Scenario 1 - Current practice and castration

Score sheet | Name of scorer: Expert 7 | Comments

Welfare principles	Welfare criteria	0 = Lowest level of welfare ... 100 = highest level of welfare	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.	60	50	75	60	50	75	Approx 25% of ewes are too thin on some farms, mostly hill farms, rams can also be lean. Especially so at some times of year when forage can be scarce or metabolic demands are high. Lowland farms likely to be better but can still be variable or monoculture that does not allow for diet selection. Around 25% of neonatal lambs will die and starvation/inability to suck is a component of this, supplementary feeding in lowland systems but likely not in hill systems. After this period lambs usually likely to be well fed for good growth in most systems. Castrated lambs may be temporarily hungry as pain can prevent them sucking and for some they may become lost and die of starvation.
	2	Provision and access to water. Animals should have appropriate access to the quantity and quality of water for health and wellbeing.	80	50	90	80	50	90	Some farmers still believe that sheep do not need to drink and can get all their water from plants so do not provide water access. Sheep living outside may have variety and choice over drinking points (natural water supplies as well as troughs). Lambs tend to get initial fluids from their dam and some will fail to suck and die of starvation but third will also be part of this. Castrated lambs may have reduced suckling due to pain temporarily but for some they may become lost during response to castration and not be reunited with their mothers, dying of starvation and thirst.
Good housing	3	Animals should have comfort when resting.	60	50	70	60	50	70	Most sheep live outside for most of the year - comfort around resting is mostly influenced by the physical environment and climate as well as shade and shelter - wet, poorly drained fields can have no comfortable dry lying areas. Sheep do have choice of where to lie often, and may have variety in lying locations. Housed ewes may have bedded surfaces but can be kept on slats in some cases. At high stocking density they may not be able to rest and can be disturbed by other ewes and displaced. Castrated lambs are initially very uncomfortable and unable to rest for up to 2 hours, they may also be in discomfort for up to 4 weeks as lesions heal which can affect resting.
	4	Animals should have thermal comfort being neither too hot nor too cold.	70	50	90	70	50	90	Most sheep can stay within their TNZ for most of their lives if provided with shade and shelter, this would be for most of several years for ewes and rams, and of 8-10 months for lambs. Exceptions are housed pregnant ewes in full fleece, recently shorn ewes if weather is poor/lack shelter, newborn lambs, possibly during transport. Exposure is a significant factor in the morbidity of many lambs especially those lambing outside and is also likely to more of a risk for some castrated lambs if pain prevents them following their mothers and they become lost.
	5	Animals should have sufficient space to move freely.	80	70	90	80	70	90	Most sheep are outside most of the time, so are rarely unable to move freely. Even when housed they are usually not confined to small pens except for 1-3 days around lambing to ensure bonding. High stocking density can occur and may impact on free movement but this is not very common and may only occur for short periods each year for ewes, or at finishing for lambs. Transport to slaughter at high stocking density. Castrated lambs still have ability to move freely, even if they may not be able to so not considered here.
Good health	6	Animals should be free from injuries and disorders (e.g. skin conditions, lameness, bone fractures etc.).	50	35	70	50	35	70	Lameness prevalence about 9-0% in ewes, likely higher in rams, scald can be an issue for lambs; parasitism, flystrike, eye injuries all quite common across all classes of sheep and not always treated very promptly/at all, other injuries can also occur at relatively low prevalence. Castration/practice unlikely to affect this much
	7	Animals should be free from disease, including metabolic conditions, with high standards of health care and hygiene.	55	35	70	50	35	70	Disease risks quite common, higher exposure to pathogen challenge in lowland but also greater opportunity to treat than on hills. Mastitis often not seen until becomes chronic in ewes sheep but seems to occur at high prevalence than often thought. Castration practice unlikely to impact this much.
	8	Animals should not suffer pain - for example as a result of poor management, handling, surgical or other procedures, slaughter etc.	30	25	50	30	25	50	Castration of approx 1/3 of all animals with pain relief, severe pain for up to 2 hours, pain and discomfort for up to 1/3 of life from lesions. 1/2 animals may also be tail docked (less likely in hill animals especially female replacements) without pain relief, less intense pain but still significant. Ear tagging also a source of pain as well as yearly shearing, mowing (dragging, hitting, pulling fleece or tail or ears), bitten by sheepdogs, predation, handling before slaughter, some non-stun slaughter in sheep still for Halal, pain of dystocia.
Appropriate behaviour	9	Animals should be able to express normal, non-harmful social behaviours (such as grooming and social bonding).	65	50	90	65	50	90	Ewes and lambs stay together for approx. 90% normal lactation in many cases, ewes able to have relatively normal social interactions with other ewes similar to unmanaged situations. Lambs usually have plenty of opportunity to play and engage socially with other lambs. Housing of 50% of sheep for some months (25% of life possibly) may lead to social mixing and disrupt bonds, some aggression but often low grade displacements than outright fighting. Rams usually live in social groups with other males outside of the breeding season so also have normal socio interactions.
	10	Animals should be able to express other normal behaviours (e.g. foraging, exploring).	70	65	90	70	65	90	Typically allowed access to space to explore and forage - more interesting in hill environment than lowland, more agency and choice of environments. May be restricted when ewes housed for short periods (30% of sheep, for 20% of lives). Can be restricted for housed lambs at finishing.
	11	Animals should be handled well with positive and not negative animal-human relationships.	30	15	60	30	15	60	Most interactions with humans are negative - handling, forcing, sheering, vaccination etc, and only provision of supplementary feed is positive. Most animal movements achieved by fear-inducing stimuli (flight and flocking) in most cases, use of dogs also causes fear. For hill animals may also be interactions with other humans and dogs which may also be negative and cause fear. Can be some positive interactions in housed sheep but not always the case. Castration and pain can also be negative and cause fear.
	12	Additional aspects not already adequately covered above in relation to the balance between positive and negative affective states for animals.				65	55	75	Added to this as hoped it reminded me about sensory experiences, can be mostly positive but the sensory overload when travelling for slaughter can be massive in animals that have never been housed.

Scenario 2 - Castration with pain relief

Score sheet | Name of scorer: Expert 7 | Comments

Welfare principles	Welfare criteria	0 = Lowest level of welfare ... 100 = highest level of welfare	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	80	65	50	80	Approx 25% of ewes are too thin on some farms, mostly hill farms, rams can also be lean. Especially so at some times of year when forage can be scarce or metabolic demands are high. Lowland farms likely to be better but can still be variable or monoculture that does not allow for diet selection. Around 25% of neonatal lambs will die and starvation/inability to suck is a component of this, supplementary feeding in lowland systems but likely not in hill systems. After this period lambs usually likely to be well fed for good growth in most systems. Pain mitigation will prevent loss of more lambs that are unable to suckle due to pain.
	2	Provision and access to water. Animals should have appropriate access to the quantity and quality of water for health and wellbeing.	80	50	90	80	50	90	Some farmers still believe that sheep do not need to drink and can get all their water from plants so do not provide water access. Sheep living outside may have variety and choice over drinking points (natural water supplies as well as troughs). Lambs tend to get initial fluids from their dam and some will fail to suck and die of starvation but third will also be part of this.
Good housing	3	Animals should have comfort when resting.	60	50	70	62	50	70	Most sheep live outside for most of the year - comfort around resting is mostly influenced by the physical environment and climate as well as shade and shelter - wet, poorly drained fields can have no comfortable dry lying areas. Sheep do have choice of where to lie often, and may have variety in lying locations. Housed ewes may have bedded surfaces but can be kept on slats in some cases. At high stocking density they may not be able to rest and can be disturbed by other ewes and displaced. Painrelief will prevent initial discomfort from castration but they may still be in discomfort for up to 4 weeks as lesions heal which can affect resting.
	4	Animals should have thermal comfort being neither too hot nor too cold.	70	50	90	71	50	90	Most sheep can stay within their TNZ for most of their lives if provided with shade and shelter, this would be for most of several years for ewes and rams, and of 8-10 months for lambs. Exceptions are housed pregnant ewes in full fleece, recently shorn ewes if weather is poor/lack shelter, newborn lambs, possibly during transport. Exposure is a significant factor in the morbidity of many lambs especially those lambing outside andpain relief may have a small impact on preventing mate-rinals losses farm immediate severe pain.
	5	Animals should have sufficient space to move freely.	80	70	90	80	70	90	Most sheep are outside most of the time, so are rarely unable to move freely. Even when housed they are usually not confined to small pens except for 1-3 days around lambing to ensure bonding. High stocking density can occur and may impact on free movement but this is not very common and may only occur for short periods each year for ewes, or at finishing for lambs. Transport to slaughter at high stocking density. Castrated lambs still have ability to move freely, even if they may not be able to so not considered here.
Good health	6	Animals should be free from injuries and disorders (e.g. skin conditions, lameness, bone fractures etc.).	50	35	70	50	35	70	Lameness prevalence about 9-0% in ewes, likely higher in rams, scald can be an issue for lambs; parasitism, flystrike, eye injuries all quite common across all classes of sheep and not always treated very promptly/at all, other injuries can also occur at relatively low prevalence. Castration/practice unlikely to affect this much
	7	Animals should be free from disease, including metabolic conditions, with high standards of health care and hygiene.	55	35	70	55	35	70	Disease risks quite common, higher exposure to pathogen challenge in lowland but also greater opportunity to treat than on hills. Mastitis often not seen until becomes chronic in ewes sheep but seems to occur at high prevalence than often thought. Castration practice unlikely to impact this much.
	8	Animals should not suffer pain - for example as a result of poor management, handling, surgical or other procedures, slaughter etc.	40	30	55	35	30	55	Castration of approx 1/3 of all animals with pain relief, will remove severe pain, but maybe some chronic pain and discomfort for up to 1/6 of life from lesions, especially if severe or infected. 1/2 animals may also be tail docked (less likely in hill animals especially female replacements) without pain relief (not sure maybe with??), less intense pain but still significant. Ear tagging also a source of pain as well as yearly shearing, mowing (dragging, hitting, pulling fleece or tail or ears), bitten by sheepdogs, predation, handling before slaughter, some non-stun slaughter in sheep still for Halal, pain of dystocia.
Appropriate behaviour	9	Animals should be able to express normal, non-harmful social behaviours (such as grooming and social bonding).	65	50	90	66	50	90	Ewes and lambs stay together for approx. 90% normal lactation in many cases, ewes able to have relatively normal social interactions with other ewes similar to unmanaged situations. Lambs usually have plenty of opportunity to play and engage socially with other lambs. Housing of 50% of sheep for some months (25% of life possibly) may lead to social mixing and disrupt bonds, some aggression but often low grade displacements than outright fighting. Rams usually live in social groups with other males outside of the breeding season so also have normal socio interactions.
	10	Animals should be able to express other normal behaviours (e.g. foraging, exploring).	70	65	90	71	65	90	Typically allowed access to space to explore and forage - more interesting in hill environment than lowland, more agency and choice of environments. May be restricted when ewes housed for short periods (30% of sheep, for 20% of lives). Can be restricted for housed lambs at finishing.
	11	Animals should be handled well with positive and not negative animal-human relationships.	35	15	60	32	15	60	Most interactions with humans are negative - handling, forcing, sheering, vaccination etc, and only provision of supplementary feed is positive. Most animal movements achieved by fear-inducing stimuli (flight and flocking) in most cases, use of dogs also causes fear. For hill animals may also be interactions with other humans and dogs which may also be negative and cause fear. Can be some positive interactions in housed sheep but not always the case. Castrates typically more fearful of stimuli than entire lambs, including humans.
	12	Additional aspects not already adequately covered above in relation to the balance between positive and negative affective states for animals.							

Scenario 3 - No castration

Score sheet | Name of scorer: Expert 7 | Comments

Welfare principles	Welfare criteria	0 = Lowest level of welfare ... 100 = highest level of welfare	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	80	65	50	80	Approx 25% of ewes are too thin on some farms, mostly hill farms, rams can also be lean. Especially so at some times of year when forage can be scarce or metabolic demands are high. Lowland farms likely to be better but can still be variable or monoculture that does not allow for diet selection. Around 25% of neonatal lambs will die and starvation/inability to suck is a component of this, supplementary feeding in lowland systems but likely not in hill systems. After this period lambs usually likely to be well fed for good growth in most systems. Entire lambs may be housed and given high-quality food for rapid finishing.
	2	Provision and access to water. Animals should have appropriate access to the quantity and quality of water for health and wellbeing.	80	50	90	80	50	90	Some farmers still believe that sheep do not need to drink and can get all their water from plants so do not provide water access. Sheep living outside may have variety and choice over drinking points (natural water supplies as well as troughs). Lambs tend to get initial fluids from their dam and some will fail to suck and die of starvation but third will also be part of this.
Good housing	3	Animals should have comfort when resting.	65	50	75	65	50	75	Most sheep live outside for most of the year - comfort around resting is mostly influenced by the physical environment and climate as well as shade and shelter - wet, poorly drained fields can have no comfortable dry lying areas. Sheep do have choice of where to lie often, and may have variety in lying locations. Housed ewes may have bedded surfaces but can be kept on slats in some cases. At high stocking density they may not be able to rest and can be disturbed by other ewes and displaced.
	4	Animals should have thermal comfort being neither too hot nor too cold.	70	50	90	72	50	90	Most sheep can stay within their TNZ for most of their lives if provided with shade and shelter, this would be for most of several years for ewes and rams, and of 8-10 months for lambs. Exceptions are housed pregnant ewes in full fleece, recently shorn ewes if weather is poor/lack shelter, newborn lambs, possibly during transport. Exposure is a significant factor in the morbidity of many lambs especially those lambing outside.
	5	Animals should have sufficient space to move freely.	70	60	90	70	60	90	Most sheep are outside most of the time, so are rarely unable to move freely. Even when housed they are usually not confined to small pens except for 1-3 days around lambing to ensure bonding. High stocking density can occur and may impact on free movement but this is not very common and may only occur for short periods each year for ewes, or at finishing for lambs. Transport to slaughter at high stocking density. In some systems entire male lambs may need to be housed and fed intensively to achieve growth rates for slaughter - could be a high stocking density and restricted space.
Good health	6	Animals should be free from injuries and disorders (e.g. skin conditions, lameness, bone fractures etc.).	50	35	70	50	35	70	Lameness prevalence about 9-0% in ewes, likely higher in rams, scald can be an issue for lambs; parasitism, flystrike, eye injuries all quite common across all classes of sheep and not always treated very promptly/at all, other injuries can also occur at relatively low prevalence. Castration/practice unlikely to affect this much
	7	Animals should be free from disease, including metabolic conditions, with high standards of health care and hygiene.	55	35	70	57	35	70	Disease risks quite common, higher exposure to pathogen challenge in lowland but also greater opportunity to treat than on hills. Mastitis often not seen until becomes chronic in ewes sheep but seems to occur at high prevalence than often thought. Castration practice unlikely to impact this much.
	8	Animals should not suffer pain - for example as a result of poor management, handling, surgical or other procedures, slaughter etc.	50	25	60	50	25	60	1/3 animals may still be tail docked (less likely in hill animals especially female replacements) without pain relief, less intense pain but still significant. Ear tagging also a source of pain as well as yearly shearing, mowing (dragging, hitting, pulling fleece or tail or ears), bitten by sheepdogs, predation, handling before slaughter, some non-stun slaughter in sheep still for Halal, pain of dystocia.
Appropriate behaviour	9	Animals should be able to express normal, non-harmful social behaviours (such as grooming and social bonding).	60	45	75	60	45	75	Ewes and lambs stay together for approx. 90% normal lactation in many cases, but not castrating males may mean earlier weaning to prevent inappropriate mating. Rams able to have relatively normal social interactions with other rams similar to unmanaged situations. Lambs usually have plenty of opportunity to play and engage socially with other lambs. Housing of 50% of sheep for some months (25% of life possibly) may lead to social mixing and disrupt bonds, some aggression but often low grade displacements than outright fighting. In some situations entire male lambs may be separated early and housed for finishing which influences normal social responses. Rams usually live in social groups with other males outside of the breeding season so also have normal socio interactions.
	10	Animals should be able to express other normal behaviours (e.g. foraging, exploring).	65	50	90	65	50	90	Typically allowed access to space to explore and forage - more interesting in hill environment than lowland, more agency and choice of environments. May be restricted when ewes housed for short periods (30% of sheep, for 20% of lives). Can be restricted for housed lambs at finishing, leaving males entire increases the probability that this will occur.
	11	Animals should be handled well with positive and not negative animal-human relationships.	30	15	60	37	20	60	Most interactions with humans are negative - handling, forcing, sheering, vaccination etc, and only provision of supplementary feed is positive. Most animal movements achieved by fear-inducing stimuli (flight and flocking) in most cases, use of dogs also causes fear. For hill animals may also be interactions with other humans and dogs which may also be negative and cause fear. Can be some positive interactions in housed sheep but not always the case. Entire lambs are more confident than castrates typically, but staying entire may increase housing and negative contacts when intensively finished.
	12	Additional aspects not already adequately covered above in relation to the balance between positive and negative affective states for animals.							