





Dairy cows Toolkit

Resource 1: Scoring scales

Lameness scoring

Source: Agriculture and Horticulture Development Board (AHDB): [Mobility Scoring – How to score your cows](#)

Category of score	Score	Description of cow behaviour	Suggested action
	0	<p>Walks with even weight-bearing and rhythm on all four feet, with a flat back</p> <p>Long, fluid strides possible</p>	<p>Routine (preventative) foot-trimming when/if required</p> <p>Record mobility at next scoring session</p>
	1	<p>Steps uneven (rhythm or weight-bearing) or strides shortened; affected limb or limbs not immediately identifiable</p>	<p>Could benefit from routine (preventative) foot-trimming when/if required</p> <p>Further observation recommended</p>
	2	<p>Uneven weight-bearing on a limb that is immediately identifiable and/or obviously shortened strides (usually with an arch to the centre of the back)</p>	<p>Lame and likely to benefit from treatment</p> <p>Foot should be lifted to establish the cause of lameness before treatment</p> <p>Should be attended to as soon as practically possible</p>
	3	<p>Unable to walk as fast as a brisk human pace (cannot keep up with the healthy herd)</p> <p>Lame leg easy to identify – limping; may barely stand on lame leg(s); back arched when standing and walking</p> <p>Very lame</p>	<p>This cow is very lame and requires urgent attention, nursing and further professional advice</p> <p>Examine as soon as possible; Cow will benefit from treatment</p> <p>Cow should not be made to walk far and kept on a straw yard or at grass</p> <p>In the most severe cases, culling may be the only possible solution</p>

Body condition scoring

Source: AssureWel: [Indicators of dairy cow welfare](#)

Sample: 20 cows selected at random (3 or more assessed jointly with stockperson)

Visually assess cattle based on the Defra condition scoring method, viewing the animal from behind and from the side, the tail head and loin area:

Scoring:

Thin = Defra score 1 or less than 2

- Tail head – deep cavity with no fatty tissue under skin
- Skin fairly supple but coat condition often rough
- Loin – spine prominent and horizontal processes sharp



The following list should assist in making a confident decision with cows in BCS <2.

- Individual vertebra will be distinct along the backbone.
- Individual horizontal processes are visible as individual bones and give a prominent shelf-like appearance to the loin.
- Outline of 4 or more ribs are visible.
- Outline of the hook bone is visible and angular with no fat padding.
- Outline of the pin bone is visible and angular with no fat padding.
- Tailhead is prominently visible. Either side of tailhead is sunken and hollow. There are folds of skin in the depression between the tail head and pin bone.
- Thurl is sunken and curved in.

Moderate - Defra score 2 or 3 to less than 4

Good = Score 2: Tail head – shallow cavity but pin bones prominent; some fat under skin, skin supple. Loin – horizontal processes can be identified individually with ends rounded.

Score 3: Tail head – fat cover over whole area and skin smooth but pelvis may be seen. Loin – end of individual horizontal process cannot be seen; only slight depression in loin.



Fat = Defra score 4 to 5

- Tail head – completely filled or buried and folds and patches of fat evident.
- Loin – cannot see horizontal processes and completely rounded appearance (a slight loin depression may still be seen).



The following list should assist in making a confident decision with cows in BCS ≥ 4 .

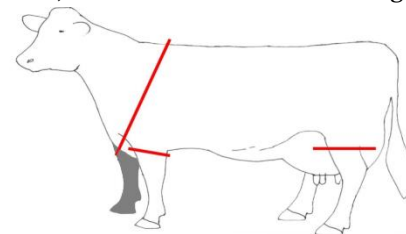
- Back is solid and straight.
- Individual horizontal processes are no longer visible as individual bones but a rounded shelf-like appearance is still observable.
- Hook bones are rounded with obvious fat padding or may not be obviously visible because they are buried in fat.
- Pin bones are rounded with obvious fat padding or may not be obviously visible because they are buried in fat.
- Tail head and thurl is filled in.

Swellings scoring

Source: AssureWel: [Indicators of dairy cow welfare](#)

Sample: 20 cows selected at random (3 or more assessed jointly with stockperson)

Visually assess the following regions of one (randomly selected) side of the animal, from a distance not exceeding 2m (see picture)



- Head & Neck
- Body (including flank, back & hindquarter)
- Front leg
- Rear legs (including outside of the near leg and inside of the far leg as well as the udder with teats)

Scoring:

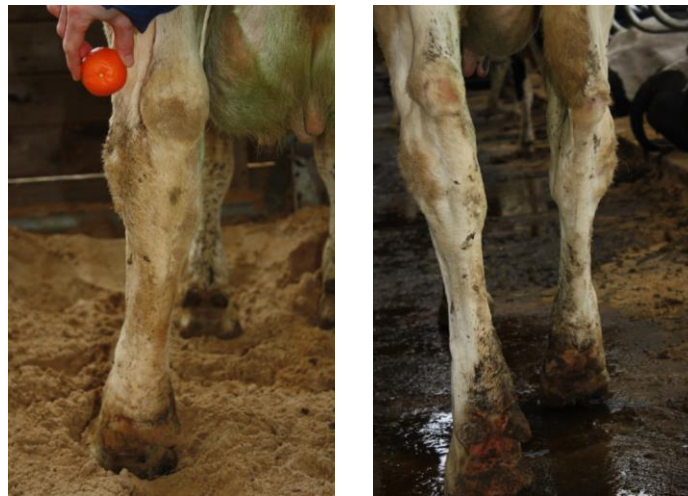
0 = No swelling

No swelling or no swelling ≥ 2 cm diameter (smaller than grape-sized)



1S = Mild swelling

Mild swelling is such that the normal anatomy of the area is enlarged, poorly defined or obscured. Around the hock and the knee this will be apparent as a lack of definition of the tendons and other structures around the joint, and the hock will appear to have lost the 'waist' to the joint. On other parts of the body the swelling will be 2- 5cm in diameter e.g. a golf ball.



2S = Substantial swelling

Substantial swelling is an abnormal enlargement which is a prominent / pronounced extension away from the body. Around the hock and the knee (carpus) this will be apparent as an obviously rounded swelling >5cm in diameter, e.g. the size of a clementine. On other parts of the body the swelling may be long, rather than round.



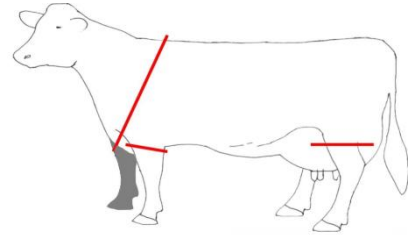
NB: swollen hocks = a thickening of the joint such that the usual joint anatomy becomes poorly defined or obscured.

Hair loss scoring

Source: AssureWel: [Indicators of dairy cow welfare](#)

Sample: 20 cows selected at random (3 or more assessed jointly with stockperson)

Visually assess the following regions of one (randomly selected) side of the animal, from a distance not exceeding 2m (see picture):



- a. Head & Neck
- b. Body (including flank, back & hindquarter)
- c. Front leg
- d. Rear legs (including outside of the near leg and inside of the far leg as well as the udder with teats)

Scoring:

- 0** = No hair loss or lesion
No lesions or hairless patches $\geq 2\text{cm}$ diameter.
No hair is missing or any hairless/bald patch is smaller than a £1 coin (2cm diameter).



- H** = Hairless patches
One or more hairless patches (may include scars) $\geq 2\text{cm}$ diameter



- L** = Lesion
One or more lesions (areas of skin damage i.e. wound or scab) $\geq 2\text{cm}$ diameter.
(Score as a lesion even if accompanied by a hairless patch. Do not include scars)



Cleanliness scoring

Source: AssureWel: [Indicators of dairy cow welfare](#)

Sample: 20 cows selected at random (3 or more assessed jointly with stockperson)

Visually assess the one randomly selected side of the animal and behind, only including the hind quarters to coronary band and udder:

Scoring:

0 = Clean

No dirt or only minor splashing present

2 = Very Dirty

An area of dirtiness (i.e. layer or plaques of dirt) amounting to at least forearm length (40cm) in any dimension.



Resource 2: Examples of animal abuse

Beat, strike or kick animals; *ill-treat*; *exhaust*; *overload*; *torture*; *excessively frighten*; apply pressure to any particularly sensitive part of the body in such a way as to cause unnecessary pain or suffering; suspend the animals themselves by mechanical means; lift or drag the animals by head, ears, horns, legs, tail or fleece, or handle them in such a way as to cause unnecessary pain or suffering; use prods or other implements with pointed ends; tie by the horns, antlers, nose rings or by legs tied together. Unnecessary or cruel use of instruments which administer electric shocks.

Resource 3: Glossary

LENGTH 1ft = 0.305m	LENGTH 1m = 3.281ft	AREA 1m ² = 10.764ft ²
AREA 1ft ² = 0.0929m ²	WEIGHT 1lb = 0.454kg	WEIGHT 1kg = 2.205lb
LIGHT 20 lux = 1.858 foot candle	LIGHT 0.25 foot candle = 2.691 lux	LIGHT 1 foot candle = 10.764 lux

Resource 4: Air quality score scale

- 3 Air quality: odour and dust distinctly present; observer experiences watery eyes and/or coughing.
- 2 Weak odour and dust noticeable; observer can breathe without effort.
- 1 No odour or dust, not noticeable.

Resource 5: Medicine purchase and use records

Medicine purchase records to include: identity of medicine; quantity of medicine; date of purchase; name and address of supplier; batch number(s); and expiry date(s). For any medicated feed, a written prescription is required.

Medicine use records to include: name of the vaccine, drug or other substance; lot and batch number; quantity of medicine administered; date of treatment; identification of the individual or group of cattle to which administered; age of treated animals; number of animals treated; date of administration; date treatment finished; name of administrator; name of vet issuing prescription; reason for treatment; route of administration; length of treatment; withdrawal times for meat and milk if appropriate; and date of safe slaughter if appropriate.

Resource 6: Health and welfare (H&W) plan

1. Infectious disease control and vaccinations used and planned
2. Parasite control
3. Management of non-infectious (management-induced) disease and injury
4. Management of metabolic disorders (bloat, acidosis, hypocalcaemia, hypomagnesaemia, ketosis)
5. Management of problems at calving and abortions
6. Management of: foot care and lameness management; mastitis; injuries; metabolic disorders; and body condition scores
7. Management of downer cows (including use of lifting gear, type of lifting gear used, use of shackles/hobbles, and procedures applied to not cause unnecessary pain or distress to the animal)
8. Management of cows at drying off
9. Calving procedures
10. Calf management
11. Pain relief procedures
12. Health and disease incidence record-keeping
13. Written plan to respond to sudden increases in disease incidence
14. Monitoring of KPIs and KWIs, and actions planned to deal with increases in KWI or KPI levels
15. Corrective Action Plan within the health and welfare plan, to bring performance in line with good practice
16. Methods and records of euthanasia

Resource 7: Biosecurity plan

1. Emergency contact list
2. Named biosecurity person(s)
3. Employee training in biosecurity
4. Lines of separation (LOS) including fences and separate areas, and how they are used to protect animals and people
5. Biosecurity entry procedures
6. Biosecurity exit procedures
7. Biosecurity requirements for visitors (visitor book, PPE)
8. Biosecurity requirements for feed and other deliveries (recording entry, PPE, disinfection)
9. Cleaning and disinfection operating procedures
10. Disinfectant chemicals used (approvals, safe use, dilutions, replenishment)
11. Animal movements (new animals in, movement of animals out)
12. Dealing with sick and dead animals (safe, hygienic disposal)
13. Vermin, vector and wildlife control

Resource 8: Links to assurance standard organisations

[RSPCA \(UK\) Assured Standards](#)

[RSPCA \(Australia\) Standards](#)

[Global Gap Animal Welfare Standards](#)

[Red Tractor Standards](#)

[Beter Leven Controls](#)

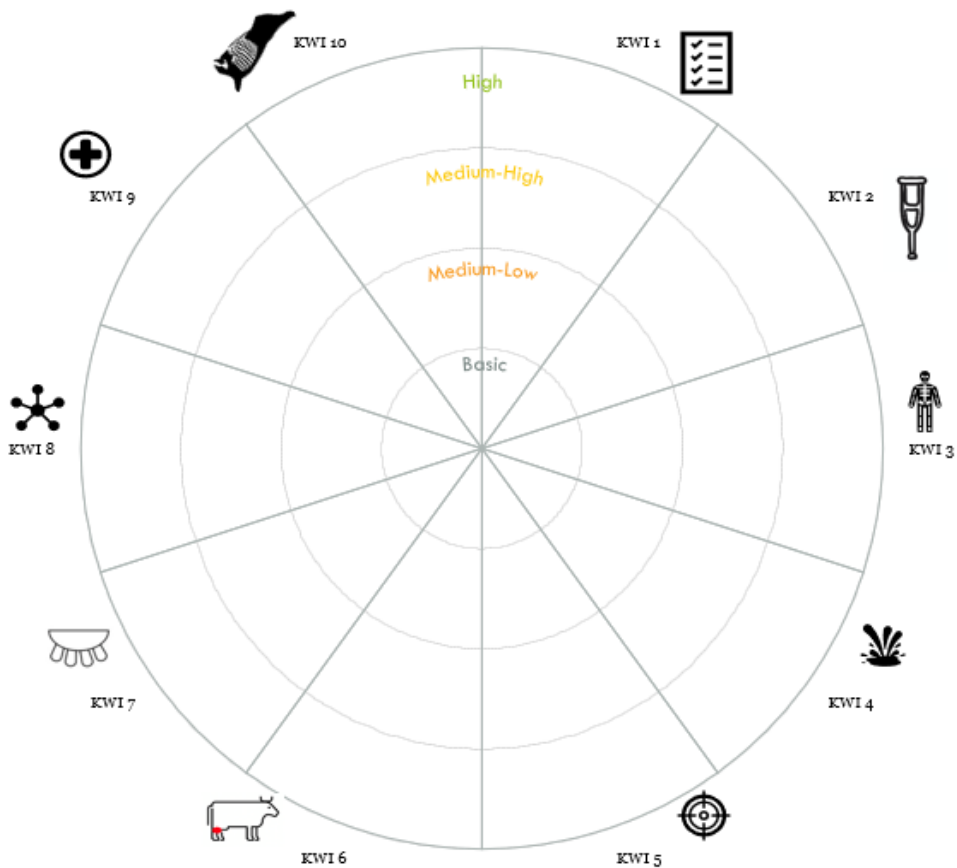
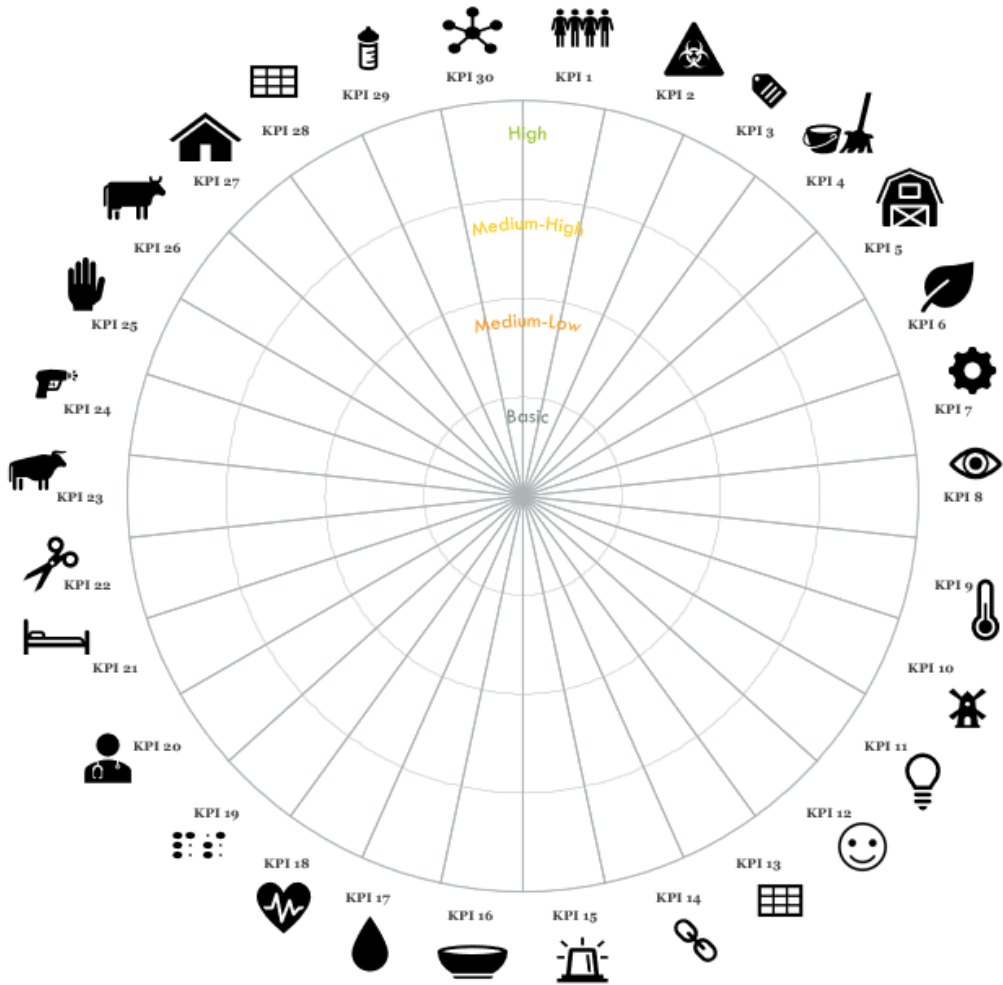
[German Animal Welfare Federation](#)

[Four Paws](#)

[AssureWel](#)

[Welfare Quality Network - Assessment Protocols](#)

Resource 9: Blank sector charts



Resource 10: Space allowances, farm and transport

Pen and cubicle sizes

Calf pen size

Calf liveweight (kg)	Minimum pen area per calf (m x m)
<60	1m x 1.5m
60-80	1m x 1.8m

Cubicle size

- Cubicle dimensions should be suitable for the largest 10 per cent of cows in the herd.
- Cubicle width should be at least 1.8 x hip width (measured as the distance between the pin bones).

Cubicle length

Cow weight (kg)	Open-front cubicle length (m)	Closed-front cubicle length (m)	Head-to-head cubicle length (m)
550	2.10	2.40	4.20
700	2.30	2.55	4.60
800	2.40	2.70	4.80

Youngstock pens

Liveweight (kg)	Length (m)	Width (m)
200	1.45	0.7
300	1.70	0.85
350	2.05	1.05
>350	2.1	1.10

Loose-housed systems (straw yards)

Dairy cows

Liveweight (kg)	Bedded area (m ² per head)	Total area including bedding, feeding and loafing area (m ² per head)
400-499	5.5	8.0
500-599	6.0	8.5
600-699	6.5	9.0
700-799	7.0	10.0
800 +	8.0	11.0

Calves

Liveweight (kg)	Total area including bedding, feeding and loafing area (m ² per head)
50-84	1.5
85-140	1.8
140-200	2.4

Youngstock

Liveweight (kg)	Bedded area (m ² per head)	Total area including bedding, feeding and loafing area (m ² per head)	Fully slatted floors (m ² per head)
200-299	2.0	3.0	1.1
300-399	2.75	3.95	1.5
400-499	3.5	4.9	1.8
500-599	4.25	5.85	2.1
600-699	5.0	6.8	2.3

Transport densities

Category	Weight (up to) (kg)	Area required m ² per animal
Small calves	55	0.30 to 0.40
Medium-sized calves	110	0.40 to 0.70

Heavy calves	200	0.70 to 0.95
Medium-sized cattle	325	0.95 to 1.30
Heavy cattle	550	1.30 to 1.60
Very heavy cattle	>700	(>1.60)

Resource 11: Mutilations

Mutilation	When?	Who by?
Castration: elastration/rubber ring	First week of life only	Competent stock person
Castration: bloodless castration (e.g. Burdizzo)	Up to 2 months of age	Competent stock person With anaesthetic
Castration: when animal is over 2 months of age	Over 2 months of age	Vet only With anaesthetic
Horn disbudding: chemical cauterisation	First week of life only	Competent stock person With anaesthetic
Horn disbudding: hot iron	Up to 2 months of age	Competent stock person With anaesthetic
Dehorning: cutting/sawing horn	(not to be used routinely) Up to 5 months of age	Competent stock person With anaesthetic
Dehorning: cutting/sawing horn	Over 5 months of age	Vet only With anaesthetic
Removal of extra (supernumary) teats: using scissors (not commonly done)	Up to 3 months	Competent stock person With anaesthetic
Removal of extra (supernumary) teats: using scissors (not commonly done)	Over 3 months	Vet only With anaesthetic

Resource 12: Published resources and further reading

Agriculture and Horticulture Development Board (AHDB): [Mobility Scoring: How to score your cows](#)

AHDB: [Lameness in cows: an introduction to the Healthy Feet Programme](#)

AssureWel: [Indicators of dairy cow welfare](#)

[AssureWell: The AssureWel Approach to Improving Farm Animal Welfare: The Development and Use of Welfare Outcome Assessments in Farm Assurance](#)

BBFAW Investor Briefing (August 2015): [How are Investors Using the Business Benchmark on Farm Animal Welfare?](#)

BBFAW Investor Briefing (November 2017): [How Companies Are Using the Business Benchmark on Farm Animal Welfare](#)

BBFAW: [The Business Benchmark on Farm Animal Welfare Report 2019](#)

British Veterinary Association: [Farm Assurance Schemes Infographic](#)

Compassion in World Farming: [Strategic Plan 2013–2017, For Kinder, Fairer Farming Worldwide](#)

COUNCIL DIRECTIVE (EC) 1099/2009 on the protection of animals at the time of killing

COUNCIL DIRECTIVE (EC) 1/2005 of 22 December 2004 on the protection of animals during transport and related operations and amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) 1255/97

COUNCIL DIRECTIVE 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes.

[COUNCIL DIRECTIVE 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes](#)

Council of Europe: [Recommendation Concerning Cattle adopted by the Standing Committee on 21 October 1988](#)

Council of Europe: Treaty No. 087, [European Convention for the Protection of Animals kept for Farming Purposes](#)

DAERA (2011): [Beef Cattle - A code of practice issued under the Welfare of Animals Act \(Northern Ireland\) 2011](#)
European Commission (2015): [Animal Welfare Indicators](#)

FAO: [Water Quality for Livestock and Poultry](#)

FARM: [Animal Care Version 4.0](#)

[FAWC advice on animal sentience \(10 June 2019\)](#)

[FAWC opinion on the welfare of cattle kept for beef production \(11 February 2019\)](#)

[FAWC: Evidence and the welfare of farmed animals - part 2: evidence based decision making \(19 July 2018\)](#)

[FAWC advice on sustainable agriculture and farm animal welfare \(24 February 2017\)](#)

[FAWC opinion on calf nutrition \(26 November 2015\)](#)

[FAWC advice on space and headroom allowances for transport of farm animals \(17 September 2013\)](#)

[FAWC report on farm animal welfare: health and disease \(29 November 2012\)](#)

[FAWC opinion on contingency planning for farm animal welfare in disasters and emergencies \(15 March 2012\)](#)

[FAWC advice on sustainable intensification of livestock agriculture \(3 February 2012\)](#)

[FAWC report on education about farm animal welfare \(15 December 2011\)](#)

[FAWC report on economics and farm animal welfare \(7 December 2011\)](#)

[FAWC opinion on the welfare of animals killed on-farm \(29 March 2018\)](#)

[FAWC opinion on CCTV in slaughterhouses \(3 February 2015\)](#)

Gov UK: [The Welfare of Farmed Animals \(England\) Regulations 2007](#)

Gov UK: [Animal Welfare Act 2006](#)

Gov UK: [Welfare of Animals at the Time of Killing \(England\) Regulations 2015](#)

[ICAR: Technical Series and Proceedings](#)

IFC (2014): Good Practice Note: Improving Animal Welfare in Livestock Operations (2014)

OIE: [Terrestrial Animal Health Code \(2019\)](#)

OIE Terrestrial Animal Health Code (2019): [Chapter 7.5, Slaughter of Animals](#)

OIE: [The OIE Strategy on Antimicrobial Resistance and the Prudent Use of Antimicrobials \(2016\)](#)

[Red Tractor Dairy Standards Version 4.2 \(updated 1 October 2019\)](#)

RSPCA: [Welfare standards for dairy cattle \(January 2018\)](#)

Share Action: [What we do](#)

Vet Sustain (2019): [The Veterinary Sustainability Goals](#)

Welfare Quality Network: [Assessment Protocols](#)

Welfare Quality: [Assessment protocol for cattle \(without veal calves\)](#)

WHO: [Water Safety and Drinking Water Quality Guidelines](#)

World Bank Group: [General Environmental, Health and Safety \(EHS\) Guidelines, \(April 2007\)](#)

[World Vet Antimicrobial Stewardship: McDonald's Corporation – Vision for Antimicrobial Stewardship in Food Animals \(March 2015\)](#)