

Scenario 1 - Current beef with current lameness levels

Score sheet

Name of scorer: Expert 10

Comments Round 1

Comments Round 2

Welfare principles	Welfare criteria	<div><div></div><div>0 = Lowest level of welfare</div><div>100 = Highest level of welfare</div></div>	1st round	90% certain	90% certain	2nd round	90% certain	90% certain
			score	lower bound	upper bound	score	lower bound	upper bound
Good feeding	1	Provision and access to food. Animals should have appropriate access to the quantity and quality of appropriate foodstuffs for health and wellbeing.	60	40	70	60	40	70
	2	Provision and access to water. Animals should have appropriate access to the quantity and quality of water for health and wellbeing.	80	65	95	80	65	95
Good housing	3	Animals should have comfort when resting.	60	50	70	60	50	70
	4	Animals should have thermal comfort being neither too hot nor too cold.	70	50	80	70	50	80
	5	Animals should have sufficient space to move freely.	65	50	80	65	50	80
Good health	6	Animals should be free from injuries and disorders (e.g. skin conditions, lameness, bone fractures etc.).	60	50	70	60	50	70
	7	Animals should be free from disease, including metabolic conditions, with high standards of health care and hygiene.	55	40	70	55	40	70
	8	Animals should not suffer pain - for example as a result of poor management, handling, surgical or other procedures, slaughter etc.	70	50	80	65	50	80
Appropriate behaviour	9	Animals should be able to express normal, non-harmful social behaviours (such as grooming and social bonding).	55	40	65	55	40	65
	10	Animals should be able to express other normal behaviours (e.g. foraging, exploring).	60	50	75	60	50	75
	11	Animals should be handled well with positive and not negative animal-human relationships.	70	60	90	70	60	90
	12	Additional aspects not already adequately covered above in relation to the balance between positive and negative affective states for animals.	55	40	70	55	40	70

70 Restrictive feeding of milk to calves on dairy farms before being moved to beef production might lead to hunger. Waste antibiotic milk may also be fed which might adversely affect gut microbiome. Non-sucker calves typically weaned at a much earlier age than is natural, which might also lead to hunger. Veal production often associated with restriction of key aspects of nutrition (iron and fibre) etc. Many beef cattle have some access to pasture during their life - there may be a period of digestive adaptation when moving from housing to pasture, and vice versa. Metabolic issues associated with feeding rapidly fermentable carbohydrates to intensively finished cattle are accounted for in 7 below. Lameness may restrict ability of cattle to feed freely.	95 Cattle have high water demands and there may be water shortages during periods of drought. High stocking densities may also make it difficult for cattle to reach water sources. Lameness may also impede ability of cattle to freely access water.	70 Slatted floors commonly used with veal calves in Europe and in intensively finished beef cattle and likely result in poor comfort when lying. For finishing cattle poor level of repair in slats, and low space allowances, may contribute to discomfort. Cubicles may also be used and comfort will depend on design and bedding. Many cattle have some level of access to pasture during lifetime, and comfort when resting is likely to be improved at pasture. Straw bedding may be used for suckler cows when housed which would contribute to increased comfort if properly managed. Transitioning to resting positions may be more difficult for lame animals.	80 Cold stress possible in housed calves, depending on housing type and bedding provided, and also possible outdoors if insufficient shelter is provided. Cold stress also possible in suckler cows if kept out over winter. Heat stress may also occur in intensively finished beef cattle, particularly housed at high stocking densities. Lameness may affect ability of older animals to perform thermoregulatory behaviour.	80 Individual calf housing limits ability to move freely, and current minimum space allowances for group housed veal calves in EU may also limit movement. High stocking densities can be used in finishing beef cattle housing (and may restrict lying and other behaviours). Animals at pasture have greater space to move freely, and likely also those in straw-bedded systems.	70 May suffer injuries due to hard flooring (e.g. knee, hock, tail) and reduced space allowance. Lameness estimates from 8.3 to 20% in beef animals but animals may also show some level of gait disorder without being clinically lame. Lice and mange appear to be relatively common problems in UK cattle.	70 Difficult to find exact figures for levels of different diseases on UK beef farms. Scour (due to Cryptosporidiosis, Rota virus and coccidiosis in particular) and respiratory problems are high in UK calves on dairy farms. Levels of calf mortality (not through on-farm killing) appear high. Bovine Viral Diarrhoea is described as 'widespread', Hypomagnesaemia is described as a 'common disease affecting older beef cows', liver fluke is described as 'common and devastating', and there is 'wide regional variation' in summer mastitis. Intensively reared beef cattle (e.g. bulls) may suffer metabolic issues associated with high level of rapidly fermentable carbohydrates in diet.	80 Cattle are subjected to castration and dehorning/disbudding procedures, and pain relief may not always be provided. Cattle are also routinely tagged. Difficult calving, and over- or under- assistance at calving, may also be associated with pain. Poor handling of cattle during movement and transport may also be associated with pain. Pain associated with lameness accounted for in Section 6.	65 Early separation from mother for dairy-bred beef animals means these animals cannot display natural suckling behaviour, or other natural offspring behaviours. Cross suckling behaviour also frequently shown by calves, associated with lack of ability to suckle naturally. Individual housing for calves still used, preventing natural social interactions. Cesarean section may be regularly required in certain beef breeds, preventing natural births. Bulls frequently kept isolated. High levels of regrouping with unfamiliar animals not natural for cattle and likely to be stressful. Lameness and high stocking densities in intensively finished animals may limit their ability to show normal social behaviours (such as grooming).	75 Most beef cattle get some opportunity to perform natural foraging and exploratory behaviour at pasture over their lifetime. This is limited to different extents in different systems, and intensively reared beef cattle or veal calves do not get any access to pasture. In high managed pastures it is also possible that species available for grazing may not be as diverse as beef cattle would like. Ability to perform exploratory behaviour greater in straw-based rather than slatted systems (where limited space allowances may also affect this behaviour). Lameness will adversely affect the ability of cattle to perform these behaviours.	90 Handling may be particularly stressful for extensively reared cattle unused to human contact. Aggressive handling possible when cattle are being moved/transported, and use of electric goads is permitted. Lameness may promote greater levels of aggressive handling.	70 Effects of stress of markets, relocation (sometimes moved between multiple farms), and transport not fully covered in sections above
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Scenario 2 - Beef production with 3% prevalence lameness mobility scores 2/3

Score sheet

Name of scorer: Expert 10

Comments Round 1

Comments Round 2

Welfare principles	Welfare criteria	<div><div></div><div>0 = Lowest level of welfare</div><div>100 = Highest level of welfare</div></div>	1st round	90% certain	90% certain	2nd round	90% certain	90% certain
			score	lower bound	upper bound	score	lower bound	upper bound
Good feeding	1	Provision and access to food. Animals should have appropriate access to the quantity and quality of appropriate foodstuffs for health and wellbeing.	65	45	75	65	45	75
	2	Provision and access to water. Animals should have appropriate access to the quantity and quality of water for health and wellbeing.	85	70	100	85	70	100
Good housing	3	Animals should have comfort when resting.	65	55	75	65	55	75
	4	Animals should have thermal comfort being neither too hot nor too cold.	75	55	85	75	55	85
	5	Animals should have sufficient space to move freely.	65	50	80	70	50	80
Good health	6	Animals should be free from injuries and disorders (e.g. skin conditions, lameness, bone fractures etc.).	75	60	85	75	60	85
	7	Animals should be free from disease, including metabolic conditions, with high standards of health care and hygiene.	58	40	70	58	40	70
	8	Animals should not suffer pain - for example as a result of poor management, handling, surgical or other procedures, slaughter etc.	73	50	80	73	50	80
Appropriate behaviour	9	Animals should be able to express normal, non-harmful social behaviours (such as grooming and social bonding).	60	40	65	60	40	65
	10	Animals should be able to express other normal behaviours (e.g. foraging, exploring).	65	55	80	65	55	80
	11	Animals should be handled well with positive and not negative animal-human relationships.	75	60	90	75	60	90
	12	Additional aspects not already adequately covered above in relation to the balance between positive and negative affective states for animals.	55	40	70	55	40	70

75 Ability to access feed freely may be improved with less lameness.	100 Ability to access water freely may be improved with less lameness	75 Transitioning to resting positions may be easier with less lameness	85 Ability to perform thermoregulatory behaviour may be easier with less lameness	80 Available space unaffected by lameness level	85 Less lameness, and possible that other injuries may be improved through modifications adopted to improve lameness.	70 Other types of disease may not be significantly affected by reduced lameness. Although perhaps some beneficial effects of less stress and improved hygiene (if this was implemented to reduce infectious lameness)	80 Possible that greater ease of handling in non-lame animals may have beneficial effect	65 Less lameness may help cattle show more normal, non-harmful social behaviours	80 Reduced lameness will assist cattle in performing more foraging and exploratory behaviour.	90 Less lameness may lead to less aggressive handling.	70 Cattle shouldn't be transported when lame so this is unlikely to be affected by lameness level
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Perhaps adjustments made to reduce lameness might mean an increase in space