

FINAL REPORT

REVIEW AND COMPARE AUSTRALIAN ANIMAL WELFARE SYSTEMS THROUGHOUT THE SUPPLY CHAIN TO MAJOR TRADING PARTNERS (WHOLE OF LIFE ANIMAL WELFARE)

PROJECT CODE: 2018 - 1021

PREPARED BY: Food and Veterinary Services Pty Ltd

DATE SUBMITTED: 15 October 2018

DATE PUBLISHED: 15 October 2018

PUBLISHED BY: AMPC

The Australian Meat Processor Corporation acknowledges the matching funds provided by the Australian Government to support the research and development detailed in this publication.

Disclaimer:

The information contained within this publication has been prepared by a third party commissioned by Australian Meat Processor Corporation Ltd (AMPC). It does not necessarily reflect the opinion or position of AMPC. Care is taken to ensure the accuracy of the information contained in this publication. However, AMPC cannot accept responsibility for the accuracy or completeness of the information or opinions contained in this publication, nor does it endorse or adopt the information contained in this report.

No part of this work may be reproduced, copied, published, communicated or adapted in any form or by any means (electronic or otherwise) without the express written permission of Australian Meat Processor Corporation Ltd. All rights are expressly reserved. Requests for further authorisation should be directed to the Executive Chairman, AMPC, Suite 1, Level 5, 110 Walker Street North Sydney NSW.

TABLE OF CONTENTS

TABLE OF CONTENTS.....	2
1.0 EXECUTIVE SUMMARY	3
2.0 INTRODUCTION	4
3.0 PROJECT OBJECTIVES	4
4.0 METHODOLOGY	4
5.0 PROJECT OUTCOMES	5
6.0 DISCUSSION.....	5
7.0 CONCLUSIONS/RECOMMENDATIONS	12
8.0 BIBLIOGRAPHY	13

1.0 EXECUTIVE SUMMARY

The aim of this project was to provide an overview of animal welfare practices on a whole of supply chain basis for the Australian red meat industry. Australian requirements (regulatory and industry best practice) were consolidated and compared with international animal welfare standards (OIE Terrestrial Animal Health Code) and those of key global customers and trading partners, including Europe and North America.

The analysis identified a number of areas where continued improvement will deliver greater animal welfare outcomes or where improved messaging around the differences between Australian production systems and those of our international trading partners and customers is required to drive adoption of animal welfare advancements. These included:

- / Husbandry procedures – considerations include the age of the animal, the method (where multiple methods are available e.g. castration), the competency/qualifications of the operator and the use of analgesia
- / Transport – journey times and time off feed and water
- / Frequency of standard updates and alignment with international standards – the OIE Terrestrial Animal Health Code is updated annually. Any review and update of standards utilised within Australia should consider current OIE standards. It was also noted that many international and customer standards are reviewed and/or updated frequently, with many of the standards citing an updated version in the last couple of years. As a result, these standards are able to incorporate and reflect advancements in animal welfare in a more timely manner.

The findings of this process have been presented to industry for consideration and action such as inclusion in any future reviews of animal welfare standards and practices

This analysis demonstrates where requirements may differ to our trading partners and international customers, particularly due to differences in production systems, geography and climate. It also highlights where there is room for continued improvement and provides an overview of ‘whole of life’ animal welfare requirements. This can be utilised to meet customer and consumer expectations that welfare is addressed for the “whole of life”.

2.0 INTRODUCTION

This project provided an overview of the animal welfare practices on a whole of supply chain basis for the Australian red meat industry. Australian requirements (regulatory and industry best practice) were consolidated and compared with international animal welfare standards (OIE Terrestrial Animal Health Code) and those of key global customers and trading partners, including Europe and North America.

3.0 PROJECT OBJECTIVES

The objective of this project was to develop a comprehensive picture of Australian animal welfare regulation and industry systems presented on a whole of value chain basis (whole of animal life).

This was contrasted on a similar basis with systems in key destination markets (USA and European Community), key customers (global quick service brands and retailers, key Australian retailers) and international standards (Global Animal Partnership and OIE). In addition, the comparison will be made against RSPCA Australia best practice standards.

It will be a useful tool to underpin future research into any gaps identified. In particular where international standards do not anticipate the realities of red meat production and processing in Australia (e.g. long-distance transport or grass-fed production systems).

4.0 METHODOLOGY

The scope of this project was animal welfare on a whole of the supply chain basis (whole of animal life) for beef, sheep and goats. A gap analysis was conducted against the following OIE animal welfare standards (as applicable):

- / Chapter 7.1 – Introduction to the recommendations for animal welfare
- / Chapter 7.3 – Transport of animals by land
- / Chapter 7.5 – Slaughter of animals
- / Chapter 7.6 – Killing of animals for disease control purposes (where clauses were called up in other chapters identified for gap analysis)
- / Chapter 7.9 – Animal welfare and beef cattle production systems

Currently the OIE only hold species specific standards for beef cattle, broiler chickens, dairy cattle and pigs. As such there are no species specific standards for sheep or goats.

Australian standards and guidelines that cover animal welfare or include an animal welfare component were identified for each species and point of the livestock production supply chain. These standards and guidelines were compared to OIE standards for each species and point in the supply chain.

EU and US standards and guidelines that cover animal welfare or include an animal welfare component were also identified for each species and point of the livestock production supply chain.

These standards and guidelines were compared to OIE standards and for each species and point in the supply chain, as well as the *Australian Animal Welfare Standards and Guidelines* where applicable.

5.0 PROJECT OUTCOMES

The analysis identified a number of areas where continued improvement will deliver greater animal welfare outcomes or where improved messaging around the differences between Australian production systems and those of our international trading partners and customers is required to drive adoption of animal welfare advancements. These included:

- / Husbandry procedures – considerations include the age of the animal, the method (where multiple methods are available e.g. castration), the competency/qualifications of the operator and the use of analgesia
- / Transport – journey times and time off feed and water
- / Frequency of standard updates and alignment with international standards – the OIE Terrestrial Animal Health Code is updated annually. Any review and update of standards utilised within Australia should consider current OIE standards. It was also noted that many international and customer standards are reviewed and/or updated frequently, with many of the standards citing an updated version in the last couple of years. As a result, these standards are able to incorporate and reflect advancements in animal welfare in a more timely manner.

The findings of this process have been presented to industry for consideration and action such as inclusion in any future reviews of animal welfare standards and practices.

6.0 DISCUSSION

Chapter 7.1 – Introduction to the recommendations for animal welfare of the OIE Terrestrial Animal Health Code includes 11 general principles for the welfare of animals in livestock production systems. These 11 principles formed the basis of the gap analysis where no additional OIE standards were available for a particular species, livestock production system or steps in the supply chain. However, it was noted that these are broad principles and not prescriptive or objective. When conducting the gap analysis, these principles were interpreted as follows:

1. Genetic selection should always take into account the health and welfare of animals.

Requirements considered under this principle included genetic selection of livestock suitable for the environment and production system as well as genetic selection for traits that support animal welfare such as use of polled genetics and calving ease.

2. Animals chosen for introduction into new environments should be suited to the local climate and able to adapt to local diseases, parasites and nutrition.

Selection of stock suitable for the local environment was considered under this clause, as well as knowledge of local climates, locally important diseases and parasites, local nutrient deficiencies

etc. Requirements for induction programs and inspection of animals to ensure suitability and adaptability to the environment were also considered against this principle.

3. The physical environment, including the substrate (walking surface, resting surface, etc.), should be suited to the species so as to minimise risk of injury and transmission of diseases or parasites to animals.

This principle was interpreted as ensuring a safe environment in terms of minimising injury (e.g. no protrusions) and disease risk and transmission (e.g. ability to clean or disinfect the environment). Requirements that covered the following topics were considered under this principle and included:

- Surfaces (in terms of injury minimization and ability to clean/disinfect if required)
- Fencing
- Cleaning and waste disposal
- Natural disasters (e.g. fires)

4. The physical environment should allow comfortable resting, safe and comfortable movement including normal postural changes, and the opportunity to perform types of natural behaviour that animals are motivated to perform.

Requirements that covered the following topics were considered under this principle and included:

- Surfaces (in terms of comfort or suitability for animals that may lay down)
- Stocking density and space allowances (including potential effects on ability to perform natural behaviour)
- Shelter
- Restraint (including ability to perform natural behaviour)

5. Social grouping of animals should be managed to allow positive social behaviour and minimize injury, distress and chronic fear.

Requirements that covered the following topics were considered under this principle and included:

- Social contact with other animals
- Restraint (e.g. tethering) and the effect on social grouping
- Handling and drafting practices that may affect social grouping (e.g. mixing of mobs etc)

6. For housed animals, air quality, temperature and humidity should support good animal health and not be aversive. Where extreme conditions occur, animals should not be prevented from using their natural methods of thermo-regulation.

While housing is not common practice in Australia, this principle was considered as a part of the intensive production system gap analysis. Requirements that covered the following topics were considered under this principle and included:

- Stocking density
- Extreme weather conditions
- Ventilation, dust and air quality

7. Animals should have access to sufficient feed and water, suited to the animals' age and needs, to maintain normal health and productivity and to prevent prolonged hunger, thirst, malnutrition or dehydration.

All requirements related to provision of feed and water were considered under this principle.

8. Diseases and parasites should be prevented and controlled as much as possible through good management practices. Animals with serious health problems should be isolated and treated promptly or killed humanely if treatment is not feasible or recovery is unlikely.

Requirements that covered the following topics were considered under this principle and included:

- Prevention of disease (e.g. vaccination, biosecurity etc.)
- Husbandry procedures (e.g. dipping)
- Breeding management (e.g. breeding management practices that contribute to disease prevention)
- Identification and treatment of sick or injured animals
- Humane killing

9. Where painful procedures cannot be avoided, the resulting pain should be managed to the extent that available methods allow.

Procedures considered under this principle included dehorning, disbudding, horn trimming, castrating, spaying, artificial insemination, embryo transfer and mulesing.

10. The handling of animals should foster a positive relationship between humans and animals and should not cause injury, panic, lasting fear or avoidable stress.

Requirements that covered the following topics were considered under this principle and included:

- Handling practices and techniques (e.g. low stress handling)
- Use of goads
- Restraint

11. Owners and handlers should have sufficient skill and knowledge to ensure that animals are treated in accordance with these principles.

Requirements that covered the following topics were considered under this principle and included:

- Veterinary procedures and advice
- Knowledge and expertise

- Responsibilities
- Training and/or competency requirements

The Australian standards and guidelines that cover animal welfare or include an animal welfare component that were identified for each species and point in the supply chain livestock production are provided at Table 1.

	Cattle	Sheep	Goats
On-Farm	<ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards and Guidelines for Cattle – Version 1</i> - <i>Livestock Production Assurance Program (LPA)</i> - <i>RSPCA Approved Farming Scheme Standards – Dairy Veal Calves</i> - <i>RSPCA Australia Better Beef Cattle Welfare: Our vision</i> - <i>Grazing BMP</i> 	<ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards and Guidelines for Sheep</i> - <i>Livestock Production Assurance Program (LPA)</i> 	<ul style="list-style-type: none"> - <i>Australian Industry Standards and Guidelines for Goats</i> - <i>Livestock Production Assurance Program (LPA)</i>
Intensive	<ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards and Guidelines for Cattle – Version 1</i> - <i>National Feedlot Accreditation Scheme (NFAS)</i> - <i>RSPCA Australia Better Beef Cattle Welfare: Our Vision</i> 	<ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards and Guidelines for Sheep</i> 	<ul style="list-style-type: none"> - <i>Australian Industry Standards and Guidelines for Goats</i>
Saleyard	<ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards and Guidelines – Livestock at Saleyards and Depots</i> 	<ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards and Guidelines – Livestock at Saleyards and Depots</i> 	<ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards and Guidelines – Livestock at Saleyards and Depots</i>
Transport	<ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards & Guidelines – Land Transport of</i> 	<ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards & Guidelines – Land Transport of</i> 	<ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards & Guidelines – Land Transport of</i>

	<p><i>Livestock</i></p> <ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards and Guidelines – Livestock at Saleyards and Depots</i> - <i>RSPCA Australia Better Beef Cattle Welfare: Our Vision</i> - <i>RSPCA Approved Farming Scheme Standard – Dairy Veal Calves</i> - <i>National Feedlot Accreditations Scheme (NFAS)</i> - <i>Grazing BMP</i> 	<p><i>Livestock</i></p> <ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards and Guidelines – Livestock at Saleyards and Depots</i> 	<p><i>Livestock</i></p> <ul style="list-style-type: none"> - <i>Australian Animal Welfare Standards and Guidelines – Livestock at Saleyards and Depots</i>
Processing	<ul style="list-style-type: none"> - <i>AS4696:2007 – Australian Standard for the hygienic production and transportation of meat and meat products for human consumption</i> - <i>Industry Animal Welfare Standards – Livestock Processing Establishments.</i> - <i>RSPCA Australia Better Beef Cattle Welfare: Our Vision</i> - <i>RSPCA Approved Farming Scheme Standards – Dairy Veal Calves</i> 	<ul style="list-style-type: none"> - <i>AS4696:2007 – Australian Standard for the hygienic production and transportation of meat and meat products for human consumption</i> - <i>Industry Animal Welfare Standards – Livestock Processing Establishments.</i> 	<ul style="list-style-type: none"> - <i>AS4696:2007 – Australian Standard for the hygienic production and transportation of meat and meat products for human consumption</i> - <i>Industry Animal Welfare Standards – Livestock Processing Establishments.</i>

Table 1: Australian Standards and Guidelines assessed during gap analysis by species and point in the supply chain

EU and US standards and guidelines that cover animal welfare or include an animal welfare component that were identified for each species and point in the supply chain livestock production are provided at Tables 2 and 3.

	Cattle	Sheep	Goats
Extensive and intensive	<ul style="list-style-type: none"> - Bord Bia The Sustainable Beef and Lamb Scheme (SBLAS) - QMS Cattle and Sheep Assurance Scheme - Red Tractor Assurance Beef and Lamb Standards V4. 1 - RSPCA Welfare Standards for Beef Cattle - Soil Association Organic Standards: Farming and Growing - Soil Association Organic Standards: EU Equivalent Farming and Growing - SOPA Organic Standards for Food and Farming 	<ul style="list-style-type: none"> - Bord Bia The Sustainable Beef and Lamb Scheme (SBLAS) - QMS Cattle and Sheep Assurance Scheme - Red Tractor Assurance Beef and Lamb Standards V4. 1 - RSPCA Welfare Standards for Sheep - Soil Association Organic Standards: Farming and Growing - Soil Association Organic Standards: EU Equivalent Farming and Growing - SOPA Organic Standards for Food and Farming 	<ul style="list-style-type: none"> - Soil Association Organic Standards: Farming and Growing - Soil Association Organic Standards: EU Equivalent Farming and Growing - SOPA Organic Standards for Food and Farming
Saleyard	<ul style="list-style-type: none"> - QMS Market Auction Standards - Red Tractor Livestock Collection Centres (Including Emergency Lairage) Standards V3.0 - Red Tractor Livestock Market Standards V3.0 	<ul style="list-style-type: none"> - QMS Market Auction Standards - Red Tractor Collection Centres (Including Emergency Lairage) Standards V3.0 - Red Tractor Livestock Market Standards V3.0 	Nil identified
Transport	<ul style="list-style-type: none"> - QMS Haulage Standards - Red Tractor Livestock Transport 	<ul style="list-style-type: none"> - QMS Haulage Standards - Red Tractor Livestock Transport 	Nil identified
Processing	<ul style="list-style-type: none"> - The Meat Processor Quality Assurance Scheme (MPQAS) Processor Standard - QMS Processor Standards - Red Tractor Assurance 	<ul style="list-style-type: none"> - The Meat Processor Quality Assurance Scheme (MPQAS) Processor Standard - QMS Processor Standards - Red Tractor Assurance 	<ul style="list-style-type: none"> - Red Tractor Assurance Meat Processing Scheme

	Cattle	Sheep	Goats
Processing	Meat Processing Scheme - The Soil Association- Abattoirs and Slaughtering - The Soil Association- Abattoirs and Slaughtering – EU Equivalent	Meat Processing Scheme - The Soil Association- Abattoirs and Slaughtering - The Soil Association- Abattoirs and Slaughtering – EU Equivalent	

Table 2: EU Standards and Guidelines by species and supply chain point assessed during gap analysis

	Cattle	Sheep	Goats
Extensive and Intensive	- American Humane Certified Animal Welfare Standards for Beef Cattle - Animal Welfare Approved (AWA) Standards for Beef Cattle - Global Animal Partnership (GAP) 5 Step Animal Welfare Rating Standard for Beef Cattle - Humane Farm Animal Care (HFAC) Animal Care Standards – Beef Cattle	- Animal Welfare Approved (AWA) Standards for Sheep - Global Animal Partnership (GAP) 5 Step Animal Welfare Rating Pilot Standard for Meat Sheep - Humane Farm Animal Care (HFAC) Animal Care Standards – Sheep	- Animal Welfare Approved (AWA) Standards for Goats - Global Animal Partnership (GAP) 5 Step Animal Welfare Rating Pilot Standard for Meat Goats - Humane Farm Animal Care (HFAC) Animal Care Standards – Dairy, Fiber and Meat Goats
Saleyard	Nil identified	- Global Animal Partnership (GAP) 5 Step Animal Welfare Rating Pilot Standard for Meat Sheep and Meat Goat Collection Points	- Global Animal Partnership (GAP) 5 Step Animal Welfare Rating Pilot Standard for Meat Sheep and Meat Goat Collection Points
Transport	Nil identified	Nil identified	Nil identified
Processing	- Animal Welfare Approved Guidelines for Red Meat Slaughter Facilities - North American Meat Institute Recommended Animal Handling	- Animal Welfare Approved Guidelines for Red Meat Slaughter Facilities - North American Meat Institute Recommended Animal Handling	- Animal Welfare Approved Guidelines for Red Meat Slaughter Facilities - North American Meat Institute Recommended Animal Handling

Processing	Guidelines and Audit Guide (Sept 2019, Rev. 2)	Guidelines and Audit Guide (Sept 2019, Rev. 2)	Guidelines and Audit Guide (Sept 2019, Rev. 2)
-------------------	--	--	--

Table 3: US Standards and Guidelines by species and supply chain point assessed during gap analysis

These standards and guidelines were compared to OIE standards and for each species and point in the supply chain, as well as the Australian Animal Welfare Standards and Guidelines where applicable. This analysis demonstrated where requirements may differ to our trading partners and international customers, particularly due to differences in production systems, geography and climate. It also highlights where there is room for continued improvement and provides an overview of ‘whole of life’ animal welfare requirements. This can be utilised to meet customer and consumer expectations that welfare is addressed for the “whole of life”.

7.0 CONCLUSIONS/RECOMMENDATIONS

The aim of this project was to provide an overview of animal welfare practices on a whole of supply chain basis for the Australian red meat industry. Australian requirements (regulatory and industry best practice) were consolidated and compared with international animal welfare standards (OIE Terrestrial Animal Health Code) and those of key global customers and trading partners, including Europe and North America.

The analysis identified a number of areas where continued improvement will deliver greater animal welfare outcomes or where improved messaging around the differences between Australian production systems and those of our international trading partners and customers is required to drive adoption of animal welfare advancements. These included:

- / Husbandry procedures – considerations include the age of the animal, the method (where multiple methods are available e.g. castration), the competency/qualifications of the operator and the use of analgesia
- / Transport – journey times and time off feed and water
- / Frequency of standard updates and alignment with international standards – the OIE Terrestrial Animal Health Code is updated annually. Any review and update of standards utilised within Australia should consider current OIE standards. It was also noted that many international and customer standards are reviewed and/or updated frequently, with many of the standards citing an updated version in the last couple of years. As a result, these standards are able to incorporate and reflect advancements in animal welfare in a more timely manner.

The findings of this process have been presented to industry for consideration and action such as inclusion in any future reviews of animal welfare standards and practices.

This analysis demonstrates where requirements may differ to our trading partners and international customers, particularly due to differences in production systems, geography and climate. It also highlights where there is room for continued improvement and provides an overview of ‘whole of life’ animal welfare requirements. This can be utilised to meet customer and consumer expectations that welfare is addressed for the “whole of life”.

8.0 BIBLIOGRAPHY

A Greener World (AWG) 2018. Animal Welfare Approved Standards for Beef Cattle. Accessed at: <https://agreenerworld.org/wp-content/uploads/2019/02/AWA-Beef-Cattle-Standards-2018-v3.pdf>

A Greener World (AWG) 2018. Animal Welfare Approved Standards for Goats. Accessed at: <https://agreenerworld.org/wp-content/uploads/2019/02/AWA-Goat-Standards-2018-v3.pdf>

A Greener World (AWG) 2018. Animal Welfare Approved Standards for Sheep. Accessed at: <https://agreenerworld.org/wp-content/uploads/2019/02/AWA-Sheep-Standards-2018-v3.pdf>

A Greener World (AWG) 2017. Animal Welfare Approved Guidelines for Red Meat Slaughter Facilities. Accessed at: <https://agreenerworld.org/wp-content/uploads/2018/05/Slaughter-Guidelines-for-Red-Meat-2017-v1.pdf>

American Humane 2017. American Humane Certified Animal Welfare Standards for Beef Cattle, July 2017. Accessed at: http://humaneheartland.org/index.php?option=com_content&view=article&id=3&Itemid=106&jsmalifib=1&dir=JSROOT/Animal+Welfare+Full+Standards+%2B+Supplements

Animal Health Australia (AHA) 2018. Australian Animal Welfare Standards and Guidelines. Accessed at: <http://www.animalwelfarestandards.net.au>

Animal Health Australia (AHA) 2014. Australian Animal Welfare Standards and Guidelines for Cattle. Version 1.0 January Endorsed 2016. Accessed at: <http://www.animalwelfarestandards.net.au/files/2011/01/Cattle-Standards-and-Guidelines-Endorsed-Jan-2016-061017.pdf>

Animal Health Australia (AHA) 2012. Australian Animal Welfare Standards and Guidelines – Land Transport of Livestock. Version 1.1, 21 September 2012. Accessed at: <http://www.animalwelfarestandards.net.au/files/2015/12/Land-transport-of-livestock-Standards-and-Guidelines-Version-1.-1-21-September-2012.pdf>

Animal Health Australia (AHA) 2014. Australian Animal Welfare Standards and Guidelines – Sheep. Version 1.0 January Endorsed 2016. Accessed at: <http://www.animalwelfarestandards.net.au/files/2011/01/Sheep-Standards-and-Guidelines-for-Endorsed-Jan-2016-061017.pdf>

Animal Health Australia (AHA) 2018. Australian Animal Welfare Standards and Guidelines - Livestock at Saleyards and Depots. Version 1.0, 23 February 2018. Accessed at: http://www.animalwelfarestandards.net.au/files/2016/03/AW-SG_Livestock-at-Saleyards-and-Depots_2018.pdf

Animal Health Australia (AHA) 2016. Australian Industry Welfare Standards and Guidelines for Goats. Version July 2016. Accessed at: http://www.animalwelfarestandards.net.au/files/2016/08/Standards-Guidelines-Goats_FA.pdf

AUS-MEAT Ltd. 2017. National Feedlot Accreditation Scheme Handbook. Accessed at: https://www.ausmeat.com.au/WebDocuments/NFAS_-_Rules_and_Standards_of_Accreditation.pdf

Australian Industry Animal Welfare Certification Scheme 2019. Industry Animal Welfare Standards

Accessed at: <https://aawcs.com.au>

Bord Bia 2019. Quality Assurance Schemes. Accessed at:
<https://www.bordbia.ie/industry/farmers/quality/pages/qualityassuranceschemes.aspx>

Bord Bia 2013. Meat Processor Quality Assurance Scheme Processor Standard Revision 01. Accessed at: <https://www.bordbia.ie/globalassets/bordbia.ie/farmers--growers/farmers/qas/document-libraries/mpqas-pdfs/mpqas-processor.pdf>

Bord Bia 2017. Sustainable Beef and Lamb Assurance Scheme. Accessed at:
https://www.bordbia.ie/globalassets/bordbia.ie/farmers--growers/farmers/qas/document-libraries/sblas-pdfs/sustainable_beef_and_lamb_assurance_scheme_standard.pdf

Global Animal Partnership 2009. Global Animal Partnership 5-Step Animal Welfare Rating Standards for Beef Cattle. Accessed at: <https://globalanimalpartnership.org/wp-content/uploads/2020/05/G.A.P.s-Animal-Welfare-Pilot-Standards-for-Beef-Cattle-v1.1.pdf>

Global Animal Partnership 2016. Global Animal Partnership 5-Step Animal Welfare Rating Pilot Standards for Meat Goats v1.1. Accessed at: <https://globalanimalpartnership.org/wp-content/uploads/2017/07/5-Step-Animal-Welfare-Rating-Pilot-Standards-for-Meat-Goats-v1.1.pdf>

Global Animal Partnership 2016. Global Animal Partnership Animal Welfare Rating Pilot Standards for Meat Sheep and Meat Goat Collection Points v1.0. Accessed at:
<https://globalanimalpartnership.org/wp-content/uploads/2017/12/Animal-Welfare-Rating-Pilot-Standards-for-Meat-Goat-and-Meat-Sheep-Collection-Points-v1.0.pdf>

Global Animal Partnership 2018. Global Animal Partnership 5-Step Animal Welfare Rating Pilot Standards for meat Sheep v1.3. Accessed at: <https://globalanimalpartnership.org/wp-content/uploads/2018/07/5-Step-Animal-Welfare-Rating-Pilot-Standards-for-Meat-Sheep-v1.3-20180712.pdf>

Grazing BMP 2014. Grazing BMP Self-Assessment – Animal Production. Accessed at:
<https://www.bmpgrazing.com.au>

Grazing BMP 2014. Grazing BMP Self-Assessment – Animal Welfare. Accessed at:
<https://www.bmpgrazing.com.au>

Humane Farm Animal Care 2012. Humane Farm Animal Care Animal Care Standards January 2012. Young Dairy Beef. Accessed at: <https://certifiedhumane.org/wp-content/uploads/Std12.YoungDairyBeef.2A-3.pdf>

Humane Farm Animal Care 2013. Humane Farm Animal Care Animal Care Standards March 2013. Dairy, Fiber and Meat Goats. Accessed at: https://certifiedhumane.org/wp-content/uploads/Std19.Goat_3H.pdf

Humane Farm Animal Care 2019. Humane Farm Animal Care Animal Care Standards January 2019. Beef Cattle. Accessed at: <https://certifiedhumane.org/wp-content/uploads/Std19.BeefCattle.3H.pdf>

Humane Farm Animal Care 2019. Humane Farm Animal Care Animal Care Standards June 2019. Sheep including Dairy Sheep. Accessed at: <https://certifiedhumane.org/wp-content/uploads/Std19.Sheep.pdf>

North American Meat Institute 2019. Recommended Animal Handling Guidelines and Audit Guide. September 2019. Rev 2. Accessed at:

http://animalhandling.org/sites/default/files/forms/Animal_Handling_Guide091719.pdf

OIE 2019. Terrestrial Animal Health Code (2019). Volume 1. Section 7 – Animal Welfare. Accessed at:

<http://www.oie.int/en/standard-setting/terrestrial-code/access-online/>

Quality Meat Scotland 2014. Quality Meat Scotland Assurance Scheme 2014 Haulage Standards.

Accessed at: https://www.qmscotland.co.uk/sites/default/files/2014_haulage_standards_final.pdf

Quality Meat Scotland 2015. Quality Meat Scotland Assurance Scheme 2015 Auction Market Standards. Accessed at:

https://www.qmscotland.co.uk/sites/default/files/2015_auction_market_standards_final.pdf

Quality Meat Scotland 2015. Quality Meat Scotland Assurance Scheme 2015 Processor Standards.

Accessed at:

https://www.qmscotland.co.uk/sites/default/files/2015_processor_standards_final_0.pdf

Quality Meat Scotland 2018. Quality Meat Scotland Assurance Scheme 2018 Cattle and Sheep Standards. Accessed at:

https://www.qmscotland.co.uk/sites/default/files/2018_cattle_sheep_assurance_scheme_standards_2.pdf

Red Tractor Assurance 2016. Livestock Collection Centre (Including emergency lairage) Standards.

Version 3.0. Accessed at: https://assurance.redtractor.org.uk/contentfiles/Farmers-6477.pdf?_=636457570995320591

Red Tractor Assurance 2016. Livestock Market Standards. Version 3.0. Accessed at:

https://assurance.redtractor.org.uk/contentfiles/Farmers-6374.pdf?_=636457582192250258

Red Tractor Assurance 2016. Livestock Transport Standards. Version 3.0. Accessed at:

https://assurance.redtractor.org.uk/contentfiles/Farmers-6716.pdf?_=636457571466909420

Red Tractor Assurance 2017. Beef and Lamb Standards. Version 4.1. Accessed at:

https://assurance.redtractor.org.uk/contentfiles/Farmers-6800.pdf?_=636790169592983846

Red Tractor Assurance 2018. Meat Processing Scheme. Version 3.2. Accessed at:

https://assurance.redtractor.org.uk/contentfiles/Farmers-6942.pdf?_=636670972267965627

RSPCA Assured 2010. RSPCA Welfare Standards for Beef Cattle. Accessed at:

<https://science.rspca.org.uk/sciencegroup/farmanimals/standards>

RSPCA Assured 2013. RSPCA Welfare Standards for Sheep. Accessed at:

<https://science.rspca.org.uk/sciencegroup/farmanimals/standards>

RSPCA Australia 2013. RSPCA Australia Better Beef Cattle Welfare: Our Vision. Accessed at:

<https://www.rspca.org.au/what-we-do/working-farming-industries/beef-cattle-welfare>

Scottish Organic Producers Association 2012. Organic Standards for Food and Farming. Issue 4. Accessed at:

http://www.sopa.org.uk/assets/0000/1367/SOPA_OrganicProducerStandardsIssue4_2012.pdf

Scottish Organic Producers Association 2012. SOPA Standards for Processors, Importers and Animal Feed Compounders. Section 12 – Abattoir Standards. Accessed at:

http://www.sopa.org.uk/assets/0000/0061/Standard_12_Abattoir.pdf

Soil Association 2019. Soil Association Standards Farming and Growing. Version 18.1. Updated on 17 July 2019. Accessed at: <https://www.soilassociation.org/media/15931/farming-and-growing-standards.pdf>

Soil Association 2019. Soil Association Standards Abattoir and Slaughtering. Version 18.1. Updated on 17 July 2019. Accessed at: <https://www.soilassociation.org/media/16026/abattoir-and-slaughtering-standards.pdf>

Soil Association 2019. Soil Association EU Equivalent Organic Standards Farming and Growing. Version 1. Updated 17 July 2019. Accessed at: <https://www.soilassociation.org/media/18609/soil-association-eu-equivalent-standards-farming-and-growing.pdf>

Soil Association 2019. Soil Association EU Equivalent Organic Standards Abattoir and Slaughtering. Version 1.1. Updated 17 July 2019. Accessed at: <https://www.soilassociation.org/media/18610/soil-association-eu-equivalent-standards-abattoir-slaughtering.pdf>