Scenario 1 - Current practice and castration

Score sheet | Name of scorer: Expert 10 | Comments

Welfare principles	Welfare criteria	0 – Lowest level of welfare … Highest level of welfare – 100	1st round score	90% certain lower bound	90% certain upper bound	2nd round score	90% certain lower bound	90% certain upper bound	Comments
									1 adult ewe= 1.4 lambs average across the systems https://ahdb.org.uk/key-performance-indicators-kpis-for-lamb-sector 24 adult ewes:1 ram on average https://projectblue.blob.core.windows.net/media/Default/Beef%20&%20Lamb/SheepBreedSurvey4295_130821_WEB.pdf 31% of ewes (and 18% of finished lambs) from hill systems, 41% ewes from (hill+upland) = 10% from upland, 59% lowland? https://www.nationalsheep.org.uk/workspace/pdfs/nsa-report-on-the-complementary-role-of-sheep-in-lowland-and-hill-areas.pdf
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.	70	60	90	70	60	90	Struggled to find published up to date uk data on % BCS <2. Industry target is 90% BCS >2 for many key points for hill/upland and 2.5-3 for lowland https://projectblue.blob.core.windows.net/media/Default/Beef%20&%20Lamb/BRP_Managing_Ewes_BR_190215_WEB.pdf Generally milk based rearing and grazing systems with variable amounts of sward/ species choice. Some condition loss/ hunger may be prevalent each year, and almost certainly in the weeks before culling/ death of ewes. Lambs/ rams likely to have better bcs
	2	Provision and access to water. Animals should have appropriate access to the quantity and quality of water for health and wellbeing.	90	80	95	90	80	95	Generally well provided for. Even hill animals that may be some way from water sources are less frequently going to have a problem due to high rainfall areas.
Good housing	3	Animals should have comfort when resting.	85	75	90	85	75	90	Good ground is fine, sometimes wet/muddy (incl stubble turnips) but not sure of % of days this would be a problem. Occassional (currently few farms) slatted housing for 2-3 months.
	4	Animals should have thermal comfort being neither too hot nor too cold.	80	70	90	80	70	90	TNZ ranges varied- eg 12-27C, 5-25C and -12-32C. Some depends on fleece. Well suited to our climate in general. Shearing aims to increase thermal comfort. Some choice in most environments.
	5	Animals should have sufficient space to move freely.	90	80	95	90	80	95	Periods of confinement for SOME animals = pen when born, winter housing/ lambing housing, pen when lambing. Couldn't find % winter/lambing housed but assume minority of hill/upland sheep (shorter time) and most lowland sheep (2 months). Rams may be winter housed. Some lowland pastures may be unexciting.
Good health	6	Animals should be free from injuries and disorders (e.g. skin conditions, lameness, bone fractures etc.).	80	65	90	80	65	90	Lameness ewes prev farmer reported ~3%, https://www.sciencedirect.com/science/article/pii/S0167587720300690X?via%3Dihub Up to 7% https://www.sciencedirect.com/science/article/abs/pii/S0167587717301757?via%3Dihub But, lambs not so commonly affected with conditions- e.g. lower lameness prev.
	7	Animals should be free from disease, including metabolic conditions, with high standards of health care and hygiene.	80	70	90	80	70	90	Not sure of disease prev in general although some prevs in SHAWG report https://projectblue.blob.core.windows.net/media/Default/Beef%20&%20Lamb/SHAWG_Report_20-21_201109_WEB.pdf
	8	Animals should not suffer pain - for example as a result of poor management, handling, surgical or other procedures, slaughter etc.	82	70	90	82	70	90	Not sure of % that don't castrate- mostly lowland early finishers as far as I know. Only 50% of lambs affected (ie males). Also not sure of % tail docking, most I think, and all lambs affected. Pain relief rare? (either local or NSAID). Evidence of long lasting pain, esp rubber rings, and potential priming. Score 5 for 2d, Score 20 for 4 weeks for dock+/-cast i.e all lambs. Score 90 after that?
Appropriate behaviour	9	Animals should be able to express normal, non-harmful social behaviours (such as grooming and social bonding).	90	80	95	90	80	95	Some limits of pain, some boring pastures but social behaviour generally enabled, incl natural mating. Groups generally stable and long relationships can form. Disruptions relatively short lived - e.g gatherings. Indoor would put pressure on social relationships but still possible to maintain.
	10	Animals should be able to express other normal behaviours (e.g. foraging, exploring).	80	70	90	80	70	90	Many behaviours possible even in relatively barren pastures. Many will have hedges etc, and also 41% upland/hill have diverse swards and environment etc.
	11	Animals should be handled well with positive and not negative animal-human relationships.	40	30	70	80	30	90	Variable- presence of dogs negative, some rarely see people (41%) and therefore not habituated. Others associate people with food. Rare use of food rewards for handling procedures.
	12	Additional aspects not already adequately covered above in relation to the balance between positive and negative affective states for animals.							

castration etc

score	d	score*d	d average for lambs	lambs/ewe - should increase score for that as ewes unaffected, and life length of ewes vs lambs (decrease score) and 2.5% non
90	335	30150		
20	28	560		
5	2	10		
		30720	84.1643836	

Scenario 2 - Castration with pain relief

Score sheet | Name of scorer: Expert 10 | Comments

Welfare principles	Welfare criteria	0 – Lowest level of welfare … Highest level of welfare – 100	1st round score	90% certain lower bound	90% certain upper bound	2nd round score	90% certain lower bound	90% certain upper bound	Comments
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.	73	60	90	73	60	90	small improvement with analgesia- ie increased milk intake
	2	Provision and access to water. Animals should have appropriate access to the quantity and quality of water for health and wellbeing.	90	80	95	90	80	95	no sig change
Good housing	3	Animals should have comfort when resting.	85	75	90	85	75	90	no sig change
	4	Animals should have thermal comfort being neither too hot nor too cold.	80	70	90	80	70	90	no sig change
	5	Animals should have sufficient space to move freely.	90	80	95	90	80	95	no sig change
Good health	6	Animals should be free from injuries and disorders (e.g. skin conditions, lameness, bone fractures etc.).	80	65	90	80	65	90	no sig change
	7	Animals should be free from disease, including metabolic conditions, with high standards of health care and hygiene.	80	70	90	80	70	90	no sig change
	8	Animals should not suffer pain - for example as a result of poor management, handling, surgical or other procedures, slaughter etc.	82	70	90	84	70	90	Analgesia MUST be effective and long-lasting (with anaes)
Appropriate behaviour	9	Animals should be able to express normal, non-harmful social behaviours (such as grooming and social bonding).	92	80	95	92	80	95	small improvement
	10	Animals should be able to express other normal behaviours (e.g. foraging, exploring).	81	70	90	81	70	90	small improvement
	11	Animals should be handled well with positive and not negative animal-human relationships.	40	30	70	40	30	70	no sig change
	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 10 | Comments

Welfare principles	Welfare criteria	0 – Lowest level of welfare … Highest level of welfare – 100	1st round score	90% certain lower bound	90% certain upper bound	2nd round score	90% certain lower bound	90% certain upper bound	Comments
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.	75	60	90	73	60	90	small improvement without castration- ie increased milk intake
	2	Provision and access to water. Animals should have appropriate access to the quantity and quality of water for health and wellbeing.	90	80	95	90	80	95	no sig change
Good housing	3	Animals should have comfort when resting.	85	75	90	85	75	90	no sig change
	4	Animals should have thermal comfort being neither too hot nor too cold.	80	70	90	80	70	90	no sig change
	5	Animals should have sufficient space to move freely.	90	80	95	90	80	95	no sig change
Good health	6	Animals should be free from injuries and disorders (e.g. skin conditions, lameness, bone fractures etc.).	80	65	90	80	65	90	no sig change
	7	Animals should be free from disease, including metabolic conditions, with high standards of health care and hygiene.	80	70	90	80	70	90	no sig change
	8	Animals should not suffer pain - for example as a result of poor management, handling, surgical or other procedures, slaughter etc.	90	70	90	84	70	90	No pain due to castration. Tail docking, slaughter and disease states remain.
Appropriate behaviour	9	Animals should be able to express normal, non-harmful social behaviours (such as grooming and social bonding).	95	80	95	92	80	95	assume successful management- ie early finishing/ separation
	10	Animals should be able to express other normal behaviours (e.g. foraging, exploring).	83	70	90	81	70	90	small improvement
	11	Animals should be handled well with positive and not negative animal-human relationships.	40	30	70	40	30	70	no sig change
	12	Additional aspects not already adequately covered above in relation to the balance between positive and negative affective states for animals.							