

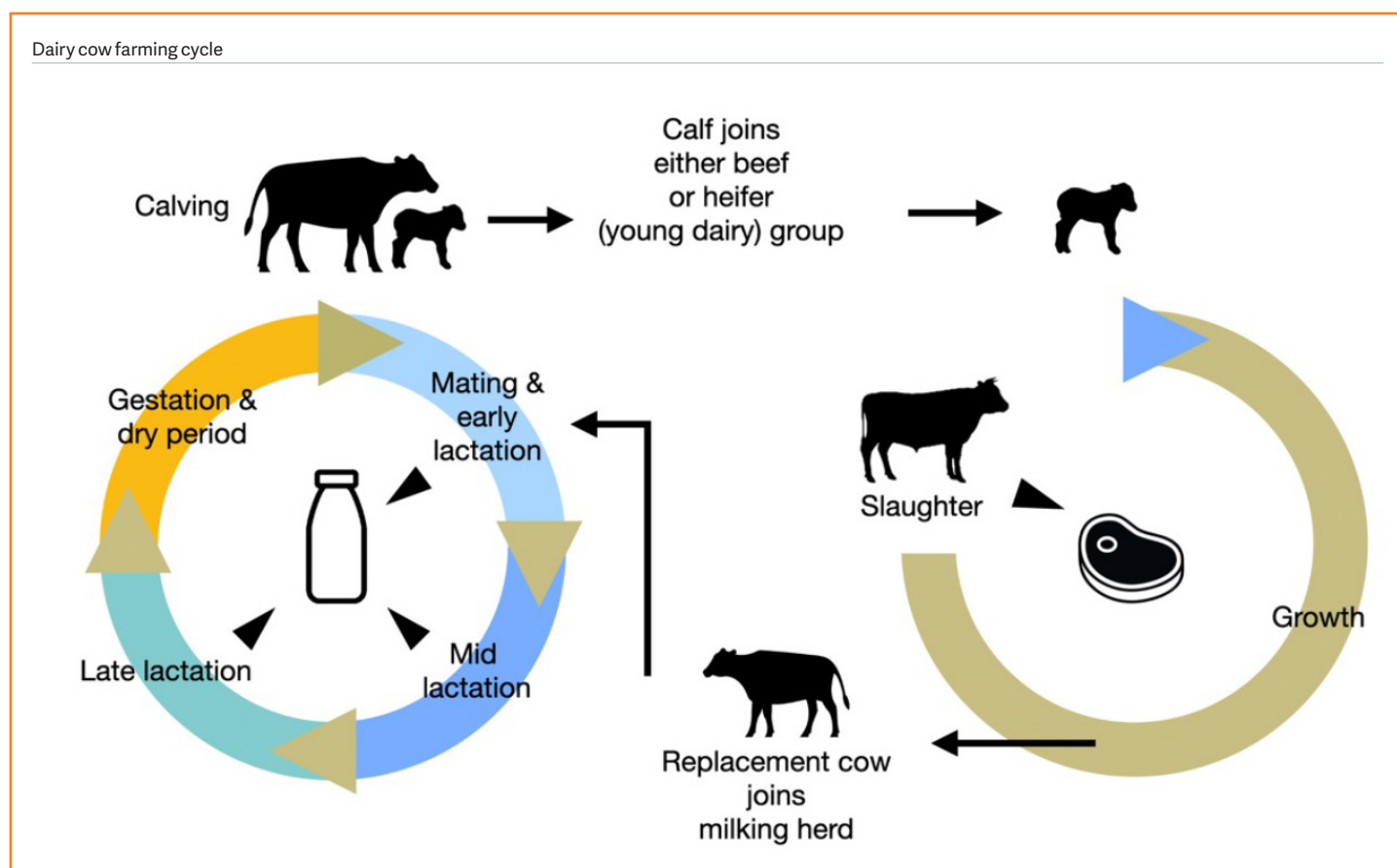
5.2 Dairy cows Toolkit

Introduction

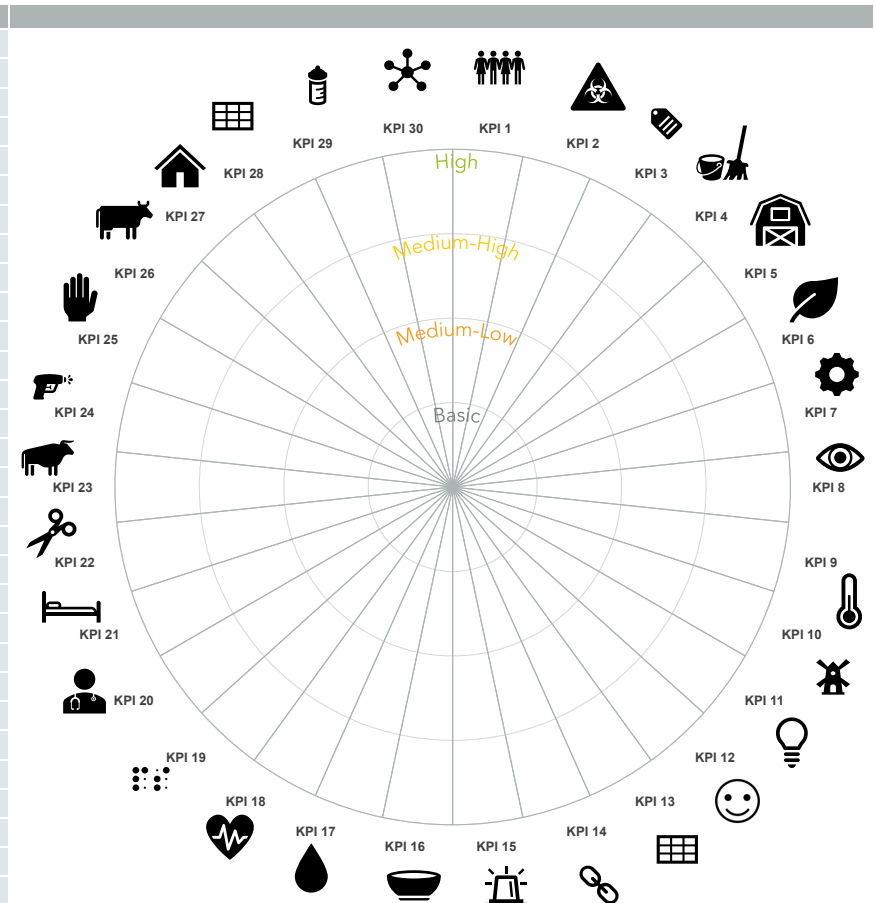
Cattle were domesticated around 10,000 years ago from aurochs in the Middle East, creating the *Bos taurus*-type of animal, and from a different type of auroch in the Indian subcontinent, resulting in zebu-type cattle (*Bos indicus*). Cattle are raised to produce milk, meat and hides and to provide draft power. In grass-based systems, cattle play an important role in nutrient recycling and can convert human-inedible plant matter into protein. Dairy cattle are raised in diverse production systems ranging from capital-intensive, specialised dairy grass-based and indoor (fully housed), through to extensive pastoral and agro-pastoral systems. According to the FAO, the world has a population of 250 million dairy cows. Of this total, India has a dairy cow population of 56 million, the EU has 23 million, Brazil 16 million, and the US, Mexico, China, and New Zealand are also significant dairy producers. Cattle can live for up to 22 years, but dairy cows are usually taken out of milking at between four and eight lactations (between five to ten years of age) (See figure: Dairy cow farming cycle).

Given a choice, cows will spend a lot of time at pasture, especially at night, but will opt for housing in certain climatic conditions. Cattle have been shown to enjoy social interactions, including between cow and calf, although both males and females fight occasionally. Calves enjoy playing as they get older, and even occasionally as adults, such as when first accessing pasture after winter housing. Cattle will choose to eat a range of plants when available. Dairy cattle in particular enjoy frequent interactions with humans, and positive relationships between people and cows have been shown to be pleasurable for cows.

Key welfare impacts on dairy cattle include: lack of pasture access in some housed dairy cows (restricting their grazing behaviours); mutilations such as castration and disbudding; very early weaning of calves; lameness; mastitis; skin lesions; emaciation; transport over long distances; and non-stun slaughter.



KPI	Achievement
KPI 1: People, training - Links to P1, P11	<input type="radio"/>
KPI 2: Biosecurity - Links to P5, P8, P11	<input type="radio"/>
KPI 3: Animal identification - Links to P10	<input type="radio"/>
KPI 4: Cleaning and disinfection - Links to P5, P8, P11	<input type="radio"/>
KPI 5: Farm environment: physical - Links to P4, P5, P6, P9	<input type="radio"/>
KPI 6: Farm: pasture, walking to milking - Links to P3, P4, P6	<input type="radio"/>
KPI 7: Farm: milking, milking machine - Links to P4, P9	<input type="radio"/>
KPI 8: Animal checks - Links to P10, P11	<input type="radio"/>
KPI 9: Farm environment: temperature - Links to P4, P9	<input type="radio"/>
KPI 10: Farm environment: ventilation, air quality, dust - Links to P4, P9	<input type="radio"/>
KPI 11: Farm environment: light - Links to P6	<input type="radio"/>
KPI 12: Farm environment: enrichments - Links to P6	<input type="radio"/>
KPI 13: Farm environment: stocking - Links to P4, P6	<input type="radio"/>
KPI 14: Tethering - Links to P4, P6	<input type="radio"/>
KPI 15: Farm environment: emergency - Links to P7, P10, P11	<input type="radio"/>
KPI 16: Feed - Links to P3	<input type="radio"/>
KPI 17: Water - Links to P3	<input type="radio"/>
KPI 18: Health, and health planning - Links to P5	<input type="radio"/>
KPI 19: Isolation - Links to P5	<input type="radio"/>
KPI 20: Medicines - Links to P5, P8, P11	<input type="radio"/>
KPI 21: Litter, bedding - Links to P4	<input type="radio"/>
KPI 22: Mutilations - Links to P5, P7	<input type="radio"/>
KPI 23: Management of dairy bulls - Links to P4, P5, P6, P9	<input type="radio"/>
KPI 24: Euthanasia - Links to P5, P7	<input type="radio"/>
KPI 25: Transport - Links to P10, P11	<input type="radio"/>
KPI 26: Calving cows - Links to P4, P5, P10, P11	<input type="radio"/>
KPI 27: Management of calves: calf housing - Links to P4, P5, P6, P11	<input type="radio"/>
KPI 28: Management of calves: space - Links to P4, P5, P6	<input type="radio"/>
KPI 29: Management of calves: calf feeding - Links to P3	<input type="radio"/>
KPI 30: Management of calves: calf social - Links to P6	<input type="radio"/>

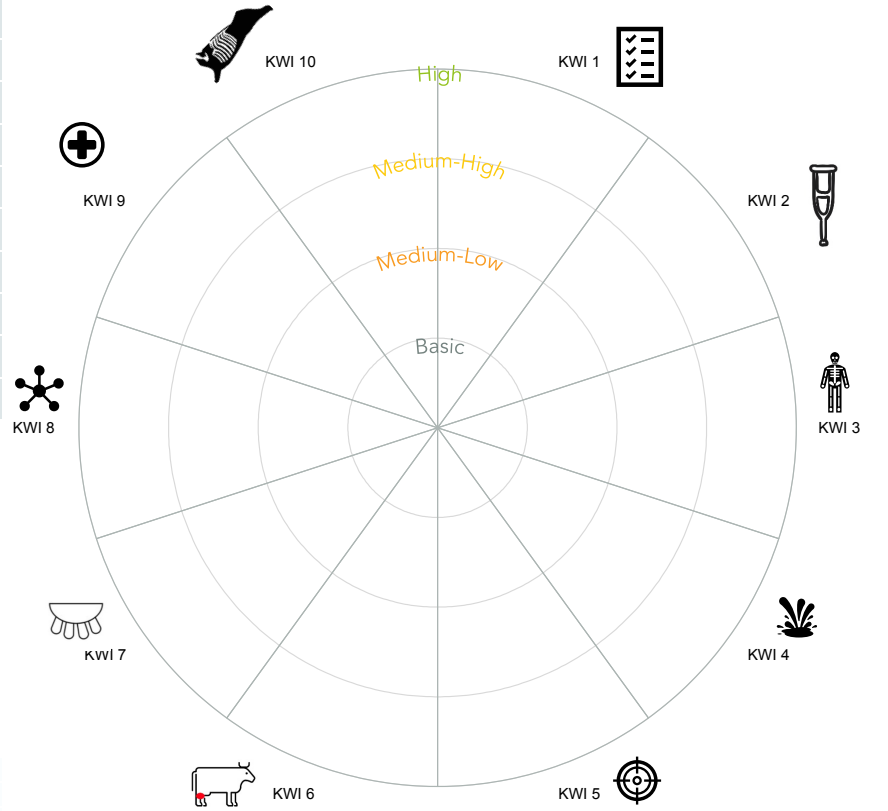


Basic level not achieved
 Basic (B)
 Medium-Low (ML)
 Medium-High (MH)
 High (H)

Overall KPI achievement



KWI	Achievement
KWI 1: Animal records - Links to P10	<input type="radio"/>
KWI 2: Lameness - Links to P2, P4, P5, P11	<input type="radio"/>
KWI 3: Body condition - Links to P2, P4, P5, P11	<input type="radio"/>
KWI 4: Cleanliness - Links to P4, P5, P7, P11	<input type="radio"/>
KWI 5: Swellings - Links to P4, P5, P11	<input type="radio"/>
KWI 6: Hair loss, abrasions - Links to P4, P5, P11	<input type="radio"/>
KWI 7: Mastitis - Links to P4, P5, P8, P10, P11	<input type="radio"/>
KWI 8: Social - Links to P6	<input type="radio"/>
KWI 9: Transport: fitness to travel - Links to P4, P5, P7, P11	<input type="radio"/>
KWI 10: Slaughter - Links to P5, P11	<input type="radio"/>



Basic level not achieved	
Basic (B)	
Medium-Low (ML)	
Medium-High (MH)	
High (H)	

Overall KWI achievement

Overall achievement

Overall achievement

**KPI 1**


People, training - Links to P1, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	All people responsible for the care of animals should have received appropriate training by others with appropriate experience, who can demonstrate sufficient knowledge of animal behaviour, general signs of diseases, and indicators of poor animal welfare.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	People handling animals are trained in milking, cow care and handling techniques, as well as biosecurity.	<input type="radio"/>		<input type="radio"/>		
	Records of training are kept.	<input type="radio"/>				
Medium-High (MH)	Routine procedures should not cause injury, panic, lasting fear or avoidable pain or distress, and where painful procedures cannot be avoided, they should be carried out by competent and trained people.	<input type="radio"/>		<input type="radio"/>		
	An animal welfare contact person or co-ordinator, responsible for animal welfare aspects within the farm or company, is identified.	<input type="radio"/>				
	The animal welfare contact person has received training in animal welfare aspects.	<input type="radio"/>				
High (H)	Training, performance and competence of staff is reviewed, and periodic refresher training is carried out.	<input type="radio"/>		<input type="radio"/>		
	People in the company are supported to have higher-level training, or achieve professional qualifications in dairy cow management, animal care and animal welfare.	<input type="radio"/>				
	The company supports staff to take part in development and training programmes.	<input type="radio"/>				


**KPI 2**


Biosecurity - Links to P5, P8, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Dairy cow housing has surfaces that allow effective cleaning.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	A biosecurity programme/plan (Resource 7) is in place.	<input type="radio"/>		<input type="radio"/>		
Medium-High (MH)	Access to dairy farm buildings is limited to essential farm employees only.	<input type="radio"/>		<input type="radio"/>		
	All farm visitors adhere to strict biosecurity requirements specific to the farm being visited.	<input type="radio"/>				
High (H)	The biosecurity programme includes a risk assessment, which may be based on hazard analysis and critical control point (HACCP) training, on the primary pathogens and parasites likely to pose a risk to the herd.	<input type="radio"/>		<input type="radio"/>		
	The herd is a closed herd with HACCP-based protocols for minimising entry of disease by any species or staff.	<input type="radio"/>				

**KPI 3**

Animal identification - Links to P10		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Cattle are identifiable, in line with the local requirements – for example by ear tag or other permitted mark – to allow for traceability (see also: Mutilations KWI Dairy 22).	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Imported cattle are identifiable, in line with local requirements, by ear tag or other mark to allow for traceability.	<input type="radio"/>		<input type="radio"/>		
Medium-High (MH)	Marking of cattle is done with care, by trained people, and avoiding unnecessary pain or distress.	<input type="radio"/>		<input type="radio"/>		
High (H)	If used, neckbands, tailbands or leg bands are fitted with care and adjusted as required to avoid unnecessary pain or distress.	<input type="radio"/>		<input type="radio"/>		

 KPI 4						
Cleaning and disinfection - Links to P5, P8, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Wildlife pests are controlled through the use of bait stations, traps and other appropriate and effective measures, and only approved pest control substances or chemicals permitted by law are used.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	The construction of accommodation, pens, milking areas, dairy and equipment ensures they can be thoroughly cleaned and disinfected.	<input type="radio"/>		<input type="radio"/>		
Medium-High (MH)	Written cleaning and disinfection protocols are implemented.	<input type="radio"/>		<input type="radio"/>		
	A list of permitted disinfectants and detergents used on the farm, and their safety data sheets, is available.	<input type="radio"/>				
High (H)	The most humane effective baiting method is adopted, and wildlife pest control baits are only accessible to the targeted species.	<input type="radio"/>		<input type="radio"/>		

 KPI 5						
Farm environment: physical - Links to P4, P5, P6, P9		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Floors, surfaces, fittings, equipment and other facilities in and around the dairy housing is designed, constructed, operated and maintained to minimise the risk of escape, injury, electrical shock, trapping, or disease, and are free from rough edges and sharp protrusions. Cattle kept outdoors must have access to shelter and a well-drained lying area.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	The house environment provides opportunity for comfortable resting and normal movement, and expression of a range of normal dairy cow behaviours.	<input type="radio"/>		<input type="radio"/>		
	Cows are protected from predators, vermin, and excessive noise.	<input type="radio"/>				
	Slats, if used, do not result in injury to the cows' feet.	<input type="radio"/>				
	Cubicles must be wide enough for cows to rise and lie down without difficulty and without colliding.	<input type="radio"/>				
Medium-High (MH)	Animals using cubicles are able to stand with all 4 feet in the dry cubicle, and without having to lie with legs in the passageway.	<input type="radio"/>		<input type="radio"/>		
	Cubicle divisions are designed to allow the cow to line up comfortably and properly in her own cubicle, to prevent interference from neighbouring cows.	<input type="radio"/>				
High (H)	Housing is constructed to minimise fire risk. Firefighting equipment and smoke detectors are installed, with capacity to escape the building in an emergency.	<input type="radio"/>		<input type="radio"/>		
	Automatic milking systems are part of an optimised cow environment, with sufficient space, thermal comfort, well designed walkways, good cow flow, lying comfort and air quality.	<input type="radio"/>				

 KPI 6						
Farm: pasture, walking to milking - Links to P3, P4, P6		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware of the welfare advantages of access to pasture when the ground conditions allow.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	For cattle with access to pasture, cow tracks are designed and maintained to not risk damaging the animals' feet.	<input type="radio"/>		<input type="radio"/>		
	Cows are protected from very wet ground or prolonged snow.	<input type="radio"/>				
	Where present, dirt lots, loafing paddocks, loafing yards and wood chip corrals are maintained to provide good ground conditions.	<input type="radio"/>				
Medium-High (MH)	Animals at pasture are given protection from biting insects where possible.	<input type="radio"/>		<input type="radio"/>		
High (H)	At pasture, there is enough shade and shelter available for all animals to use at the same time.	<input type="radio"/>				
High (H)	As previous.	<input type="radio"/>		<input type="radio"/>		



KPI 7

Farm: milking, milking machine - Links to P4, P9		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The milking machine and other related equipment is maintained to ensure proper operation during milking.	<input type="radio"/>		<input type="radio"/>		
	Lactating cows are milked daily.	<input type="radio"/>				
Medium-Low (ML)	Teat cup liners are in good condition and are changed regularly.	<input type="radio"/>		<input type="radio"/>		
	Automatic milking systems are checked daily to ensure all lactating cows have been milked.	<input type="radio"/>				
Medium-High (MH)	The milking machine is tested annually, and any faults corrected.	<input type="radio"/>		<input type="radio"/>		
High (H)	Cows using milking robots are inspected in the same way, and as frequently, as herds using non-robotic systems.	<input type="radio"/>		<input type="radio"/>		



KPI 8

Animal checks - Links to P10, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Daily (minimum) checks are carried out on cattle and calves kept outside.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Twice daily (minimum) checks for animals about to give birth, and cattle and calves inside.	<input type="radio"/>		<input type="radio"/>		
Medium-High (MH)	As previous.	<input type="radio"/>		<input type="radio"/>		
High (H)	In housed systems, CCTV or other electronic monitoring is used to allow continuous monitoring.	<input type="radio"/>		<input type="radio"/>		



KPI 9

Farm environment: temperature - Links to P4, P9		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Heating and cooling systems are capable of producing enough heat or cooling to ensure cows do not get too hot or too cold. This is particularly important for calves and young cattle.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Steps are taken if cows indicate signs of heat stress or extreme cold.	<input type="radio"/>		<input type="radio"/>		
Medium-High (MH)	Fan systems are used to achieve cooling where cow behaviour indicates they are becoming overheated in accommodation.	<input type="radio"/>		<input type="radio"/>		
High (H)	As previous.	<input type="radio"/>		<input type="radio"/>		



KPI 10

Farm environment: ventilation, air quality, dust - Links to P4, P9		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware of air quality as a welfare concern.	<input type="radio"/>		<input type="radio"/>		
	Housing is effectively ventilated with control of humidity, no build-up of noxious gases (for example ammonia, nitrogen oxide, hydrogen sulphide).	<input type="radio"/>				
Medium-Low (ML)	When removing slurry from under slats, a protocol is followed to avoid risks of dangerous gases which may be fatal to people and animals.	<input type="radio"/>		<input type="radio"/>		
	Dust generated by bedding up with straw or sand is minimised.	<input type="radio"/>				
Medium-High (MH)	If meters or testing tubes are used to assess air quality: ammonia must not exceed 25ppm	<input type="radio"/>		<input type="radio"/>		
High (H)	An air quality score is used (see Resource 4).	<input type="radio"/>		<input type="radio"/>		



KPI 11

Farm environment: light - Links to P6		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Light levels are at the legal base requirement.	<input type="radio"/>		<input type="radio"/>		
	If no legal requirement exists, adequate levels of light are provided for carers to observe animals, and for the animals to carry out daytime behaviours.	<input type="radio"/>				
Medium-Low (ML)	Housing has lighting which allows inspection of the cows, and normal behaviours and rest (recommended 200 lux minimum in the feed area).	<input type="radio"/>		<input type="radio"/>		
	Dark rest periods are provided.	<input type="radio"/>				
Medium-High (MH)	Fixed or portable artificial lighting is available, at any time, to allow sufficient light to inspect animals, for example, during calving.	<input type="radio"/>		<input type="radio"/>		
High (H)	Natural light is provided.	<input type="radio"/>		<input type="radio"/>		
	Housed cows have a normal period of daylight hours, and access to an area lit to a level of at least 200 lux measured at cow eye-level.	<input type="radio"/>				



KPI 12

Farm environment: enrichments - Links to P6		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware that cows can use enrichments if they are provided.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	As previous.	<input type="radio"/>		<input type="radio"/>		
	Cow brushes (home-made or purpose-built) are installed in the cattle housing.	<input type="radio"/>				
Medium-High (MH)	Care with tail-hair trimming is shown if electric rotary brushes are used (to avoid tangled tails).	<input type="radio"/>		<input type="radio"/>		
	Cow brushes are installed at the ratios:	<input type="radio"/>				
High (H)	a) one brush (static or rotary) per 100 cows	<input type="radio"/>		<input type="radio"/>		
	b) herds below 100 cows installed at the rate of one per 50 cows.	<input type="radio"/>				



KPI 13

Farm environment: stocking - Links to P4, P6		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Where stocking density is legislated, the legal specification is followed.	<input type="radio"/>		<input type="radio"/>		
	All cows have sufficient space to be able to walk, turn around, sit unobstructed, and access feed and water without undue competition.	<input type="radio"/>				
	If no local legal space allowance is specified, the recommendations in Resource 10 are adopted.	<input type="radio"/>				
Medium-Low (ML)	Cubicle housing systems provide at least 5% more cubicles than the number of cows.	<input type="radio"/>		<input type="radio"/>		
	Cubicle size is suitable for the animal breed and size.	<input type="radio"/>				
	Yards or loose housing allow all cows to lie down at the same time, to rise without difficulty, and to turn around and stretch (see Resource 10 for recommended space allowances).	<input type="radio"/>				
Medium-High (MH)	The loafing (non-cubicle) area per cow is at least 120% of the size of the cubicle lying area.	<input type="radio"/>		<input type="radio"/>		
	There is a minimum of 8m ² lying space per milking cow in non-cubicle systems (see Resource 10).	<input type="radio"/>				
High (H)	As previous.	<input type="radio"/>		<input type="radio"/>		



KPI 14

Tethering - Links to P4, P6		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	All-year-round tethering is not permitted.	<input type="radio"/>				
	If tethered, cattle are untethered before calving.	<input type="radio"/>				
	Tethers do not cause pain or injury, do not tighten, and are made of non-abrasive materials	<input type="radio"/>		<input type="radio"/>		
	Tethers allow cattle space to lie down, rise without difficulty, stand in a natural position, stretch and groom without obstruction.	<input type="radio"/>				
Medium-Low (ML)	Exercise without a tether is provided daily for tethered cattle.	<input type="radio"/>		<input type="radio"/>		
Medium-High (MH)	No tethering of any cattle (cows, bulls, calves) is permitted.	<input type="radio"/>		<input type="radio"/>		
High (H)	As previous.	<input type="radio"/>		<input type="radio"/>		



KPI 15

Farm environment: emergency - Links to P7, P10, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Written plans are in place to deal with emergencies such as fire, power failure, flooding, accidental injuries, freezing, failure of water and feed supply, or chemical or effluent spillage.	<input type="radio"/>		<input type="radio"/>		
	The written plan is in place and displayed, and implementable in an emergency.	<input type="radio"/>				
Medium-Low (ML)	Contacts and emergency phone numbers, and contact numbers in cases where the emergency can affect human health, are available at each site.	<input type="radio"/>		<input type="radio"/>		
Medium-High (MH)	If generators are used for back-up power, they are tested periodically under conditions of load.	<input type="radio"/>		<input type="radio"/>		
High (H)	The emergency plan includes approved methods of humane killing, with each method having an SOP containing instructions for implementation, equipment requirements, training, safety, biosecurity and environmental aspects.	<input type="radio"/>		<input type="radio"/>		
	The methods proposed are consistent with national law.	<input type="radio"/>				



KPI 16

Feed - Links to P3		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The feed is of quantity and quality to maintain normal health and productivity, to prevent prolonged hunger or malnutrition, and is suited to the cows' age and needs.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Feed and watering systems are easily accessible to all cattle, without bullying.	<input type="radio"/>				
	High yield can put high metabolic demands on dairy cows – they should be fed sufficient food to maintain adequate body condition.	<input type="radio"/>		<input type="radio"/>		
	All feeding and drinking systems are checked daily for proper operation.	<input type="radio"/>				
	Feed is stored to protect from contamination or water damage.	<input type="radio"/>				
Medium-High (MH)	Medicated feed is kept separate and clearly labelled.	<input type="radio"/>				
Medium-High (MH)	Feeder space allowance for adult cattle is provided at a minimum of 68cm per cow.	<input type="radio"/>		<input type="radio"/>		
High (H)	As previous.	<input type="radio"/>		<input type="radio"/>		



KPI 17

Water - Links to P3		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Water is of a quantity, quality and hygiene to maintain normal health, and to prevent dehydration.	<input type="radio"/>				
	Drinkers and drinking troughs meet both manufacturer recommendations and local regulatory requirements, and must provide adequate access for all cattle.	<input type="radio"/>		<input type="radio"/>		
	Drinking systems essential for cow health and welfare are checked for proper operation daily.	<input type="radio"/>				
Medium-Low (ML)	Cows have access to clean potable water during all daylight hours.	<input type="radio"/>		<input type="radio"/>		
	Water that is in contact with teats or udders and internal equipment surfaces is potable.	<input type="radio"/>				
Medium-High (MH)	Adequate drinking space is provided. Cows have a minimum of 10cm water trough space per head, so at least 10% of the herd can drink at the same time.	<input type="radio"/>		<input type="radio"/>		
	There are multiple drinking points, good water flow and sufficient water capacity for peak demand.	<input type="radio"/>				
	Troughs are emptied and cleaned out every 1-2 weeks.	<input type="radio"/>				
	Water is tested annually to ensure potability to FAO standards (see FAO in Resource 12).	<input type="radio"/>				
	The company adopts the requirements of Regulation (EC) No 852/2004, Annex I, Part II (4)(d) on use of potable or clean water.	<input type="radio"/>				
High (H)	An emergency water supply has sufficient capacity to supply the site for 24 hours at maximum demand.	<input type="radio"/>		<input type="radio"/>		



KPI 18

Health, and health planning - Links to P5		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	A procedure is in place to report, and deal with, an outbreak of any notifiable disease.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Infectious, parasitic and metabolic diseases, injury, and conditions causing distress, are prevented and controlled through good management, good animal care, biosecurity, vaccination and genetic selection.	<input type="radio"/>		<input type="radio"/>		
	The farming system does not depend on prolonged or routine use of pharmaceuticals.	<input type="radio"/>				
Medium-High (MH)	A H&W plan is in place (Resource 6).	<input type="radio"/>		<input type="radio"/>		
High (H)	The H&W plan is reviewed annually and authorised by the company veterinarian.	<input type="radio"/>		<input type="radio"/>		



KPI 19

Isolation - Links to P5		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware that separation of sick animals from healthy animals has welfare advantages.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Appropriate facilities are available (within 3 hours) for the segregation or isolation of sick or injured cattle.	<input type="radio"/>		<input type="radio"/>		
Medium-High (MH)	The isolation facility is capable of being cleaned and disinfected, and shares no airspace with other livestock housing, does not allow direct contact with any other animal(s), and has drainage preventing contamination of other livestock areas.	<input type="radio"/>		<input type="radio"/>		
High (H)	As previous.	<input type="radio"/>		<input type="radio"/>		



KPI 20

Medicines - Links to P5, P8, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Any drugs or other agents used to treat cattle must be compliant with all local guidelines and applicable local legislation.	<input type="radio"/>		<input type="radio"/>		
	Hormones and antibiotics are not used as growth promoters.	<input type="radio"/>				
	Preventive (prophylactic) use of antimicrobials is not permitted.	<input type="radio"/>				
Medium-Low (ML)	Vaccines and medicines are stored securely and in the recommended conditions (label instructions).	<input type="radio"/>		<input type="radio"/>		
	Medicine use is recorded (see Resource 5).	<input type="radio"/>				
	The company has access to a veterinarian experienced in dairy cattle care.	<input type="radio"/>				
Medium-High (MH)	Any antimicrobials classified as being of 'high' or 'medium' importance for human medicine, defined as Highest Priority Critically Important Antimicrobials (HPCIA), are not permitted for use in dairy cows, unless under veterinary advice.	<input type="radio"/>		<input type="radio"/>		
	Persons responsible for administering medicines have relevant experience and training.	<input type="radio"/>				
	An annual review of medicine use should include a review of records and data, including medicine records, and make recommendations to responsibly reduce antibiotic usage where appropriate, without negatively impacting welfare.	<input type="radio"/>				
High (H)	An antimicrobial stewardship plan is in place and is complied with (see OIE 2016 example in Resource 12).	<input type="radio"/>		<input type="radio"/>		
	The plan is reviewed annually, and is linked to existing regional or national antimicrobial stewardship schemes.	<input type="radio"/>				
	The company reviews prophylactic treatment and makes recommendations for alternative disease prevention strategies.	<input type="radio"/>				



KPI 21

Litter, bedding - Links to P4		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Bedding provision (such as straw, hay, wood shavings, rice hulls, sand, dry earth and rubber matting) is at the legal base requirement.	<input type="radio"/>		<input type="radio"/>		
	Where no legal definition exists, some new bedding material is added to the bedded area regularly to maintain comfort and hygiene.	<input type="radio"/>				
	Housing conditions allow the cows to be able to keep clean, and they are clean.	<input type="radio"/>				
Medium-Low (ML)	Cows have continuous access to a bedded surface, such as straw or sand, or a rubber matted surface.	<input type="radio"/>		<input type="radio"/>		
	Where rubber matting is used, the material is maintained to prevent degradation and is kept hygienic.	<input type="radio"/>				
	The bedding is of sufficient depth to provide comfort and hygiene for the cattle.	<input type="radio"/>				
	Water, urine, dung or slurry does not accumulate to a degree which makes the cows wet or dirty.	<input type="radio"/>				
Medium-High (MH)	All cattle sent to slaughter meet the abattoir cleanliness requirements.	<input type="radio"/>		<input type="radio"/>		
	Lying areas are well-drained and regularly cleaned out to avoid a build-up of dirty bedding.	<input type="radio"/>				
High (H)	Slurry and manure in passage and feeding areas is removed at least twice daily.	<input type="radio"/>		<input type="radio"/>		
	As previous.	<input type="radio"/>		<input type="radio"/>		

**KPI 22**

Mutilations - Links to P5, P7		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware that, where mutilations are carried out, methods are available to reduce pain and distress.	<input type="radio"/>		<input type="radio"/>		
	Tail docking is not carried out.	<input type="radio"/>				
Medium-Low (ML)	Where painful procedures cannot be avoided, they should be carried out by competent and trained people.	<input type="radio"/>		<input type="radio"/>		
	Where painful procedures cannot be avoided, pain is actively managed, for example through using analgesics, or procedures under anaesthetic.	<input type="radio"/>				
	The suggested age limits and methods in Resource 11 are adopted.	<input type="radio"/>				
Medium-High (MH)	Mutilations are undesirable, and alternatives to mutilations are used wherever possible.	<input type="radio"/>		<input type="radio"/>		
High (H)	No mutilations are carried out.	<input type="radio"/>		<input type="radio"/>		

**KPI 23**

Management of dairy bulls - Links to P4, P5, P6, P9		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Bull pens allow the bull sight and sound of farm activity.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Bulls are checked at least twice daily.	<input type="radio"/>		<input type="radio"/>		
	Bulls are allowed sufficient exercise.	<input type="radio"/>				
Medium-High (MH)	The area where the bull and cow mates is designed to avoid injuries to the bull and the cow.	<input type="radio"/>		<input type="radio"/>		
High (H)	If a bull is kept in a pen it should include a sleeping area of >16m2.	<input type="radio"/>		<input type="radio"/>		
	For bulls heavier than 1,000kg, the sleeping area should be >1m2 for each 60kg liveweight.	<input type="radio"/>				

**KPI 24**

Euthanasia - Links to P5, P7		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Cattle are euthanased by adopting local legally-approved methods.	<input type="radio"/>		<input type="radio"/>		
	Sick or distressed animals are isolated and treated promptly, or euthanased humanely without delay, if treatment is not feasible or recovery is unlikely.	<input type="radio"/>				
	People responsible for euthanasia have received appropriate training.	<input type="radio"/>				
Medium-Low (ML)	Any equipment used for euthanasia is maintained in good working order, and records documenting maintenance are kept.	<input type="radio"/>		<input type="radio"/>		
	Carcases of mortalities or euthanased animals are stored and protected from vermin and other animals.	<input type="radio"/>				
Medium-High (MH)	A written policy for euthanasia is produced by working with a veterinarian, and is based on recognised best international practice.	<input type="radio"/>		<input type="radio"/>		
High (H)	Methods used for euthanasia in emergency or disease control situations have approval from the appropriate local government agency.	<input type="radio"/>		<input type="radio"/>		

**KPI 25**

Transport - Links to P10, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Handling for transport is carried out by trained people.	<input type="radio"/>				
	Animals which are sick, weak, injured, or known to be diseased, are not transported.	<input type="radio"/>				
	Legally-required stocking densities in transport are followed.	<input type="radio"/>				
	If no local legislation for densities at transport exist, suggested densities are in Resource 10.	<input type="radio"/>				
	Journey durations are in line with local legislative requirements.	<input type="radio"/>				
	The transport is free from sharp edges or projections.	<input type="radio"/>			<input type="radio"/>	
	The transport allows the livestock to be inspected.	<input type="radio"/>				
	Cattle are not roughly moved onto transport that does not have ramps.	<input type="radio"/>				
	Cattle are not forced to jump on to, or off, of transport without ramps.	<input type="radio"/>				
Medium-Low (ML)	The transport is adequately ventilated for the temperature and loading conditions.	<input type="radio"/>				
	Cattle in transport and awaiting market or slaughter are protected from adverse weather and high temperatures.	<input type="radio"/>				
	No electric goads are used.	<input type="radio"/>				
	The transport is safe and secure. For example, it has sides and gates sufficient to safely contain the animals during transport.	<input type="radio"/>			<input type="radio"/>	
Medium-High (MH)	The transport has headroom that allows livestock to stand in a natural position.	<input type="radio"/>				
	Suggested transport densities in Resource 10 are adopted.	<input type="radio"/>				
	Animals are handled using low-stress methods, equipment, and facilities that calm animal movement.	<input type="radio"/>				
	Loading ramps are designed to reduce the risk of slipping.	<input type="radio"/>				
	The flooring of the transport is not itself hazardous (for example, use of wire meshes or metal bars on the floor may prevent slipping, but are potentially damaging to feet and legs).	<input type="radio"/>			<input type="radio"/>	
High (H)	Transport flooring prevents the leakage of faeces and urine (as far as practicable).	<input type="radio"/>				
	The angle of internal and external ramps does not exceed 26.6° for adult cattle and 20° for calves.	<input type="radio"/>				
	Vehicles have a roof to protect the animals from sun and weather.	<input type="radio"/>				
High (H)	Vehicles used to transport cattle for export journeys over 8 hours, or non-export journeys over 12 hours, have ventilation and temperature monitoring equipment and alarms.	<input type="radio"/>				
	A ventilation system is fitted, with a minimum airflow of nominal capacity of 60 cubic metres per hour per kilo Newton of payload, that can operate independently of the vehicle engine for at least 4 hours.	<input type="radio"/>			<input type="radio"/>	

**KPI 26**

Calving cows - Links to P4, P5, P10, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware of the disease and welfare advantages of calving cows in a separate, hygienic and clean bedded area.	<input type="radio"/>				
	Cattle that are calving are kept separate from other livestock, other than calving cows.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	There are appropriate facilities for cows to give birth.	<input type="radio"/>				
	If individual calving pens are used:	<input type="radio"/>				
	a) the calving pens is at least 12m ²	<input type="radio"/>		<input type="radio"/>		
Medium-High (MH)	b) cows do not remain in a calving pen for more than 48 hours	<input type="radio"/>				
	Cows in the calving pen can see and hear other cows.	<input type="radio"/>				
High (H)	The calving pen is equipped with a means of restraint to allow human care of the calving cow.	<input type="radio"/>		<input type="radio"/>		
High (H)	Continuous monitoring of calving cows is achieved by CCTV or other similar methods.	<input type="radio"/>		<input type="radio"/>		



KPI 27

Management of calves: calf housing - Links to P4, P5, P6, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The housing area and pens for calves provides a safe, comfortable and hygienic environment.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Calf housing is well ventilated.	<input type="radio"/>		<input type="radio"/>		
	Calf housing is lit to allow for checking of animals and for normal calf behaviours.	<input type="radio"/>				
	Calves have clean, dry bedding.	<input type="radio"/>				
	Calf housing is not fully slatted.	<input type="radio"/>				
Medium-High (MH)	The accommodation for calves is well lit, preferably by natural light, for at least 8 hours a day.	<input type="radio"/>		<input type="radio"/>		
High (H)	As previous.	<input type="radio"/>		<input type="radio"/>		



KPI 28

Management of calves: space - Links to P4, P5, P6		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Calves are housed adopting local legal requirements.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Calf housing allows all calves to lie down at the same time, to rise without difficulty, and to stretch and move freely.	<input type="radio"/>		<input type="radio"/>		
	The space requirements listed in Resource 10 are provided for calves.	<input type="radio"/>				
Medium-High (MH)	As previous.	<input type="radio"/>		<input type="radio"/>		
High (H)	As previous.	<input type="radio"/>		<input type="radio"/>		



KPI 29

Management of calves: calf feeding - Links to P3		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Calves are not muzzled (a muzzle is a device to control feeding and suckling).	<input type="radio"/>		<input type="radio"/>		
	Artificially-reared calves and young cattle are provided with sufficient access to fresh and clean drinking water.	<input type="radio"/>				
Medium-Low (ML)	Pre-weaned calves are given dry, fresh and clean feed and forage daily.	<input type="radio"/>		<input type="radio"/>		
	Individual buckets are provided where calves are bucket-fed. Feeding equipment is kept in a clean condition.	<input type="radio"/>				
Medium-High (MH)	Calves are given at least 2 milk feeds daily until 28 days and not weaned before 5 weeks of age.	<input type="radio"/>		<input type="radio"/>		
High (H)	When teat feeding, calves are given at least 3 feeds daily.	<input type="radio"/>		<input type="radio"/>		



KPI 30

Management of calves: calf social - Links to P6		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Where there is local legislation on calf housing and group sizes, it is adopted.	<input type="radio"/>		<input type="radio"/>		
	Where there is no local legislation, local common practice for calf housing regard to group sizes (if any) is followed.	<input type="radio"/>				
Medium-Low (ML)	Calves are not housed in individual hutches or pens after 8 weeks of age.	<input type="radio"/>		<input type="radio"/>		
	Physical contact with other calves is provided if 2 or more young animals are present.	<input type="radio"/>				
Medium-High (MH)	Calves are reared as pairs, or in group rearing from at least 3 weeks of age for healthy calves (calves with no pneumonia or scour diarrhoea).	<input type="radio"/>		<input type="radio"/>		
High (H)	As previous.	<input type="radio"/>		<input type="radio"/>		



KWI 1

Animal records - Links to P10		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Records are kept of:	<input type="radio"/>		<input type="radio"/>		
	Births	<input type="radio"/>				
	Mortality (including calves stillborn)	<input type="radio"/>				
	Animals sent to the abattoir	<input type="radio"/>				
Medium-Low (ML)	Records are kept of:	<input type="radio"/>		<input type="radio"/>		
	Lameness (clinical cases, non-routine foot trimming)	<input type="radio"/>				
	Mastitis (clinical cases, treatments and medications)	<input type="radio"/>				
	Unmarketable calves (euthanased on-farm)	<input type="radio"/>				
	Culling and reasons for culling (planned culls, poor fertility, etc.)	<input type="radio"/>				
Medium-High (MH)	Records are kept of:	<input type="radio"/>		<input type="radio"/>		
	Milk somatic cell counts	<input type="radio"/>				
	Neck, knee, hock swellings/calluses	<input type="radio"/>				
	Teat/udder injuries	<input type="radio"/>				
	Sole bruising (haemorrhage), sole ulcers, white line disease, digital dermatitis, interdigital infections	<input type="radio"/>				
	Haematomas	<input type="radio"/>				
	Abscesses	<input type="radio"/>				
	Broken tails	<input type="radio"/>				
	Chronic scar tissue	<input type="radio"/>				
	Very dirty animals	<input type="radio"/>				
Abattoir feedback (where provided and applicable) on conditions of animals slaughtered	<input type="radio"/>					
High (H)	Records are kept of staff observation and checking times for the milking herd and other cattle groups.	<input type="radio"/>		<input type="radio"/>		



KWI 2

Lameness - Links to P2, P4, P5, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware of lameness as a welfare issue.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Lameness is evaluated on-farm, using pictures and descriptions such as in Resource 1.	<input type="radio"/>		<input type="radio"/>		
Medium-High (MH)	If the prevalence of lameness is higher than established targets, measures are taken to improve on-farm conditions.	<input type="radio"/>		<input type="radio"/>		
High (H)	The company sets high targets for lameness prevalence, measures performance and reports on outcomes.	<input type="radio"/>		<input type="radio"/>		



KWI 3

Body condition - Links to P2, P4, P5, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware of the impact of poor body condition on cattle welfare.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Body condition scoring is carried out by the farmer (an example of a body condition score scale is given in Resource 1 – similar scales exist in several countries).	<input type="radio"/>		<input type="radio"/>		
	The farmer is trained in body condition scoring.	<input type="radio"/>				
	Dairy cows are fed sufficient food to maintain adequate body condition.	<input type="radio"/>				
Medium-High (MH)	The farmer responds to the following minimum body condition scores for different parts of the dairy cycle (by altering feed and management of the cattle):	<input type="radio"/>		<input type="radio"/>		
	At drying off: 2.5-3.0	<input type="radio"/>				
	At calving: 2.5-3.0	<input type="radio"/>				
	60 days after calving: 2.0-2.5	<input type="radio"/>				
	100 days before drying off: 2.5-3.0.	<input type="radio"/>				
	Cattle are not excessively fat (BCS>=4)	<input type="radio"/>				
High (H)	Annual review of body condition scores is part of the health plan.	<input type="radio"/>		<input type="radio"/>		



KWI 4

Cleanliness - Links to P4, P5, P7, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware of cow cleanliness as a hygiene and welfare issue.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Cow cleanliness is evaluated at the slaughter plant using pictures and descriptions such as in Resource 1.	<input type="radio"/>		<input type="radio"/>		
	If cattle are dirty at the slaughter plant, the farmer is informed.	<input type="radio"/>				
Medium-High (MH)	If the incidence of dirtiness is higher than established targets, measures are taken to improve on-farm conditions.	<input type="radio"/>		<input type="radio"/>		
High (H)	The company sets high targets for cow cleanliness, measures performance and reports on outcomes.	<input type="radio"/>		<input type="radio"/>		



KWI 5

Swellings - Links to P4, P5, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware of swellings and haematomas as a welfare issue.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Swellings are evaluated at the slaughter plant using pictures and descriptions such as those seen in Resource 1	<input type="radio"/>		<input type="radio"/>		
	If cattle are found with swellings at the slaughter plant, the farmer is informed.	<input type="radio"/>				
Medium-High (MH)	If the incidence of swellings is higher than established targets, measures are taken to improve on-farm conditions.	<input type="radio"/>		<input type="radio"/>		
High (H)	The company sets high targets for low levels of swellings, and measures performance and reports on outcomes.	<input type="radio"/>		<input type="radio"/>		



KWI 6

Hair loss, abrasions - Links to P4, P5, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware of hair loss and haematomas as a welfare issue.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Hair loss is evaluated at the slaughter plant using pictures and descriptions such as in Resource 1.	<input type="radio"/>		<input type="radio"/>		
	If cattle are found with hair loss in the slaughter plant, the farmer is informed.	<input type="radio"/>				
Medium-High (MH)	If the incidence of hair loss and abrasions is higher than established targets, measures are taken to improve on-farm conditions.	<input type="radio"/>		<input type="radio"/>		
High (H)	The company sets high targets for low levels of hair loss and abrasions, and measures performance and reports on outcomes.	<input type="radio"/>		<input type="radio"/>		



KWI 7

Mastitis - Links to P4, P5, P8, P10, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	The farmer is aware of the importance of mastitis in cow health and welfare, and in public health.	<input type="radio"/>		<input type="radio"/>		
Medium-Low (ML)	Records of mastitis cases are kept – and a review of treatment outcomes takes place.	<input type="radio"/>		<input type="radio"/>		
	A mastitis treatment and control plan is adopted, and includes the following:	<input type="radio"/>				
	a) Pain relief treatments, implemented for affected cows.	<input type="radio"/>				
	b) A drying off policy based on targeted use of antibiotic therapy at drying off (Selective Dry Cow Therapy).	<input type="radio"/>				
	c) A policy for high cell count or high mastitis case cows.	<input type="radio"/>				
Medium-High (MH)	Targets based on incidence of clinical mastitis are established according to the individual circumstances on the farm.	<input type="radio"/>		<input type="radio"/>		
High (H)	Where mastitis exceeds 25 cases per 100 cows per year, effective steps are taken to reduce the incidence of mastitis.	<input type="radio"/>		<input type="radio"/>		



KWI 8

Social - Links to P6		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Cattle are kept in appropriate groups according to age, size and stage of the production cycle.	<input type="radio"/>		<input type="radio"/>		
	All cattle, including bulls, are allowed the sound and view of other cattle.	<input type="radio"/>				
Medium-Low (ML)	Fractious (cattle which bully other cattle or are dangerous) or fully-horned cattle are not mixed with unfamiliar animals, or are removed from the group if there is bullying or injury.	<input type="radio"/>		<input type="radio"/>		
Medium-High (MH)	As previous.	<input type="radio"/>		<input type="radio"/>		
High (H)	Polled breeds are used to prevent horn-related bullying.	<input type="radio"/>		<input type="radio"/>		



KWI 9

Transport: fitness to travel - Links to P4, P5, P7, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	Cattle transported must be fit for the intended journey.	<input type="radio"/>		<input type="radio"/>		
	Cattle are able to bear weight on all four legs, and walk onto the vehicle unaided.	<input type="radio"/>				
Medium-Low (ML)	Cattle and calves are handled and transported by trained and competent people.	<input type="radio"/>		<input type="radio"/>		
	The following animals are not transported unless under the direction of a veterinary surgeon:	<input type="radio"/>				
	a) Sick or injured cattle or calves.	<input type="radio"/>				
	b) Animals unable to move independently without pain or to walk unassisted.	<input type="radio"/>				
	c) Animals with a severe open wound, or prolapse – where moving them would cause additional suffering.	<input type="radio"/>				
	d) Heavily pregnant cows (where more than 90% of the gestation period has passed) unless being transported for veterinary treatment.	<input type="radio"/>				
	e) Cows which have given birth during the last 7 days.	<input type="radio"/>				
Medium-High (MH)	New-born calves with unhealed or wet navels are not transported.	<input type="radio"/>		<input type="radio"/>		
High (H)	As previous.	<input type="radio"/>		<input type="radio"/>		



KWI 10

Slaughter - Links to P5, P11		Observed?	Comment on observation	Achieved level?	Progress	Evidence/comment
Basic (B)	A recognised method to induce immediate insensibility is adopted at slaughter (see Introduction Section 3.5 regarding stunning).	<input type="radio"/>		<input type="radio"/>		
	Animals are slaughtered adopting local legally-approved methods.	<input type="radio"/>				
	The slaughterhouse is aware of stunning as a welfare issue.	<input type="radio"/>				
	Stunning and killing is conducted by an appropriately trained and competent person.	<input type="radio"/>				
	Any equipment used for euthanasia is maintained in good working order, and is appropriate for the designated use, and records documenting maintenance are kept.	<input type="radio"/>				
	Electro-immobilisation is not used.	<input type="radio"/>				
Medium-Low (ML)	Staff are trained in, and able to explain: how to check an animal has been properly stunned; check for signs of consciousness and unconsciousness; and know what to do if an animal hasn't been properly stunned.	<input type="radio"/>		<input type="radio"/>		
	At least 1 welfare contact person or co-ordinator, sometimes known as an Animal Welfare Officer) is appointed to have specific knowledge, training and responsibility for welfare during slaughter.	<input type="radio"/>				
	In cattle lines, where the carcass must be hoisted to a bleed area, maximum stun-to-stick intervals of 60 seconds for penetrative captive-bolt, and 30 seconds for the non-penetrative captive-bolt, are adopted.	<input type="radio"/>				
Medium-High (MH)	Targets for welfare at slaughter are set:	<input type="radio"/>		<input type="radio"/>		
	o Cattle not effectively rendered immediately insensible (miss stuns %) are recorded and action taken to reduce to a minimum (<1%).	<input type="radio"/>				
	o Vocalisations of cattle in the stunning and slaughter areas (including the race) <2%.	<input type="radio"/>				
	o Slips in the lairage and raceways <3% and no animals falling.	<input type="radio"/>				
	o <10% of animals require any encouragement to move through the slaughter facility.	<input type="radio"/>				
High (H)	Internationally-recognised best practice methods for slaughter are adopted (For RSPCA Slaughter requirements see Resource 12).	<input type="radio"/>		<input type="radio"/>		

Notes: Dairy cows

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

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

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

BBAFW: [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 \(March 2015\)](#)