transport conditions, distances or times over which animals can be transported.

Individual scheme findings

Red Tractor

RT places no limits on the distance animals can move, nor does it set maximum time limits for journeys, except for young lambs and calves which cannot be transported for more than 60km without their dam. Within England and the UK, distance and journey times are relatively limited for geographical reasons.

RT requires that assured transport is used, and this provides a degree of confidence around the conditions in which livestock can be transported. A farmer's own transport can be used for journeys of up to 65km and these vehicles are inspected during farm audit. Good driver training and certification is required and assured transport must be used. Some guidance is given around stocking rates, but there do not appear to be strong guidelines around the mixing of different species or different classes of livestock.

Certified Humane

CH does not permit animals to be transported for more than 8 hours (unless an abattoir is not within an eight hour travel time). The scheme requires that transport is planned between the transporter, producer and abattoir. No maximum journey distance is specified. The scheme does not require assured transport, but personnel involved in transport must be thoroughly trained and competent to carry out the tasks required of them, and that handling must be appropriate. The scheme requires that transport systems are correctly designed. Cattle must have access to water up to the point of transport, and access to food up to at least five hours prior to loading onto the truck. There are no maximum or minimum stocking densities, and no speed recommendations. Appropriate documentation is required.

INAC Meat Certification

INAC recommends a transport time of no more than eight hours but does not require it. The scheme does not specify a maximum permitted travel distance. There are no assurance requirements for cattle transport. Appropriate loading and unloading facilities are required. The scheme requires that nutrition and hydration of animals is considered prior to transportation (but does not provide specific guidance on this), and that the loading of animals is careful and controlled. The scheme also requires that the carrier must be trained in good handling practices. The scheme does not discuss maximum stocking densities, or provide speed recommendations, but has strong requirements around documentation during transport.

Global SLP

GSLP specifies no maximum journey times or distance, nor does it discuss assurance requirements for transport containers. The scheme requires that loading and unloading facilities are appropriate. This is the only scheme which discusses the management of soiling of livestock. Stocking densities or speed recommendations are not discussed. The scheme does not specify requirements around training or awareness of animal welfare principles. Documentation requirements at transport are relatively minimal.

Legislative requirements

England

In England, the transport of animals legislation in the UK is governed by Council Regulation (EC) No 1/2005 on the protection of animals during transport and related operations. This regulation requires that the means of transport and the containers used for transporting animals on long journeys (those in excess of eight hours) must be inspected and approved by the competent authority of a Member State or a body designated by a Member State. This is EU legislation that has currently been accepted for the UK and has not changed (although a consultation is ongoing). An analysis of the legislation shows that the RT standard makes requirements that are broadly the same as or just above UK law, including guidance on distances, times, driver licensing etc.

The Welfare of Animals (Transport) Order 1997 (S.I. 1997 No. 1480) Article 6, states that: *(3) Animals shall not be considered fit for transport if (inter alia) they are newborn animals in which the navel has not completely*

healed. The Welfare of Animals at Markets Order 1990 (S.I. 1990 No. 2627), Article 14, states that: "no person shall bring to a market a calf which is less than seven days old or which has an unhealed navel", "no person shall bring to a market a calf which has been brought to a market on more than one occasion in the previous 28 days".

A new ban on exporting live animals came into law in 2024 as the Animal Welfare (Livestock Exports) Act received Royal Assent. The legislation bans the export of live animals including cattle, sheep, and pigs for slaughter and fattening from Great Britain.

Brazil

In Brazil, Decree 5741 states that documentation must be present for the movement of all bovines, buffaloes, sheep and goats. The documentation must outline the destination, health of the animal and the purpose of transportation. Where the fitness of an animal is unclear, a vet must assess the animal and deem it fit for travel before transport can begin. Animals must be rested, fed and watered at acceptable intervals, although the frequency and duration of these intervals is not specified in legislation.

Uruguay

In Uruguay, Article 4 of law 18471 covers the transport and slaughter of farm animals, and requires that these will be carried out *'in accordance with the specific legal and regulatory norms on the matter'*. It requires that appropriate procedures should be used and that they "*do not cause unnecessary suffering'*.

Decree 369 contains some additional regulations, detailing general requirement for animal transportation. Notably, animal transport will be only authorised in vehicles constructed in such a way that they can be easily loaded and unloaded, with ventilation suitable for the trip. These containers must be easy to clean and disinfect.

Argentina

In Argentina, all in-country movements are regulated by the national food safety and quality service (SENASA). This organisation covers the registration and authorisation of any vehicle used to transport animals. It requires that drivers must be trained in animal welfare and have appropriate expertise to minimise stress and injury to the livestock. Travel time must not exceed 24 hours and all transport must be suitable for the species. Resolution 581/2014 states that all transportation vehicles and trailers designed to carry animals must be registered in the National Sanitary Register of Media Transport of Live Animals. All vehicles must be designed to enable easy loading and unloading, and adequate climatic conditions must be ensured.

Vermin Control

The control of vermin is included in the report because it is of particular importance where animals are housed. However, regardless of the housing or non-housing of animals, all schemes should include some guidelines around the control of vermin and pests that can potentially transmit disease.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in Vermin Control category;

A. Is a plan to control vermin required by the assurance scheme?
B. Are actions other than baiting required to prevent vermin infestation?
C. Is a site survey required on at least an annual basis?
D. Is an environmental risk assessment required prior to bait laying?
E. Are dead/trapped vermin disposed of regularly?
F. Are there requirements in place to ensure that non-target animals do not have access to baits?
G. Is permanent baiting prohibited?
H. Are product label directions followed during use?
I. Is a COSHH assessment required?

Figure 13. Percentage weighted scores for each question area in the Vermin Control category

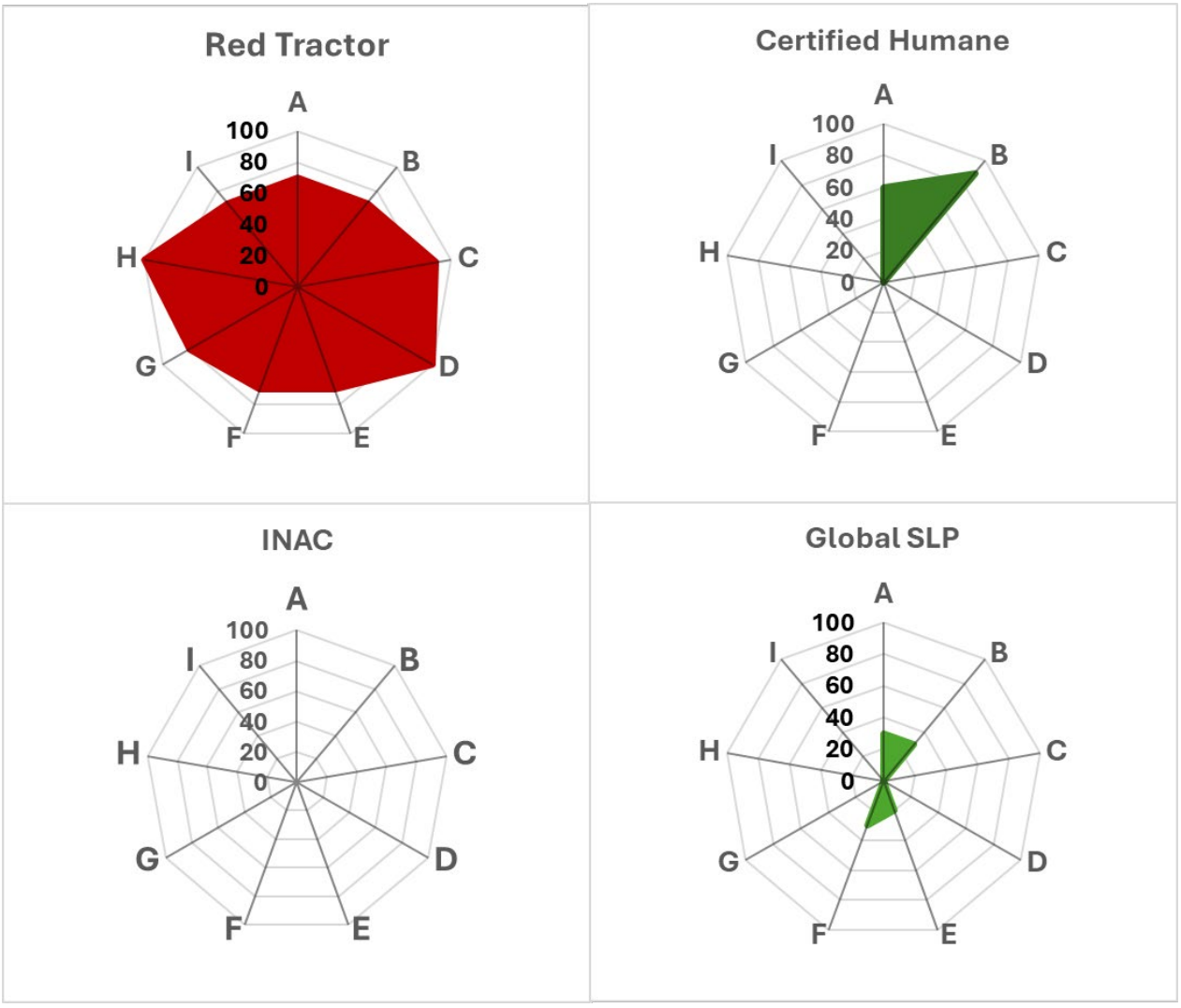


Table 17. Scores for the Vermin Control category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	72/90	81
Certified Humane	15/90	23
INAC Meat Certification	0/90	0
Global SLP	11/90	17

Summary of findings

RT scores considerably higher in this category than any of the other schemes. It contains detailed requirements around planning, baiting, disposal of dead vermin, the removal of areas of habitat round buildings, and delivery of site surveys. CH and GSLP are much less specific than RT, and INAC does not cover vermin control at all.

Individual scheme findings

Red Tractor

The RT standard scores well across each of the assessment questions. Specific detailed requirements are included in the overall vermin control plan, including justification for baiting, potential causes of vermin infestation. Preventative measures to avoid the need for baiting, and increased focus on measures to prevent poisoning of non-target species would be helpful. Site surveys are only required every 12 months, which makes it more difficult to ensure that baiting occurs when needed. Bait is required to be removed when not needed for vermin control. RT requires a COSHH assessment prior to bait being used on the farm.

Certified Humane

CH does discuss the control of pests, parasites and predators. The scheme requires practical measures to be taken to exclude and discourage pests, including the removal of shelter/cover in the areas surrounding livestock buildings, the removal or protection of obvious food sources, and the maintenance or proofing of buildings against pests and predators. A site survey and an environmental risk assessment is not required prior to bait laying. The scheme does not discuss prevention of access of non-target animals to baits. Permanent baiting is not discussed, and the scheme does not discuss the need for any COSSH equivalent certification.

INAC

The INAC scheme does not discuss vermin control, and consequently no control measures are specified.

Global SLP

The GSLP scheme requires a site plan, as well as record keeping showing pest control inspections and follow up plans. A contact number is required for pest control. The scheme requires that all entry points to buildings containing livestock or feed are protected to minimise the risk of contamination from rodents or birds. An annual site survey is not required, nor is an environmental risk assessment. There is a requirement for dead rodents to be disposed of according to the instructions in the label, and some actions are required to ensure that non-target animals do not have access to baits. Permanent baiting is not prohibited, there is no requirement to follow product label directions during use. The scheme does not require any COSSH equivalent assessment prior to use of baits.

Legislative requirements

England

The management of vermin on the farm is not subject to legislative control in England but the use of chemicals and poisons can fall under specific legislation which controls the following:

1) The type of poison which can be used

2) The chemical or poison's application and use
3) The controls around the chemical or poison

None of the requirements around vermin control (other than safe, appropriate use) are legislative within this category.

Brazil

The management of vermin on the farm is not subject to legislative control in Brazil although the use of chemicals and poisons can fall under specific legislation.

Uruguay

The management of vermin on the farm is not subject to legislative control in Uruguay although the use of chemicals and poisons can fall under specific legislation.

Argentina

The management of vermin on the farm is not subject to legislative control in Argentina, although the use of chemicals and poisons can fall under specific legislation.

Fallen Stock

Fallen Stock is included as a category because there is a risk to the environment, the health of other animals and potential spread of disease from stock which are not disposed of correctly. This is a generally a greater risk where farms are more intensive.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Fallen Stock category;

A. Does the scheme require regular checks for fallen stock?
B. Are carcass storage methods acceptable?
C. Are carcass disposal methods acceptable?
D. Are on-farm disposal facilities acceptable?

Figure 14. Percentage Weighted scores for each question area for the Fallen Stock category

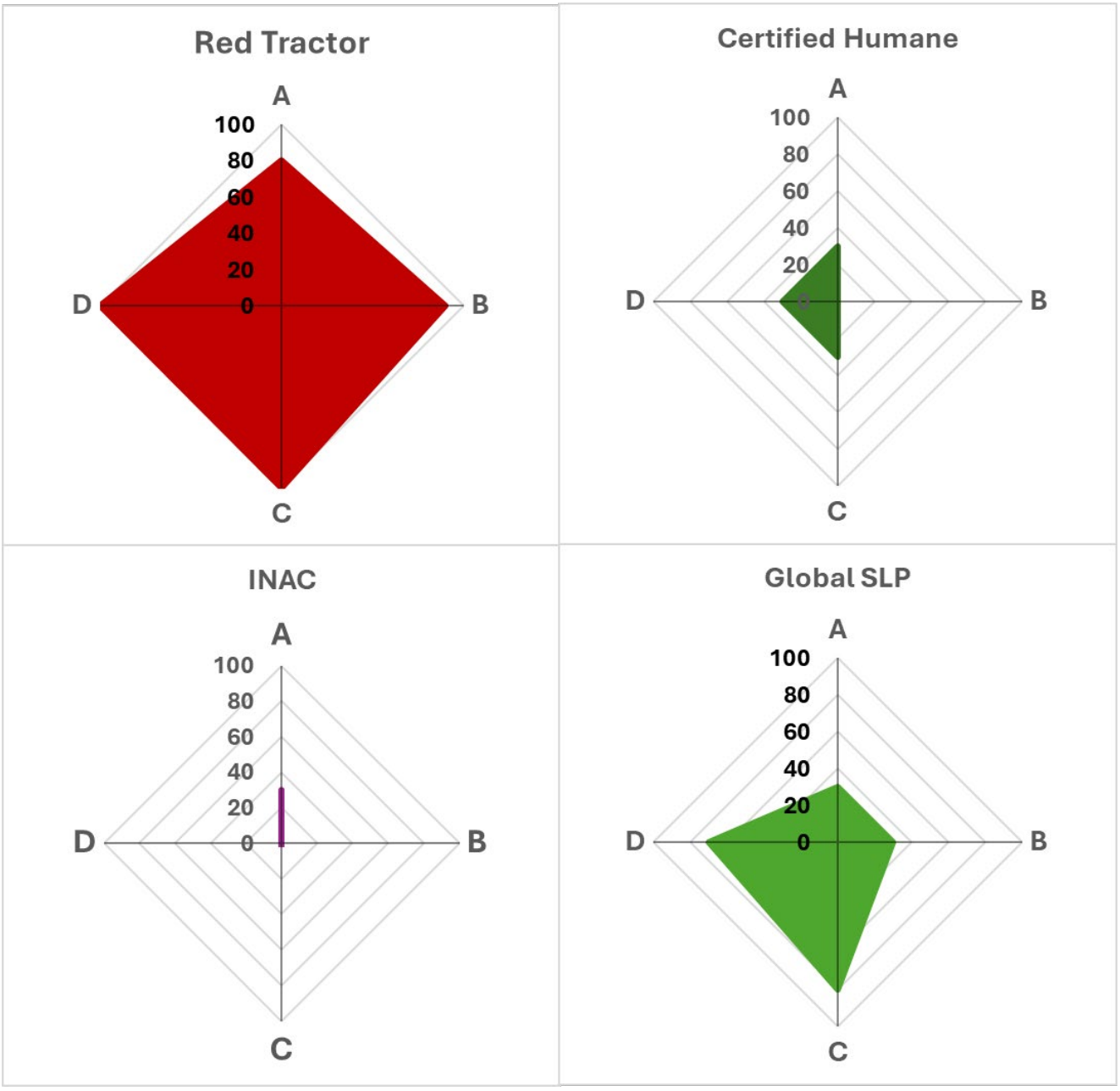


Table 18. Scores for the Fallen Stock category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	37/40	94
Certified Humane	9/40	26
INAC Meat Certification	3/40	7
Global SLP	21/40	68

Summary of findings

RT scores highly within this section, and contains strong requirements around all components of the fallen stock section. GSLP also contains good controls, but does not require specific checks for fallen stock and does not discuss on farm disposal facilities. CH covers inspection of stock and requires that local regulations are met with regard to disposal of fallen stock, but does not specify what is and what is not appropriate. INAC does not discuss fallen stock.

Red Tractor

RT scores highest in this section. It contains a good level of detail around appropriate management of fallen stock. The scheme is highly specific in its requirements around inspection for fallen stock, collection, storage and disposal. Regular checks for fallen stock are required, carcass disposal must take place in a timely fashion, and carcasses awaiting collection must be stored appropriately. RT covers on-farm incineration.

Certified Humane

CH requires that stock is inspected as frequently as necessary to ensure wellbeing of the herd, but does not specify fallen stock inspection. It does not discuss carcass storage, but requires that carcass disposal meets local requirements and regulations. The scheme does not discuss on-farm facilities for disposal.

INAC Meat Certification

Although not specifically a requirement to check for fallen stock, the INAC scheme requires regular checking of livestock to ensure their welfare, with specific attention paid to the weaning period, 90 days before calving, at calving and during the mating season.

Global SLP

GSLP requires appropriate inspection to ensure the health of the herd or flock, but does not specifically require inspections for fallen stock. The scheme requires a locked room or container for storing carcasses and requires that local legal requirements are met for the carcass disposal. The scheme has exemptions for very extensive operations. On-farm facilities for disposal are not discussed.

Legislative requirements

England

In England, the Animal By-Products (Enforcement) (England) Regulations 2013 controls the disposal of carcases. Within the RT scheme the standards are broadly equivalent to the English legislative standard, although the scheme expands slightly on the regulations, covering regular inspection for stock, and storage whilst awaiting disposal. The English standards require that fallen livestock must be disposed of appropriately and cannot be buried or burnt in the open because of the risk of disease spread through groundwater or air pollution.

Brazil

In Brazil, Law No.16.750 outlines procedures for removing and disposal of dead animals from farms and controls the processing of these carcasses into meat and bone meal, fat, animal oil or fertilizers. It authorizes the transport of dead animals within the limits of State territory, through authorization and registration by the competent authority (CIDASC).

Uruguay

Uruguay does not appear to have legislation covering fallen stock.

Argentina

Argentina does not appear to have legislation covering fallen stock.

Environmental Protection

The Environmental Protection category is included because of its importance to the protection and maintenance of the environment in which the farm operates. This section is not about the creation and promotion of additional biodiversity or delivering reduction in GHG output, it is simply focused on the prevention of damage through correct management of risk areas on a farm, such as the storage and use of fertilisers or pesticides.

Questions against which the category was assessed

The following questions were used to assess the performance of each scheme in the Environmental Protection category:

A. Are pesticides stored correctly?
B. Are pesticides applied correctly?
C. Are pesticides disposed of correctly?
D. Are fertilisers stored correctly?
E. Are fertilisers applied correctly?
F. Are slurries and manures stored correctly?
G. Are slurries and manures applied correctly?
H. Are other potential contaminants dealt with appropriately?

Figure 15. Percentage weighted scores for each question area for the Environmental Protection category

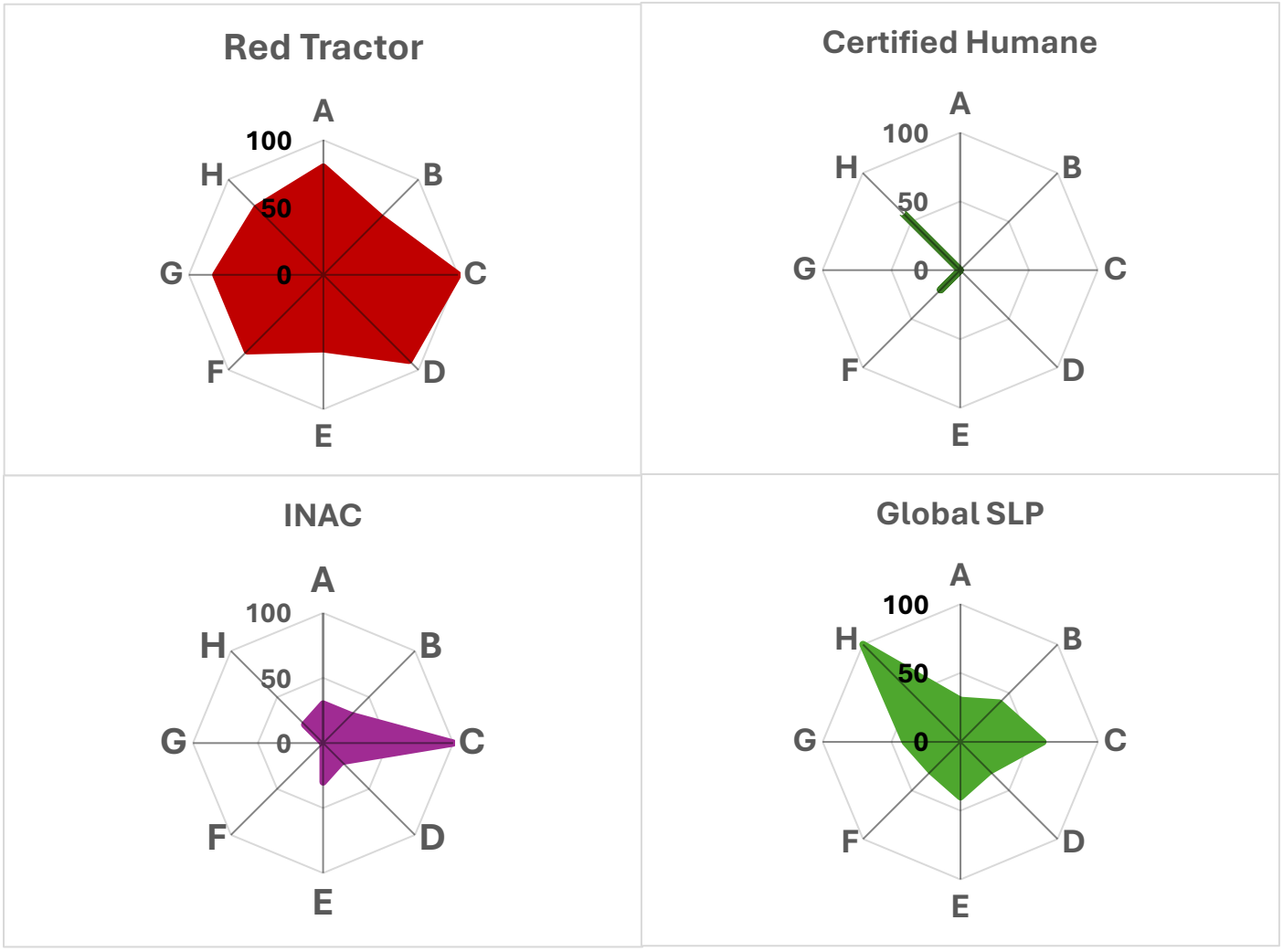


Table 19 Scores for the Environmental Protection category in each scheme

Scheme	Raw Score	Fully Weighted Percentage Score
Red Tractor	61.5/80	77
Certified Humane	8/80	11
INAC Meat Certification	23/80	29
Global SLP	37/80	47

Summary of findings

RT scores highest in this category, containing strong requirements around the appropriate storage, handling and application of pesticides and fertilisers. GSLP contains a requirement for a farm waste management plan and other details around waste minimisation but does not cover chemical storage in enough detail. INAC and CH only cover some of the actions which can prevent pollution or contamination.

Individual scheme findings

Red Tractor

RT contains standards around appropriate storage, handling and application of pesticides and fertilisers but does not recommend methods of optimising application to maximise resource use efficiency and reduce the chances of environmental damage by the overapplication of chemicals. The scheme does not require appropriate testing or diagnosis prior to application. RT covers storage and application of organic manures and requires a Manure Management Plan.

Certified Humane

CH does not discuss the storage, application or use of pesticides or fertilisers. The scheme requires that manure handling systems are considered when designing housing but does not discuss the storage of manures or slurry.

INAC Meat Certification

INAC does not specify storage requirements around pesticides, but does state that agrochemicals and fertilisers must be used according to their instructions, and must be disposed of correctly and safely. Fertiliser must be applied as recommended in the instructions for use. The scheme does not discuss the storage of manures or slurry.

Global SLP

GSLP does not refer to pesticide or fertiliser storage or application (other than to an application schedule). It also requires that a documented farm Waste Management Plan to minimise wastage and pollution. It also includes the requirement to plan for waste disposal. The scheme does not specifically refer to manures or slurries. GSLP contains many detailed requirements around the minimising of contamination from multiple sources.

Legislative requirements

The control and use of pesticides is heavily regulated in each country in this study, and the requirements within the farm assurance schemes are primarily based on the relevant legislation.

England

Within England, pesticide use is controlled by the Health and Safety Executive. Users of pesticides are required to comply with the official controls, and pesticide products must be authorised for use before they can be used, sold, supplied or stored. The requirements set out the competency requirements for sale and use of Plant Protection Products, the use, handling and storage requirements of PPPs (including aerial spraying) and requirements for the inspection of PPP equipment. Everyone who uses a PPP must, amongst other things, take all reasonable precautions to protect human health and the environment, confine the application of the

pesticide to the crops or area to be treated, and ensure that when using pesticides in certain specified areas, for example, those used by the general public, the amount of PPP used and the frequency of use are as low as reasonably practicable. Anyone using a professional PPP must either have a recognised specified certificate (previously known as a 'Certificate of Competence') or be working under the direct supervision, for the purposes of training, of someone who has such a certificate. The majority of the standards within RT are therefore legislative, with other details being taken from the Codes of Practice. The Codes of Practice are much more detailed than RT requirements.

Brazil

In Brazil, the use of biopesticides is regulated by Bill #7,802, and by Decree #4,074, following the same legislation as chemical pesticides. The Bill encompasses the entire production chain of pesticides, from scientific research to approval and registration of the active ingredient by the Brazilian authority, to the production, packaging, storage, labelling, and trade of commercial pesticides and biopesticides. Decree #4,074 regulates and provides specific tools and requirements to comply with Bill #7,802.

Uruguay

In Uruguay, there a number of regulations which govern the use of pesticides in Uruguay including Decree No. 317/007 which covers applications for registration and authorisation of sale of phytosanitary products manufactured or formulated abroad and in the country. Once approved, a sample of the product must be entered into the Dirección General de Servicios Agrícolas (DGSA) along with its respective analytical standard. Registration is valid for 4 years before renewal is required.

Argentina

The National Agrifood Health and Quality Service controls the national regulatory system for phytosanitary matters. This is the body responsible for ensuring that only phytosanitary products, whose risks have been properly assessed, are marketed for expressly permitted uses.

Summary of findings

The findings from this study show that, when directly compared, RT achieves a higher average score than the other schemes in all categories except 'Feed and Water' and 'Animal Health and Welfare', where CH scores highest.

In general, RT is more prescriptive and contains more detail than the other schemes, and therefore scores more highly in any overall comparison, and is likely to influence users to address key issues appropriately. It also scores more highly because it targets areas which are important to the English consumer. The following table shows how each scheme compares in each category using the fully weighted percentage scores.

Table 20. Final weighted percentage scores for all schemes

Category	RT	Certified Humane	INAC Meat Certification	Global SLP
Traceability, Documentation and Assurance	77%	21%	64%	43%
Personnel	72%	39%	9%	65%
Food Safety	77%	41%	52%	64%
Housing and Shelter	75%	67%	27%	64%
Feed and Water	85%	89%	58%	81%
Husbandry Procedures	74%	70%	0%	19%
Youngstock Management	81%	74%	35%	78%
Animal Health and Welfare	59%	75%	32%	59%
Animal Medicines	77%	26%	30%	66%
Biosecurity and Disease Control	67%	62%	0%	59%
Livestock Transport	52%	28%	28%	16%
Vermin Control	81%	23%	0%	17%
Fallen Stock	94%	26%	7%	68%
Environmental Protection	77%	11%	29%	47%

Summary of categories

Traceability, Documentation and Assurance

An effective farm assurance scheme must inspect and record against a clearly defined set of standards and must, to a high degree of confidence, be able to assure that the livestock products which are eventually sold can be traced back to the farm from which they originated. To this end, the basic scheme standards should be robust, and the documentation created by the scheme detailed and specific enough to allow the user to be confident that the scheme delivers against its stated aims.

RT receives higher scores than all the other schemes within the Traceability, Documentation and Assurance Section, although INAC also obtains a relatively high score. That RT scores highest is primarily a function of the more detailed cattle and sheep identification requirements in England (and inspection against this), the detailed record keeping requirements, the regular audit frequency and the fact that the scheme is ISO17065 accredited. None of the other schemes combine all of these features and consequently score lower.

Personnel

The Personnel category has been designed to test the assurance which the schemes provide around the welfare of those who access and work on farms. This concept includes the safety of staff as they work on the

farm, the induction and training that is required, the qualifications which are necessary for a person to work on the unit, the ways in which competency and training needs are assessed, and the continuous professional development that takes place.

RT scores highest in the Personnel category, just ahead of GSLP. Both these schemes cover personnel safety and training, as well as supervision of staff and the ability to demonstrate competency in the tasks which each staff member undertakes. CH does not require staff induction, or a regular assessment of staff performance, and generally is less specific than RT or GSLP. INAC does not cover personnel in any detail.

Food Safety

The Food Safety section was designed to test the effectiveness of each assurance scheme in ensuring that food sourced from livestock produced under their schemes are free from contamination by chemicals, tainted food, or physical contaminants such as broken needles.

Within the Food Safety section, RT scores highest, again followed by GSLP. RT contains an extensive range of requirements which contribute to higher food safety. GSLP also contains most of these requirements but does not specify what can and cannot be fed to ruminants. INAC and CH both contain requirements to enhance food safety, but both miss components which RT and GSLP address.

Housing and Shelter

The Housing and Shelter section was designed to ensure that animals produced under each assurance scheme have accommodation which is appropriate to their needs. This includes housing and the provision of appropriate shelter when animals are outside.

With the exception of INAC, all of the schemes score relatively highly in this section. The higher scoring schemes include requirements around the design and maintenance of housing, and CH requires that animals have access to the outdoors. These schemes cover ventilation, odour build-up and lighting. INAC is a Uruguayan scheme and broadly assumes that animals will be outside at all times, and hence does not contain the same level of detail about housing.

Feed and Water

The Feed and Water category questions were designed to test if the assurance scheme can ensure that cattle and sheep have ready access to appropriate, clean, fresh feed and water, and that the nutritional needs of the animal are fully met.

CH scores highest in this section, but RT and GSLP also score highly. All three schemes require ready access to appropriate food and water and the prevention of feed contamination. INAC contains fewer requirements and does not focus on the nutritional quality of the diet.

Husbandry Procedures

The Husbandry Procedures section was designed to identify what procedures are permitted under each scheme, the ages at which specific practices are permitted and the measures which are taken to protect animal welfare during the procedures.

RT scores highest in this section, containing very specific requirements about the procedures that can take place and the conditions under which they can be implemented. CH also scores highly, covering much of the same detail as RT, although it does permit branding. The other two schemes score well below RT and CH. INAC does not contain any detailed requirements around husbandry procedures, and GSLP does not address many of the common husbandry procedures such as castration, branding or tail docking.

Youngstock Management

Youngstock Management was included due to its critical importance to the long-term health of the animal. The conditions under which animals are farmed do differ between the countries in this study, placing extra demands on housing design.

RT scores highest in this section, containing requirements which are specific to youngstock, requiring conditions that are conducive to good health and welfare, and that housing is appropriately designed and maintained. CH and GSLP also contain good detail around youngstock management. INAC is focused on non-housed systems and contains less detail than the other schemes, although it does require appropriate feeding.

Animal Health and Welfare

The Animal Health and Welfare category was included within the assessment because, outside of food safety, this is the area which is of most importance to consumers[7].

CH scores the highest in this section because it contains requirements for body condition score monitoring, ongoing health monitoring, and staff training. RT and GSLP do not require body condition scoring or reporting of outcome measures, but they do both require Veterinary Health Plans. INAC scores lower due to fewer requirements around staff competency and training.

Animal Medicines

The Animal Medicines category was created to assess the scheme's ability to control the use of medicines, to ensure that they are used effectively and that they cannot enter the food chain.

RT scores highest in this category, it contains requirements around training, detailed recording, and appropriate management and administration procedures. GSLP scores slightly lower than RT, but still contains strong controls around the storage, recording and use of medicines. INAC and CH contain little guidance around the use of medicines, failing to cover methods of application or withdrawal periods.

Biosecurity and Disease Control

There is a genuine importance to preventing spread of disease through optimised biosecurity. This has traditionally been an area where beef and sheep farms have underperformed[8] in comparison to other sectors such as pig and poultry, with many fewer restrictions about who can enter a farm and have contact with animals, the ability to take animals to market and bring them back, and the lack of isolation of newly purchased animals from other animals already on the farm.

RT scores highest in this category, but CH and GSLP only score slightly lower. Each of these three schemes requires the creation of Biosecurity Plans, and its ongoing implementation. No schemes require a known health status for animals which are brough onto the farm. INAC does not cover biosecurity.

Livestock Transport

The category on Livestock Transport was included because it is a critical control point for the welfare of meat animals. Poor or difficult transport conditions can severely compromise the health and welfare of animals over a short period of time and can also reduce the quality of the meat from the animals[9]. As such, this is an animal

[7] AHDB/Blue Marble, 2022
[8] Cennydd Owen Jones et al, *'Biosecurity in UK Livestock Farms: An Insight Into current Practice'* Jan '23
[9] Gary C. Smith et al *'Effect of Transport on Meat Quality and Animal Welfare of Cattle, Pigs, Sheep, Horses, Deer, and Poultry'* December 2004

welfare, animal health and food quality indicator and is therefore an important consideration within a farm assurance scheme.

RT scores higher than any of the other schemes with regard to the transport of livestock. It requires assured transport (if a haulier is used) and requires driver certification. The scheme gives guidance around transport conditions. The other schemes achieve low scores in this section, missing large sections of detail around transport conditions, distances or times over which animals can be transported.

Vermin Control

The control of vermin was included because it is of particular importance in regions where animals are regularly housed.

RT scores considerably higher in this category than any of the other schemes. It contains detailed requirements around planning, baiting, disposal of dead vermin, the removal of areas of habitat round buildings, and delivery of site surveys. CH and GSLP are much less specific than RT, and INAC does not cover vermin control at all.

Fallen Stock

Fallen Stock was included as a category because there is a risk to the environment, the health of other animals and a potential spread of disease from stock which are not disposed of correctly.

RT scores highly within this section, and contains strong requirements around all components of the fallen stock section. GSLP also contains good controls, but does not require specific checks for fallen stock and does not discuss on farm disposal facilities. CH covers inspection of stock and requires that local regulations are met with regard to disposal of fallen stock, but does not specify what is and what is not appropriate. INAC does not discuss fallen stock.

Environmental Protection

The Environmental Protection category was included because of its importance to the protection and maintenance of the environment in which the farm operates. This section is not about the creation and promotion of additional biodiversity or delivering a reduction in GHG output, it is simply focused on the prevention of damage.

RT scores highest in this category, containing strong requirements around the appropriate storage, handling and application of pesticides and fertilisers. GSLP contains a requirement for a farm waste management plan and other details around waste minimisation, but does not cover chemical storage in enough detail. INAC and CH only cover some of the actions which can prevent pollution or contamination.

Summary of legislation

The legislative framework in each country was researched as part of this project. This was not a forensic analysis, but was designed to uncover the broad base legislation against which farms operate and which will inevitably form some of the requirements within assurance schemes. Legislation is useful, but by itself is rarely inspected. Farm assurance schemes provide a degree of assurance around adherence to legislation because this forms part of the inspection process. The basic legislation under each inspection category was summarised as follows:

Traceability, Documentation and Assurance

A significant component of the content of all three schemes is based on legislation in the countries in which they are based. In England practice is based on a number of regulations governing traceability of livestock. These include Cattle identification Regulations 2015 (CIR), EC Hygiene Regulations and the SAGRIMO Order enforcing the Council Regulation (EC) 21/2004. Under these regulations, powers are given to the competent authorities and specify requirements for keepers with respect to notification of holdings, ear tags, registration of cattle, cattle passports, notification of movements or death, and record keeping. The key requirement for traceability is the requirement to tag individual animals.

In Brazil, although there is no current federal traceability programme in Brazil, the state of Pará, which leads the country in the highest levels of rainforest destruction, has announced a mandatory traceability programme called the Pará Cattle Integrity and Development Programme. The Programme aims to individually trace all transported cattle in the state by December 2025, and the entire herd (over 24 million cows) by December 2026.

In Uruguay, traceability for individual animals is required by Law no. 17997 (animal identification and registration system) and producers must use the National Livestock Information System (SNIG), part of Uruguay's Ministry of Livestock, Agriculture and Fisheries. Each individual animal has an ear tag with a unique identification number, enabling the traceability system to keep track of the entire cattle herd.

In Argentina, traceability of beef and beef products is managed by the SIGSA system and animal movement control documentation. Farm details are registered on a separate system, RENSPA, and information from this system is used in conjunction with SIGSA and the documentation that controls the movement of animals (the DTA and DT-e) to deliver traceability of cattle in Argentina.

Personnel

Within each region, there is extensive legislation which governs employment and wellbeing of personnel at work. This legislation is not usually specific to agriculture. The relevant legislation is normally framed as employment law and covers employment contracts and health and safety at work. The regulations only cover appropriate induction and training from a human safety perspective, they do not cover competency for the tasks they are required to deliver, with the exception of the use of potentially dangerous chemicals.

In England the Management of Health and Safety at Work Regulations 1999 require that all employers or the self-employed assess their own risk, and the risk to anyone working for them. The Health and Safety Executive has issued guidance which can be used to facilitate compliance.

In Brazil, legislation contains a regulatory standard (NR-31 Health and Safety in Agriculture, Livestock, Silviculture, Logging and Aquaculture) which sets out the principles which must be observed in the organisation and environment of rural work. This covers personnel protection measures; pesticides, additives, adjuvants, and related products; ergonomics; transportation of workers; electrical installations; hand tools; safety in the work of machines, equipment and implements; dryers, silos, and confined spaces; material handling and storage; work at heights; rural buildings; and sanitary and comfort conditions in rural work.

Uruguay has a comprehensive set of health and safety laws designed to protect workers. The Constitution of the Republic establishes the right of all workers to safe and healthy working conditions. The General Labour Law (Law No. 15.996) outlines overarching principles for workplace safety and hygiene, defining the responsibilities of both employers and workers. Its laws are not specifically geared towards the agricultural sector but rather the entire workforce.

The labour safety and health law in Argentina requires employers to provide a safe and healthy working environment and establishes preventive measures to minimize occupational hazards. This includes requirements for employers to conduct regular risk assessments, to provide safety training, and to comply with national safety standards.

Food Safety

Food safety is of critical importance within each region, and all countries have extensive legislation to govern activities and practice. The primary factors relating to food safety in farming are related to cleanliness of animals at slaughter, avoidance of contamination with medicines or chemicals, and the ability to trace animal movements throughout the food chain should a challenge occur. As a result, specific food safety legislation does not tend to apply to farms in these regions in the same way that the requirements around safe pesticide storage and use do, or the specific rules around reporting of animal movements.

For each country in this study, there is relatively little information on the control of food safety at farm level in any of the food safety legislation, as this is primarily focused on fresh food at the consumption ready stage. The main legislation which is applicable at farm level in each country is that which controls medicine usage and chemical/pesticide usage, and is aimed at avoiding contamination of meat with medicines or other chemicals.

Within England, food safety is governed by the Food Standards Agency, established by the Food Safety Act 1990 which also provides the framework for all food legislation in England, Wales and Scotland. Traceability is governed by Article 18 of Regulation (EC) No. 1978/2002 and establishes the need and requirements for traceability at all stages of production, processing and distribution.

In Brazil, food safety is governed by the National Council for Food and Nutritional Safety (CONSEA) which has a mandate to develop and approve programmes, government actions and policies aimed at assuring the Brazilian population's health and the provision of sustainable food supplies.

In Uruguay, there are a range of controls which manage food safety, but these are also mainly aimed at the processing sector rather than at farm level. Processor inspection is granted in the Uruguayan Decree Nº. 369/983, Decree Nº. 238/00, DIA Resolution Nº. 13.01, and Departmental Procedure for Slaughter Establishments Nº. 13.01. All activities related to meat products are under the authority of the Official Veterinary Inspector and are subject to technical standards outlined in Article 1 of Decree Nº. 369/983.

In Argentina, producers and primary food processors are required to comply with standards and regulations that relate to safety and health conditions. Decree No. 4,238, incorporated by SENASA Resolution No. 233/98, regulates standard operating procedures (POES). It requires that all establishments where animals are slaughtered, and food is developed apply these POES. It also establishes that a qualified employee will be responsible for checking and documenting compliance with the indicated corrective measures to prevent contamination or alteration of the product and to maintain the documentation available for controlling permissible and prohibited actions.

Housing and Shelter

There is limited specific legislation within the Housing and Shelter category for any of the regions in this study, with principles for governance being drawn instead from animal welfare requirements. Within England, housing is covered by legislation but also governed by the broader animal welfare regulation. Farming activity within England is also based on Codes of Good Agricultural Practice.

Within England, the Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) requires that any person who employs or engages a person to attend to animals shall ensure that the person attending to the animals: is acquainted with the provisions of all relevant statutory welfare codes relating to the animals being attended to; has access to a copy of those codes while he or she is attending to the animals; and has received instruction and guidance on those codes. The legislation states that "any person who keeps animals, or who causes or knowingly permits animals to be kept, shall not attend to them unless he or she has access to all relevant statutory welfare codes relating to the animals while he or she is attending to them, and is acquainted with the provisions of those codes". Consequently, animal housing in England must be appropriate and must not cause discomfort or pain. However, the legislation is non-specific and each incident would be treated on a case by case basis.

In Brazil, instruction No. 56 establishes general procedures of Good Practice Guidelines for the Welfare of Animal Production and Economic Interest. This covers farm animal rearing systems and transportation. Article 3 outlines general principles for animal welfare, including management through having a basic knowledge of animal behaviour; providing an appropriate diet; ensuring the use of properly designed production systems for different species to ensure that animals can rest and experience good welfare.

For Uruguay, the general anti-cruelty provisions contained in Article 12(A) of Law 18471 apply to animals used for farming Article 9(A) and mandate that every animal holder should maintain the animal 'in proper physical and sanitary conditions, providing suitable accommodation and food and shelter for each species, as stated by the regulations established by the World Organisation Animal Health (OIE) and the guidelines of the World Society for the Protection of Animals'.

In Argentina, Law 14346 of 1954, prohibits animal cruelty and certain forms of animal abuse, and applies to farm animals. Decree 1248 of 1975 regulates the treatment of animals during the transport. Article 3 contains the requirements for transport modules and require that they are species, breed and weight appropriate. Sufficient space must be provided for each animal.

Feed and Water

Legislation in all regions requires that animals receive enough water and access to a diet in sufficient amounts to meet all nutritional needs of the animal enabling it to remain in good health. Codes of Practice or Guidance are available in most regions to enable the farmer to understand their responsibilities. As for many of the other categories, the feeding of animals falls under general animal welfare legislation, and also the interpretation of the farm manager and those who enforce the legislation.

In England, the legislation governing the provision of food and water is the Animal Welfare Act 2006. It requires that animals must have a suitable diet (which includes access to water). The Codes of Practice for cattle and sheep cover what constitutes a suitable diet in extensive detail. The majority of the RT standard in this case is therefore essentially a less detailed repeat of the Cattle and Sheep Codes of Practice. Feed storage *per se* is not generally covered in the legislation, but falls under the concept of clean, fresh and appropriate food. Hormone Growth Promoters are not permitted.

Within Brazilian law, Instruction No. 56, dated 6th November 2008, establishes general procedures of Good Practice Guidelines for the Welfare of Animal Production and Economic Interest, covering farm animal rearing systems and transportation. Article 3 outlines the general principles for animal welfare including management through basic knowledge of animal behaviour; the provision of an appropriate diet; and the presence of properly designed production systems for different species to ensure good animal welfare as well as the avoidance of unnecessary suffering.

Uruguay's Law 18471 on the Responsible Tenure of Animals, is the country's main animal welfare legislation. This law prohibits cruelty to animals and highlights the importance of responsible ownership and requires that any holder of an animal is responsible for keeping the animal in proper physical and hygienic conditions, providing accommodation, food and shelter that is appropriate to each species.

In Argentina, the National Service of Health and Quality of Agricultural Food (SENASA) is the main body that oversees the laws surrounding animal heath in Argentina. ARTICLE 6 in this covers the key competencies including imports, quality controls, monitoring, registration etc.

Husbandry Procedures

Animal welfare regulations govern the husbandry procedures that are permitted in each country, and the scheme standards are broadly equivalent to legislative standards in the relevant region including requirements around use of anaesthetics or analgesics when performing specific painful husbandry practices.

In England, husbandry procedures are mainly covered under The Welfare of Farmed Animals (England) Regulations 2007, and the Animal Welfare Act 2006 which set the minimum welfare standards for all farm animals. These cover standards for stockmanship; health, feed, water and other substances; accommodation; equipment; management; fire and other emergency precautions; pregnancy, rearing, and breeding.

Under The Protection of Animals (Anaesthetics) Act 1954, as amended, it is an offence to disbud calves or dehorn any cattle without the use of an anaesthetic other than when chemical cauterisation is used. In England, the use of a rubber ring, or other device, to restrict the flow of blood to the scrotum, is only permitted without an anaesthetic if the device is applied during the first week of life. The Protection of Animals (Anaesthetics) Act 1954 makes it an offence to remove a supernumerary teat from a calf which has reached three months of age without the use of an anaesthetic.

The Brazilian Constitution mandates that all practices which represent a risk to the ecological function, cause the extinction of species or subject animals to cruelty is prohibited by law (article 225, para 1, item VII). Article 4 of Instruction No. 56 on Good Practice Guidelines for Farming (Productive) Animals and Animals of Economic Interest provides for the production of Manuals of Good Practice with recommendations for specific procedures for each animal species. The Ministry of Agriculture, Livestock and Food Supply has developed a number of these manuals, including manuals on humane slaughter of cattle, pigs and poultry and on animal transport.

In Uruguay, law 18471 on the Responsible Tenure of Animals defines its objective as to 'protect animals' life and wellbeing' (Article 1) and has a general prohibition against causing death, inflicting pain, or inducing 'excessive stress' to animals, unless it is for reasons specified in law, such as during veterinary treatment. Article 12(A) prohibits the mistreatment or injury of animals, meaning that abusive action causing excessive harm or stress or impairment to bodily integrity can be prosecuted.

Argentinian Law 14346 provides basic animal protection by prohibiting certain types of conduct towards animals. The law refers to two types of offences: harsh treatment or abuse of animals, and cruelty to animals. Article 2 defines which conduct is considered abusive to animals: using instruments which cause them unnecessary pain, over-working animals, using animals which are not in good physical health, or stimulating animals with drugs which do not have a therapeutic application.

Youngstock Management

There is a very limited amount of legislation within any of the countries in the study which is relevant specifically to youngstock. The legislation which controls the welfare of and husbandry procedures on youngstock is contained within the general animal welfare legislation of each country.

In general, legislation in each jurisdiction considers the welfare of all animals, rather than that of youngstock specifically, and therefore provisions within farm assurance schemes help ensure that the proper care and attention is given to this specific category.

Within England, the legislation does not differentiate youngstock from mature stock in most incidences. The Codes of Practice for the management of cattle and sheep do describe the required nutrition for younger stock

and the necessity of them receiving adequate levels of colostrum inside the first few hours of birth, as well as appropriate ongoing nutrition.

EU Directive 2008/119/EC, which is part of UK legislation, lays down minimum standards for the protection of calves, including housing and research that should be conducted into efficient stock-farming systems.

In Brazil and Uruguay there is no separate legislation to govern youngstock management. Argentinian legislation contains a number of requirements around the transport of youngstock, focused on ensuring optimal health, and on verifying fitness for transport.

Animal Health and Welfare

Animal Health and Welfare is covered within each region by animal welfare legislation. Good animal health and welfare is an output of a wide range of factors, including management practices, housing, nutrition and husbandry procedures, as well as effective health and welfare planning. Legislation in all regions does not require the presence of a Veterinary Health Plan.

In England, under The Protection of Animals (Anaesthetics) Act 1954, as amended, it is an offence to disbud calves or dehorn any cattle without the use of an anaesthetic other than when chemical cauterisation is used. The Welfare of Farmed Animals (England) Regulations 2007 set the minimum welfare standards for all farm animals. This covers standards for stockmanship; health; feed, water and other substances; accommodation; equipment; management; fire and other emergency precautions; pregnancy; rearing; and breeding.

Brazilian law establishes general procedures for animal health and welfare in Good Practice Guidelines for the Welfare of Animal Production and Economic Interest relating to farm animal rearing systems and transportation. Article 4 of Instruction No. 56 on Good Practice Guidelines for Farming (Productive) Animals and Animals of Economic Interest provides for the production of Manuals of Good Practice which contains recommendations for specific procedures for each animal species.

In Uruguay, the general anti-cruelty provisions of Article 12(A) of Law 18471 applies to animals used for farming. The article prohibits mistreating or injuring animals, meaning abusive action causing excessive harm or stress or injury can be prosecuted. Law 3606 on Animal Health Policing constitutes the basic framework of all regulations related to animal health and public health. Its objective is to ensure the protection of livestock production with hygiene and biosecurity measures that prevent the introduction of exotic diseases.

In Argentina, Law 14346 prohibits animal cruelty and certain forms of animal abuse for all animals, including those used in farming. A legislative framework on farm animal health is provided in Law 27233. Law 3959 covers Animal Health Policing which is focused on protecting livestock against contagious exotic diseases. The Argentinian Government has also defined those (voluntary) animal welfare conditions that must be observed for meat products to be labelled ‘organic’.

Animal Medicines

In England, keeping accurate records of medicine use on farms is a legal requirement. The owner or keeper of food-producing animals must maintain records related to the purchase of all veterinary medicinal products acquired for those animals. These records should be kept for a minimum of five years. When administering medicine (either themselves, or administered by a vet), farmers must record: Name of the product, date of administration, quantity administered, withdrawal period, and identity of the treated animal(s).

In Brazil, only vets are allowed to prescribe antibiotics to animals. Brazil clearly defines[10] all the conditions for prescription of medicines (clinical examination, experience and diagnostic) in legislation and uses a priority scale for use based on the OIE and WHO list of important antibiotics for human and veterinary medicine. However, there is no stipulation for producers to keep records of the veterinary products used in animal production.

Brazil has a marketing authorisation system to register veterinary medical products containing antibiotics. Retail distributors and animal feed manufacturers must be authorised by a government authority.

Within Uruguayan law, Act No. 98/0011 prohibits the use of antibiotics in sheep and cattle feed. National guidelines indicate that prescription should be based on clinical examination, experience and diagnosis, but there is no priority scale for use based on the OIE and WHO list and it is only recommended that, whenever possible, antibiotics should be administered under veterinary supervision, and where not, a vet should give clear instructions including dosage, route of administration and withdrawal period.

Uruguay has a marketing authorisation system to register veterinary medical products containing antibiotics. Retail distributors and animal feed manufacturers must be authorised by a government authority.

Argentinian law does not appear to contain any restrictions or conditions around the administration of antibiotics in livestock. It does have a marketing authorisation system to register veterinary medical products containing antibiotics. Retail distributors and animal feed manufacturers must be authorised by a government authority.

Biosecurity and Disease Control

There are very limited requirements in legislation in any of the countries within regard to biosecurity and the prevention of transmission of disease. The Codes of Practice within England do contain references to the importance of good biosecurity (disease prevention measures) and recommend a focus on it within the Veterinary Health Plan.

There is no public evidence that any of Brazil, Argentina or Uruguay have legislation and/or regulations to require the implementation of good biosecurity.

Livestock Transport

Livestock Transport is the subject of legislation with each region in the study.

The transport of animals legislation in England is governed by Council Regulation (EC) No 1/2005 on the protection of animals during transport and related operations. This regulation requires that means of transport and containers used for transporting animals on long journeys (those in excess of eight hours) must be inspected and approved by the competent authority of a Member State or a body designated by a Member State. This is EU legislation but has currently been accepted for England and has not changed (although a consultation is ongoing). An analysis of the legislation shows that the RT standard makes requirements that are broadly the same as or just above English law, including guidance on distances, times, and driver licensing.

A new ban on exporting live animals came into law on Monday 20 May 2024 as the Animal Welfare (Livestock Exports) Act received Royal Assent. The legislation bans the export of live animals including cattle, sheep, and pigs for slaughter and fattening from Great Britain.

[10] Moreno A. O Uso Prudente e Eficaz de Antibióticos na Suinocultura. 1st ed. Associação Brasileira dos Criadores de Suínos; Brasília, Brasil: 2022. Recomendações para o uso racional de antimicrobianos; p. 83

In Brazil, decree 5741 states that documentation must be present for the movement of all bovines, buffaloes, sheep and goats. The documentation must outline the destination, health of the animal and the purpose of transportation. Where the fitness of an animal is unclear, a vet must assess the animal and deem it fit for travel before transport can begin. Animals must be rested, fed and watered at acceptable intervals, although the frequency and duration of these intervals is not specified in legislation.

In Uruguay, Article 4 of law 18471 covers the transport and slaughter of farm animals, and requires that these will be carried out *'in accordance with the specific legal and regulatory norms on the matter'*. It requires that appropriate procedures should be used and that they "*do not cause unnecessary suffering'*. Decree 369 contains some additional regulations, detailing general requirement for animal transportation. Notably, animal transport will be only authorised in vehicles constructed in such a way that they can be easily loaded and unloaded, with protection and ventilation suitable for the trip. These containers must be easy to clean and disinfect.

In Argentina, all in-country movements are regulated by the national food safety and quality service (SENASA). This organisation covers the registration and authorisation of any vehicle used to transport animals. It requires that drivers must be trained in animal welfare and have appropriate expertise to minimise stress and injury to the livestock. Travel time must not exceed 24 hours and all transport must be suitable for the species. Resolution 581/2014 states that all transportation vehicles and trailers designed to carry animals must be registered in the National Sanitary Register of Media Transport of Live Animals. All vehicles must be designed to enable easy loading and unloading, and adequate climatic conditions must be ensured.

Vermin Control

In England, the management of vermin on the farm is not subject to legislative control in England but the use of chemicals and poisons can fall under specific legislation which controls the type of poison which can be used, and the chemical or poison's method of use.

None of the requirements around vermin control (other than safe, appropriate use) are legislative within this category. In Brazil, Uruguay or Argentina, the management of vermin on the farm is not subject to legislative control, although, as for England, the use of chemicals and poisons can fall under specific legislation.

Fallen Stock

The Animal By-Products (Enforcement) (England) Regulations 2013 control the disposal of carcases. English standards require that fallen livestock must be disposed of appropriately and cannot be buried or burnt in the open because of the risk of disease spread through groundwater or air pollution. Within RT the standards are broadly equivalent to the English legislative standard, although the scheme expands slightly on the regulations, covering regular inspection for stock and storage whilst awaiting disposal. The English standards require that fallen livestock must be disposed of appropriately and cannot be buried or burnt in the open because of the risk of disease spread through groundwater or air pollution.

In Brazil, Law No.16.750 outlines procedures for removing and disposal of dead animals from farms and controls the processing of these carcasses into meat and bone meal, fat, animal oil or fertilizers. It authorizes the transport of dead animals within the limits of State territory, through authorization and registration by the competent authority (CIDASC). Uruguay or Argentina do not appear to have legislation covering fallen stock.

Environmental protection

The concept of environmental protection is contained within the legislation of each country. The legislation which governs this is mainly contained within other legislation, such as that governing the use of pesticides, fertilisers or manures. Within England, pesticide use is controlled by the Health and Safety Executive. Users of pesticides are required to comply with the Official Controls, and before any pesticide product can be used, sold, supplied or stored it must be authorised for use. The requirements set out the competence requirements for sale and use of PPPs, the use, handling and storage requirements of PPPs (including aerial spraying) and

requirements for the inspection of PPP equipment. Anyone using a professional PPP must either have a recognised specified certificate (previously known as a 'Certificate of Competence') or be working under the direct supervision, for the purposes of training, of someone who has such a certificate. The majority of the standards within RT are therefore legislative, with other details being taken from the Codes of Practice. The Codes of Practice are much more detailed than RT requirements.

In Brazil, the use of biopesticides is regulated by Bill #7,802, and by Decree #4,074, following the same legislation as chemical pesticides. The Bill encompasses the entire production chain of pesticides, from scientific research to approval and registration of the active ingredient by the Brazilian authority, to the production, packaging, storage, labelling, and trade of commercial pesticides and biopesticides. Decree #4,074 regulates and provides specific tools and requirements to comply with Bill #7,802.

There are a number of regulations which govern the use of pesticides in Uruguay including Decree No. 317/007 which covers applications for registration and authorisation of sale of phytosanitary products manufactured or formulated abroad and in the country. Once approved, a sample of the product must be entered into the Dirección General de Servicios Agrícolas (DGSA) along with its respective analytical standard. Registration is valid for 4 years before renewal is required.

In Argentina, the National Agrifood Health and Quality Service controls the national regulatory system for phytosanitary matters. This is the body responsible for ensuring that only phytosanitary products, whose risks have been properly assessed, are marketed for expressly permitted uses.

Conclusions

Figure 16. Final weighted percentage scores for each scheme

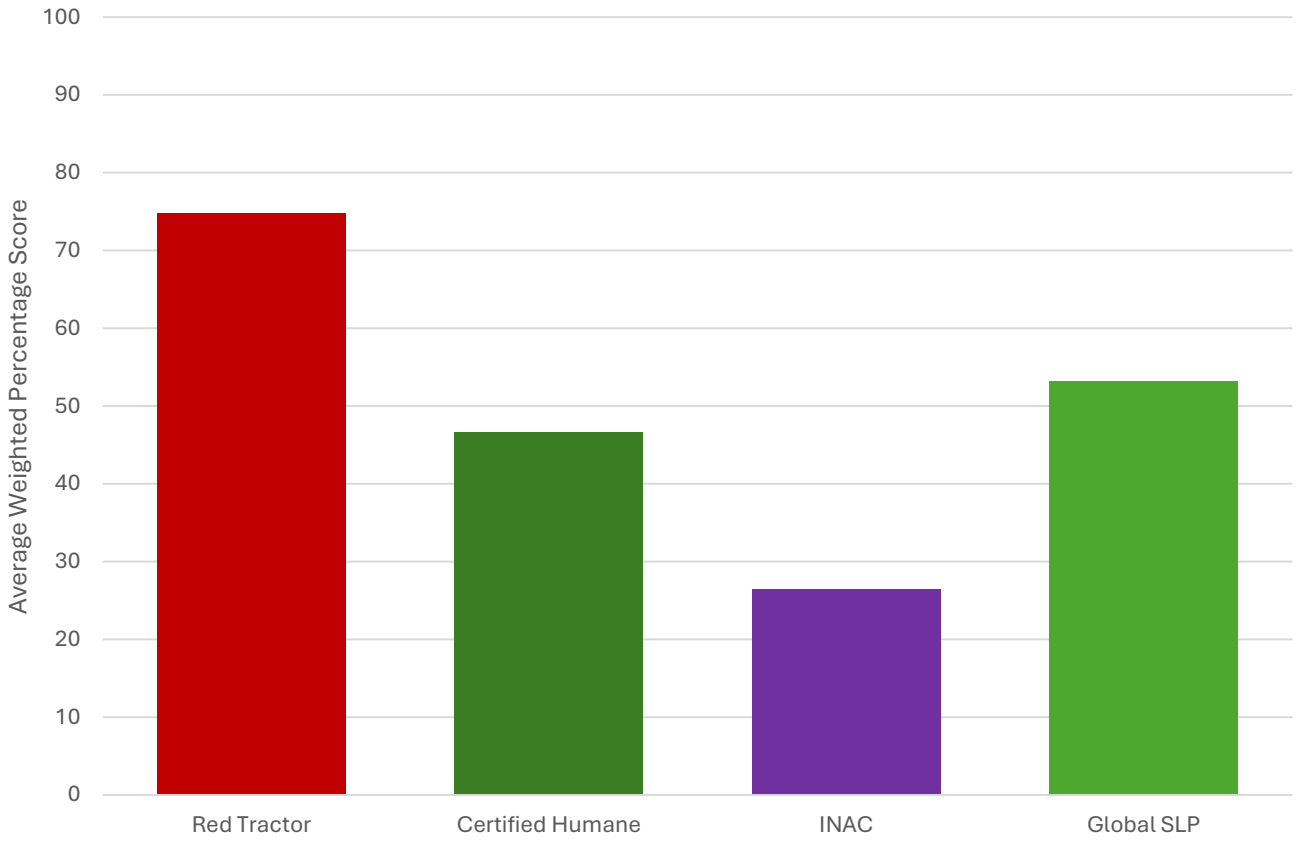


Figure 16 shows that RT achieves a higher average score than the other schemes in this study. There are two categories (Animal Health and Welfare, and Feed and Water) where CH outperforms RT, but RT scores highest in the other categories.

Overall, RT performs at least adequately in each category, and in general is more prescriptive and detailed than the other schemes. Consequently, it scores more highly in comparison with other assurance schemes and is likely to influence users to address key issues more effectively.

The legislative requirements in the countries in this report are relatively similar and address most of the issues in this report, and broadly, if the legislation is followed and enforced, animals will be raised to an acceptable standard. The major challenge around legislation is that in most cases it is not inspected on a frequent or regular basis, and compliance is not reported to customers or consumers. In some cases this is addressed by Farm Assurance, where the scheme indicates that it will inspect against regulatory standards, but this is not the case for every scheme, or indeed of every module within some schemes which do inspect against some components of legislation.

Appendix 1. Category questions

Traceability, Documentation and Assurance

A. Are cattle individually identified on the farm of origin?
B. Are sheep individually identified on the farm of origin and linked to a dam?
C. Is tagging/identification required close to time of birth for cattle?
D. Is tagging/identification required close to time of birth for sheep?
E. Is there a central database recording all farm movements?
F. Do cattle movements have to be individually reported to a central database within an acceptable timeframe? (inside 3 days)
G. Do sheep movements have to be individually reported to a central database within an acceptable timeframe? (inside 3 days)
H. Is a Food Chain Information declaration (or equivalent) required to travel with animals which are being transported to slaughter?
I. Is the traceability system robust (Cattle)?
J. Is the traceability system robust (Sheep)?
K. Audit frequency?
L. Auditor training and standardisation?
M. Are cattle assured from birth?
N. Are sheep assured from birth?
O. Are the certification bodies required to be accredited to ISO17065, with the specific standard within their scope?
P. Do assured animals need to be transported by assured transporters to retain their approval status?

Personnel

A. What qualifications are required for farm staff?
B. Is staff induction required?
C. Is staff training required?
D. What training records are required?
E. What topics are covered in training and do these meet the needs of the farm staff appropriately?
F. How often is training required?
G. Are appropriate Health and Safety policies required?
H. Is the performance of employees reviewed regularly and appropriate training given if required?
I. Is labour provision from external providers adequately covered?

Food Safety

A. Does the scheme require actions which manage vermin infestation on the farm?
B. Does the scheme require activity to prevent chemical contamination of food?
C. Does the scheme require activity to prevent contamination of food with medicines?
D. Does the scheme require activity to ensure that broken needles or other physical contaminants do not reach the food chain?
E. Does the scheme restrict food types which can be offered to ruminants in order to prevent prion diseases?
F. Does the scheme require dietary restriction of sheep prior to slaughter to prevent contamination during the slaughter and processing process?
G. Is animal traceability robust (cattle)?
H. Is animal traceability robust (sheep)?
I. Is the assurance scheme robust and trustworthy, with adequate audit independence and frequency?

Housing & Shelter

A. Is housing well-designed and safe?
B. Does housing promote high welfare?

C. Is housing hygienic?
D. Is there adequate ventilation?
E. Is housing well-lit?
F. Is housing structurally sound?
G. Is there adequate space available for each animal?
H. Are loading and unloading facilities available and to a good standard?
I. Are there appropriate isolation and birthing facilities?
J. Is housing appropriate and safe for stock managers?
K. Do animals outside have access to appropriate shelter?
L. Are animals kept outside kept in appropriate conditions, including well drained lying areas and the absence of severe poaching?
M. Are bedding requirements appropriate?
N. Are requirements for records appropriate?

Feed and Water

A. Do animals have enough feed and water to maintain normal bodily function?
B. Do animals have easy ready access to fresh, clean water?
C. Is the feed offered to animals is appropriate?
D. Are the feed storage requirements appropriate?
E. Are Hormone Growth Promoters permitted?
F. Are any types of feed prohibited?
G. Are systems and records in place to prevent livestock being contaminated via feed?
H. Do young animals receive enough colostrum?
I. Is feeding equipment checked regularly and maintained?

Husbandry Procedures

A. Is castration permitted?
B. What age is castration permitted up to without anaesthetic and by what means?
C. What age is castration permitted to with anaesthetic and by what means?
D. Is disbudding permitted?
E. What methods of disbudding are permitted? Is anaesthetic required?
F. What methods of dehorning are permitted? Is anaesthetic required?
G. Is branding permitted? If so, hot branding, freeze branding or both?
H. Is tail docking permitted? If so, what rules govern this?
I. What other miscellaneous procedures are permitted? Are they acceptable?
J. Is mulesing permitted?
K. Who is permitted to carry out each procedure, and what qualifications are required?

Youngstock Management

A. Do animals have comfortable and safe indoor accommodation?
B. Is there adequate fresh air?
C. Is there adequate clean water?
D. Is there adequate bedding?
E. Do animals have access to appropriate amounts of feed?
F. Is there adequate light?
G. Is there adequate darkness?
H. Is there an absence of unnecessary and painful husbandry procedures?
I. Are animals able to safely and easily access feed and water?
J. Are animals permitted to be kept on their own when very young?
K. Are animals permitted to be kept on their own when older?
L. Is the animal's diet nutritious and appropriate?

Animal Health and Welfare

A. Are animal welfare scoring/outcome measures required?
B. How effective is each welfare score?
C. How regularly are welfare scoring measures required to be taken?
D. Are welfare measures reported to external organisation?
E. Is a Veterinary Health Plan required and accessible to staff?
F. Is the plan active?
G. Are medicine records fully up to date?
H. Does the scheme require isolation facilities in a separate air space?
I. Is locomotion scoring required?
J. Is body condition scoring required?
K. Is a review of the Veterinary Health Plan required?
L. Is it a requirement to regularly monitor the health of stock?
    a. How often?
    b. How often is a vet visit required?
M. Are miscellaneous circumstances, including euthanasia, well managed, and equipment controlled to maintain high welfare?
N. Are staff appropriately trained?
    a. Is a competent individual available?

Animal Medicines

A. Is medicine usage and administration appropriate?
B. Are movement documents required which show what animals have been treated and their withdrawal periods?
C. Are withdrawal periods appropriate and adhered to?
D. Are medicine storage, handling, use and disposal of a good standard?
E. Is responsible antibiotic use required and assured?
F. Are critically important antibiotics prohibited or permitted?
G. Is a central monitoring system required to permit the use of antibiotics?
H. Is sensitivity testing required prior to use?
I. Is off-label (cascade) use of veterinary medicine permitted?
J. Is a broken needle policy and records required?
K. Is the person administering medicines competent?
    a. How is this assured?
L. Are detailed medical records required (including purchase records and broken needle records)?

Biosecurity and Disease Control

A. Does the scheme require the creation of a Biosecurity Plan?
B. Does the scheme check adherence to the Biosecurity Plan?
C. Does the scheme require updating of the Biosecurity Plan?
D. Does the scheme require a known health status for animals brought onto the farm?
E. Is there a record of people, vehicles and machinery entering the farm?
F. Does the scheme require appropriate cleaning material to be available on-farm?

Livestock Transport

A. Is there a maximum permitted journey time?
B. Is there a maximum permitted journey distance?
C. What assurance requirements are there for vehicles/companies which are permitted to transport animals?
D. Is there a requirement for assured transport throughout the lifetime of the animal?
E. What are the conditions in which animals can be transported?
F. Is water/feed available during transport?
G. Is there a maximum/minimum stocking density during transport depending on species?

H. Are there speed recommendations during transport?
I. Are drivers aware of good animal welfare principles and are they effectively trained or certified?
J. Is certification and documentation in place?

Vermin Control

A. Is a plan to control vermin required by the assurance scheme?
B. Are actions other than baiting required to prevent vermin infestation?
C. Is a site survey required on at least an annual basis?
D. Is an environmental risk assessment required prior to bait laying?
E. Are dead/trapped vermin disposed of regularly?
F. Are there requirements in place to ensure that non-target animals do not have access to baits?
G. Is permanent baiting prohibited?
H. Are product label directions followed during use?
I. Is a COSHH assessment required?

Fallen Stock

A. Does the scheme require regular checks for fallen stock?
B. Are carcass storage methods acceptable?
C. Are carcass disposal methods acceptable?
D. Are on-farm disposal facilities acceptable?

Environmental Protection

A. Are pesticides stored correctly?
B. Are pesticides applied correctly?
C. Are pesticides disposed of correctly?
D. Are fertilisers stored correctly?
E. Are fertilisers applied correctly?
F. Are slurries and manures stored correctly?
G. Are slurries and manures applied correctly?
H. Are other potential contaminants dealt with appropriately?

Appendix 2. Reasoning behind weightings awarded

Country Weightings

	England Weighting	South America Weighting	Uruguay Weighting[11]
Traceability, documentation and assurance	100	100	100
Provision of appropriate traceability and assurance was viewed as equally important in each country and consequently equal weightings were awarded to each one.			
Personnel	100	100	100
Provision of a safe working environment, with good provision of training was viewed as equally important in each country and consequently equal weightings were awarded to each one.			
Food safety	100	100	100
The provision of safe food was viewed as equally important in each region and consequently equal weightings were awarded to each one.			
Housing & shelter	100	120	100
Different weightings were applied to each country within the Housing & Shelter category. In England, some cattle can be permanently housed, and the majority of other cattle are housed for several months per year, as are some sheep. The weather conditions in South America can be more extreme than in England, hence the higher weightings, which are primarily based on the need for shelter when animals are housed outdoors.			
Feed and water	100	100	100
The provision of appropriate amounts of fresh feed and water is equally important in each region and therefore equal weightings have been awarded.			
Husbandry procedures	100	100	100
It was agreed that husbandry procedures were equally important in each country			
Youngstock management	100	100	100
Care for youngstock is equally important in each region and equal weightings have been awarded.			
Animal health and welfare	100	100	100
The management of animal health and welfare is equally important in each region and therefore equal weightings have been awarded.			
Animal medicines	100	100	100
Animal medicine use is equally important in each region and consequently the weightings are the same.			
Biosecurity and disease control	100	90	90
Biosecurity and disease control is equally important across each region in this study.			
Livestock transport	100	150	100
Conditions during transport were recognised as being more important in South America because of the potentially much greater distances over which animals may be transported.			
Vermin control	100	70	70
Vermin control is proportionately more important where there are larger amounts of housing and storage of feed for animals (particularly cereal based feed). Because housing is less common in South America, vermin control was weighted lower.			
Fallen stock	100	80	80
Management of fallen stock is proportionately more important where farms are smaller and farmed more intensively. It is also more important where there is a raised likelihood of proximity to watercourses, or to the general public. different weightings that have been applied, due to the greater land areas in South America.			
Environmental protection	100	100	100
Environmental Protection was viewed as equally important in each country and consequently equal weightings were awarded to each one.			

[11] Uruguay receives separate weightings from the rest of the South America region for the 'Housing and Shelter' category, due to its more temperate climate meaning housing is less important and the 'Livestock Transport' category due to the lower distances involved.

Category weightings

Heading	Relative Weighting
Traceability, documentation and assurance	200
The traceability and assurance category was awarded the highest category weighting because it was agreed to be the single most important aspect of a farm assurance scheme. Product from each farm must be traceable, and the assurance scheme must be robust and trustworthy. If this is not the case, the scheme does not offer effective assurance, hence the high weighting for this category.	
Personnel	110
The training, management and safety of farm workers is important, but a lower weighting has been awarded because this is not the main purpose of farm assurance schemes, and thus this category is of lower importance than, for instance, traceability or food safety.	
Food safety	200
Food safety is the primary reason for the creation and implementation of farm assurance schemes and hence the highest weighting has been applied to this category.	
Housing & shelter	120
Housing and shelter of animals is recognised as important for the welfare of animals, but is not the most critical component of this, hence a medium rating has been awarded to this category,	
Feed and water	150
Feed and water is vitally important to animal welfare. As a result, the second highest weighting has been applied to this category.	
Husbandry procedures	150
Husbandry procedures can have a significant impact on animal welfare. As a result, the second highest weighting has been applied to this category.	
Youngstock management	105
Youngstock management is important but does fall under other categories within farm assurance and therefore a weighting of 100 was awarded.	
Animal health and welfare	150
Effective management of animal health and welfare has a significant impact on animal wellbeing. As a result, the second highest weighting has been applied to this category.	
Animal medicines	150
The use of animal medicines strongly impacts animal wellbeing. As a result, the second highest weighting has been applied to this category.	
Biosecurity and disease control	150
Biosecurity is important to the ongoing wellbeing of stock, through the prevention of transfer of disease. As a result, the second highest weighting has been applied to this category.	
Livestock transport	95
Livestock transport, while important, only represents a relatively short proportion of the animal's life, and as a consequence, a lower weighting has been applied.	
Vermin control	70
Vermin control does have some impact on disease transfer and food safety, but for livestock production, its impact is relatively low and hence a lower weighting has been applied.	
Fallen stock	70
Fallen stock has some impact on the overall wellbeing of flocks or herds, and on the environment around the farm, but its impact is generally fairly limited. This category has therefore been awarded a relatively low weighting.	
Environmental protection	150
Protection of the environment through the responsible use of chemicals and manures is extremely important. The implementation of good practice significantly reduces run -off and pollution events and consequently this category has been awarded a high weighting.	

Appendix 3. Table showing the principles of how scores were awarded within each category

The following table outlines the general principles which were used assist decision making when deciding on the scheme scores for each question within each category. A degree of judgement had to be applied when awarding scores, but there was very good agreement amongst the experts on the final scores awarded.

Score	Qualitative description matching each score
1	Scheme fails to address the topic of the question
2	Scheme recognises the issue, but fails to address it
3	Scheme recognises the issue and makes some attempt to address it
4	Scheme recognises the issue and addresses a minority of components but misses the majority of key details
5	Scheme recognises the issue and addresses the majority of components, but is not fully credible
6	Scheme recognises the issue and credibly addresses it, but misses out several important details
7	Scheme recognises the issue and addresses it quite well, but misses out one or two important details
8	Scheme answers the question well, and does not miss any important issues. However, it fails to address three or more minor issues
9	Scheme almost answers the question ideally, but misses out on one or two minor details
10	Scheme fully answers the question, enabling the end user to be sure that the issue is managed to a high level

Appendix 4. Exports from South America to United Kingdom[12]

Reporter Countries	Partner Countries	Element	Item Code (CPC)	Item	Year	Unit	Value
Argentina	United Kingdom of Great Britain and Northern Ireland	Export Quantity	21111.02	Meat of cattle boneless, fresh or chilled	2022	t	688.2
Brazil	United Kingdom of Great Britain and Northern Ireland	Export Quantity	21111.02	Meat of cattle boneless, fresh or chilled	2022	t	5023.96
Brazil	United Kingdom of Great Britain and Northern Ireland	Export Quantity	21111.01	Meat of cattle with the bone, fresh or chilled	2022	t	28.92
Brazil	United Kingdom of Great Britain and Northern Ireland	Export Quantity	21115	Meat of sheep, fresh or chilled	2022	t	0.57
Chile	United Kingdom of Great Britain and Northern Ireland	Export Quantity	21111.02	Meat of cattle boneless, fresh or chilled	2022	t	16.08
Chile	United Kingdom of Great Britain and Northern Ireland	Export Quantity	21111.01	Meat of cattle with the bone, fresh or chilled	2022	t	0.48
Chile	United Kingdom of Great Britain and Northern Ireland	Export Quantity	21115	Meat of sheep, fresh or chilled	2022	t	66.03
Uruguay	United Kingdom of Great Britain and Northern Ireland	Export Quantity	21111.02	Meat of cattle boneless, fresh or chilled	2022	t	2765.31
Uruguay	United Kingdom of Great Britain and Northern Ireland	Export Quantity	21115	Meat of sheep, fresh or chilled	2022	t	36.14
Paraguay	United Kingdom of Great Britain and Northern Ireland	Export Quantity	21111.02	Meat of cattle boneless, fresh or chilled	2022	t	597.32

[12] FAO Stat