

Scenario 1 - Current beef with current lameness levels

Score sheet

Name of scorer: Expert 5

Comments Round 1

Comments Round 2

Welfare principles	Welfare criteria		1st round score	90% certain lower bound	90% certain upper bound	2nd round score	90% certain lower bound	90% certain 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.	55	40	70	55	40	70	70 Issues: poor colostrum intake in dairy-bred calves entering the beef chain (55% of calves), ruminal acidosis (and SARA) common in intensive finishing, access to feed and competition in housed cows (suckler and finishers), weaning lack of access to milk, impact might depend on creep access and timing. Some animal grass reared which can be positive, may be some choice and opportunity for selection/variability. Thin suckler cows can be an issue on some farms so undernutrition occurs. Estimates of 70% beef is grass-fed, 10% bull beef will be intensively finished, rest maybe mix?
	2	Provision and access to water. Animals should have appropriate access to the quantity and quality of water for health and wellbeing.	80	70	90	80	70	90	90 Competition for access to water inside, and may be contaminated or hard to access outside for natural water sources, but overall unlikely to be a very significant issue
Good housing	3	Animals should have comfort when resting.	50	40	70	50	40	70	70 May be housed on slats or in cubicles with relatively small amounts of bedding, well bedded on straw yards can be good but not clear how frequently this occurs. Outdoor pastures can be poached and soggy, may have no dry lying areas. Some beef cattle might be housed for 50% of the year due to weather and pasture damage.
	4	Animals should have thermal comfort being neither too hot nor too cold.	65	50	75	65	50	75	75 Outdoor cows can be susceptible to cold stress if ground is wet and no shelter provided. Well fed, good draining land and shelter can solve most of this. Heat stress in intensive finishing indoors.
	5	Animals should have sufficient space to move freely.	55	40	65	55	40	65	65 Outdoor management should not be a problem for space but calves from the dairy herd may have been restricted for space in early rearing, intensive finishing also an issue in some areas for space and access to resources. Most calves will spend some time in an indoor housed system, especially replacement heifers, maybe at least 50% of the time, and bulls may be housed all year. Transport to markets (most/all cattle) and then to slaughter likely to have severely restricted space.
Good health	6	Animals should be free from injuries and disorders (e.g. skin conditions, lameness, bone fractures etc.).	40	25	60	50	40	60	65 Lameness seems quite prevalent e.g. up to 20% of finished animals and 40% of suckler cows, ectoparasitism also relatively common, injuries and disorders may not be diagnosed or treated very rapidly.
	7	Animals should be free from disease, including metabolic conditions, with high standards of health care and hygiene.	35	25	60	45	30	60	60 Disease issues very common - BVD, TB, Johnes, pneumonia and other respiratory diseases, calf diseases esp. in dairy calves, some forms of lameness, may not be diagnosed and treated very rapidly. Calf mortality around 1-2% in rearing period but around 5-7% in newborn/early life. Biosecurity and hygiene can be an issue especially for housed animals. Some new vector borne disease (Blue tongue, Schmallenberg) that affect cattle but may not be quickly identified.
	8	Animals should not suffer pain - for example as a result of poor management, handling, surgical or other procedures, slaughter etc.	60	45	70	60	45	70	70 Most male calves will be castrated (90%), sometimes at older ages and often with inadequate pain relief, some will also be disbudded. Handling can be an issue for calves and cows if systems inadequate or poor practice used, transport, markets and slaughter may be an issue
Appropriate behaviour	9	Animals should be able to express normal, non-harmful social behaviours (such as grooming and social bonding).	45	35	60	45	35	60	60 55% of calves from dairy herd will have been deprived of maternal care, some will have been housed in social isolation for some time in early life, bulls may also be socially isolated for large proportions of their lives, suckler herd usually allowed to have relatively normal social interactions with calves and other cows, weaning about 50% of natural weaning. Housing may lead to aggression and bullying or competition.
	10	Animals should be able to express other normal behaviours (e.g. foraging, exploring).	50	35	60	50	35	60	60 Able to show some parts of this in the grass-fed phase but will depend in access to complex pastures and variability. Intensive housing probably does not allow much of this to occur and makes up at least 50% of the lives of most animals. Dairy-bred calves will not have had much opportunity for normal foraging and exploration behaviour as calves.
	11	Animals should be handled well with positive and not negative animal-human relationships.	35	25	50	40	30	50	50 Handling can be an issue for beef cattle, not handled often and may be generally fearful of humans. Lack of skilled labour an issue for beef farms so may cause poorer HAR. Dairy-bred calves may have a more positive relationship with human if seen as a source of food from a young age
	12	Additional aspects not already adequately covered above in relation to the balance between positive and negative affective states for animals.	40	30	55	40	30	55	55 Movement from one system to another can be stressful and challenging and may not be adequately considered, risks of neglect and lack of skilled care can be a significant issue for cattle. Animals left to 'get better' without adequate pain management in hopes they can be transported for slaughter later. Markets an important feature of beef rearing and animals may be transported on multiple occasions.

Scenario 2 - Beef production with 3% prevalence lameness mobility scores 2/3

Score sheet

Name of scorer: Expert 5

Comments Round 1

Comments Round 2

Welfare principles	Welfare criteria		1st round score	90% certain lower bound	90% certain upper bound	2nd round score	90% certain lower bound	90% certain 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	50	75	65	50	75	75 Issues: poor colostrum intake in dairy-bred calves entering the beef chain (55% of calves) still likely, ruminal acidosis (and SARA) common in intensive finishing, access to feed and competition in housed cows may be improved (suckler and finishers), weaning lack of access to milk, impact might depend on creep access and timing. Some animal grass reared which can be positive, may be some choice and opportunity for selection/variability. Fewer thin suckler cows if this is targeted so undernutrition will be less. Estimates of 70% beef is grass-fed, 10% bull beef will be intensively finished, rest maybe mix, could be an increase in grass-rearing?
	2	Provision and access to water. Animals should have appropriate access to the quantity and quality of water for health and wellbeing.	85	75	95	85	75	95	95 Competition for access to water inside may be less if housing improved, and better access to water facilities outside could reduce risk of contaminated or hard to access water sources, but overall unlikely to be a very significant issue, so only a small increase.
Good housing	3	Animals should have comfort when resting.	70	50	80	70	50	80	80 Removal of the use of slats or cubicles (or very restricted with large amounts of bedding), if well bedded on straw yards can be good and tracks and housing upgraded to provide good foot surfaces. Outdoor pastures have improved drainage to prevent animals standing in dirty, wet conditions. Some beef cattle might be housed for 50%+ of the year due to weather and pasture damage, would need improved housing management.
	4	Animals should have thermal comfort being neither too hot nor too cold.	65	50	75	67	50	75	75 Outdoor cows can be susceptible to cold stress if ground is wet and no shelter provided. Well fed, good draining land and shelter can solve most of this. Heat stress in intensive finishing indoors. Unlikely to be much change?
	5	Animals should have sufficient space to move freely.	65	45	75	65	45	75	75 Outdoor management should not be a problem for space but calves from the dairy herd may have been restricted for space in early rearing, intensive finishing also an issue in some areas for space and access to resources. Most calves will spend some time in an indoor housed system, especially replacement heifers, maybe at least 50% of the time, and bulls may be housed all year. Improvements in space provision in all cases likely to be needed for improvements in lameness. Transport to markets (most/all cattle) and then to slaughter likely to have severely restricted space.
Good health	6	Animals should be free from injuries and disorders (e.g. skin conditions, lameness, bone fractures etc.).	55	45	65	60	45	65	70 very marked reduction in lameness from current levels to achieve 3%, might have an impact on other issues: ectoparasitism and GI? reduced but likely still present, injuries and disorders may be diagnosed or treated more rapidly if increased checking and better care to reduce lameness.
	7	Animals should be free from disease, including metabolic conditions, with high standards of health care and hygiene.	40	25	60	50	35	60	65 Disease issues still very common - BVD, TB, Johnes, pneumonia and other respiratory diseases, calf diseases esp. in dairy calves, some forms of lameness, may not be diagnosed and treated very rapidly. Calf mortality around 1-2% in rearing period but around 5-7% in newborn/early life. Improvements in biosecurity and hygiene of housed animals may reduce incidence. Some new vector borne disease (Blue tongue, Schmallenberg) that affect cattle and may be more quickly identified.
	8	Animals should not suffer pain - for example as a result of poor management, handling, surgical or other procedures, slaughter etc.	65	45	75	65	45	75	75 Most male calves will be castrated (90%), sometimes at older ages and often with inadequate pain relief, some will also be disbudded. Likely better handling and holding facilities to reduce injuries or incidence of poor practice, transport, markets and slaughter may still be an issue
Appropriate behaviour	9	Animals should be able to express normal, non-harmful social behaviours (such as grooming and social bonding).	47	35	60	47	35	60	60 Most issues likely to still be present: 55% of calves from dairy herd will have been deprived of maternal care, some will have been housed in social isolation for some time in early life, bulls may also be socially isolated for large proportions of their lives, suckler herd usually allowed to have relatively normal social interactions with calves and other cows, weaning about 50% of natural weaning. Marginal benefit of improved housing which could lead to improved social relationships.
	10	Animals should be able to express other normal behaviours (e.g. foraging, exploring).	50	35	60	52	37	60	62 Able to show some parts of this in the grass-fed phase but will depend in access to complex pastures and variability. Intensive housing probably does not allow much of this to occur and makes up at least 50% of the lives of most animals. Dairy-bred calves will not have had much opportunity for normal foraging and exploration behaviour as calves. Don't think this will change?
	11	Animals should be handled well with positive and not negative animal-human relationships.	40	30	55	50	30	50	60 Handling can still be an issue for beef cattle, not handled often and may be generally fearful of humans. If amount of treatments and handling increases this could be a source of increased fear, but might be mitigated by more skilled and sympathetic labour. Dairy-bred calves may have a more positive relationship with human if seen as a source of food from a young age.
	12	Additional aspects not already adequately covered above in relation to the balance between positive and negative affective states for animals.	50	35	60	50	35	60	60 Movement from one system to another still an issue and can be stressful and challenging and may not be adequately considered, risks of neglect and lack of skilled care may be reduced but not clear if there is actually a source of skilled labour available. Animals left to 'get better' without adequate pain management in hopes they can be transported for slaughter later, might be reduced but not clear but could be moved to better hospital pens and given pain relief, and may be less of them if lameness is reduced. Markets an important feature of beef rearing and animals may be transported on multiple occasions.