

HOLDING PEN		Date:	
Animal ID			
Species	Horse <input type="checkbox"/> (Sports/TB/dolicomorfe <input type="checkbox"/> Cob/native/mesomorfe <input type="checkbox"/> Purpose-bred meat horse/draft/brachimorfe) <input type="checkbox"/> Donkey <input type="checkbox"/> Mule <input type="checkbox"/>		
Body Condition Score	<input type="checkbox"/> 0 - Emaciated ; 1 - Underweight <input type="checkbox"/> ; 2 - Moderate <input type="checkbox"/> ; 3 - Healthy <input type="checkbox"/> ; 4 - Overweight <input type="checkbox"/> ; 5 - Obese <input type="checkbox"/> ; Unable to assess <input type="checkbox"/>		
Ocular discharge	Present <input type="checkbox"/> Absent <input type="checkbox"/> Not observed <input type="checkbox"/>	Additional comments:	
Nasal discharge	Present <input type="checkbox"/> Absent <input type="checkbox"/> Not observed <input type="checkbox"/>		
Abnormal respiration	Present <input type="checkbox"/> Absent <input type="checkbox"/> Not observed <input type="checkbox"/>		
Signs of disease/ infection	Present <input type="checkbox"/> Absent <input type="checkbox"/> Not observed <input type="checkbox"/>		
Skin/coat issues	Present <input type="checkbox"/> Absent <input type="checkbox"/> Not observed <input type="checkbox"/>		
Lesions/wounds	Present <input type="checkbox"/> Absent <input type="checkbox"/> Not observed <input type="checkbox"/>		
Scars/swellings	Present <input type="checkbox"/> Absent <input type="checkbox"/> Not observed <input type="checkbox"/>		
Foot/limb abnormalities	Present <input type="checkbox"/> Absent <input type="checkbox"/> Not observed <input type="checkbox"/>		
Lameness	Present <input type="checkbox"/> Absent <input type="checkbox"/> Not observed <input type="checkbox"/>	Details:	
Slips/falls	Present <input type="checkbox"/> Absent <input type="checkbox"/> Not observed <input type="checkbox"/>		
Ethogram (conspicuous behaviour sampling, 1-0)		Total time observed (min/secs):	
State Behaviours	<input checked="" type="checkbox"/>	Head Behaviours	<input checked="" type="checkbox"/>
Sweating		Orient to bleeding area	
Calm/alert		Ears back	
Hyper-responsive		Head shaking	
Dull/depressed		Pull back on halter	
Restlessness		Turn head/avoidant	
Score: <input checked="" type="checkbox"/> if present, Blank if not present 'N/O' not able to observe		Head lowered	
		Sniffing ground	
Other behaviours of note			
External factors affecting behaviour	(e.g. blood splatters, water, reaction to visibility of carcasses, noises, etc)		
Entry to kill pen	<ul style="list-style-type: none"> Willingly <input type="checkbox"/> Needs encouragement/mild pressure <input type="checkbox"/> Requires force/significant pressure <input type="checkbox"/> 		Additional comments:
Equipment used (device)	Stick/whip <input type="checkbox"/> electrical <input type="checkbox"/> none <input type="checkbox"/> other <input type="checkbox"/> Type (e.g.plastic/wood/metal).....		
Equipment used (manner)	<ul style="list-style-type: none"> Not applicable/none <input type="checkbox"/> Gentle (soft/light tap OR <5x) <input type="checkbox"/> Intense (Strong tap/Arm raised but no damage OR >5-<10x) <input type="checkbox"/> Rough (Arm raised >shoulder height/excessive force OR >10x) <input type="checkbox"/> 		
Response to operator	Avoidant/nervous <input type="checkbox"/> agonistic/aggressive <input type="checkbox"/> friendly/affiliative <input type="checkbox"/> calm/alert <input type="checkbox"/> apathetic/depressed <input type="checkbox"/> not observed <input type="checkbox"/>		
Personnel vocalisations	<ul style="list-style-type: none"> Speaking (speaks or whistles softly/quietly) <input type="checkbox"/> Shouting (speaks or shouts harshly/loudly) <input type="checkbox"/> Rattling/slamming (makes noise/claps hands/slamming wall) <input type="checkbox"/> None/nothing of note <input type="checkbox"/> Not observed <input type="checkbox"/> 		
Personnel attitude	<ul style="list-style-type: none"> Positive (e.g. talking quietly, petting, touching) <input type="checkbox"/> Neutral (e.g. dominant talking, gentle touch of stick/hand) <input type="checkbox"/> Negative (e.g. talks/shouts impatiently, forceful use of stick/hand) <input type="checkbox"/> Nothing of note <input type="checkbox"/> Not observed <input type="checkbox"/> 		

SLAUGHTER		ID:	Date:				
Head profile	Concave <input type="checkbox"/> Convex <input type="checkbox"/> Straight <input type="checkbox"/>					Additional comments:	
Level of restraint	<ul style="list-style-type: none"> 0= No restraint/halter (loose) <input type="checkbox"/> 1=mild (halter&lead but no pulling/tension) <input type="checkbox"/> 2=moderate (halter/lead,minimal pressure/tension) <input type="checkbox"/> 3=severe (halter/lead, significant pressure/tension) <input type="checkbox"/> 						
Equipment used (device)	Stick/whip <input type="checkbox"/> electrical <input type="checkbox"/> none <input type="checkbox"/> other <input type="checkbox"/> Type (e.g. plastic/wood/metal).....						
Equipment used (manner)	<ul style="list-style-type: none"> Not applicable/none <input type="checkbox"/> Gentle (soft/light tap <u>OR</u> <5x) <input type="checkbox"/> Intense (Strong tap/Arm raised but no damage <u>OR</u> >5-<10x) <input type="checkbox"/> Rough (Arm raised >shoulder height/excessive force <u>OR</u> >10x) <input type="checkbox"/> 						
Response to personnel	Avoidant/nervous <input type="checkbox"/> agonistic/aggressive <input type="checkbox"/> friendly/affiliative <input type="checkbox"/> calm/alert <input type="checkbox"/> apathetic/depressed <input type="checkbox"/> not observed <input type="checkbox"/>						
Personnel vocalisations	<ul style="list-style-type: none"> Speaking (speaks or whistles softly/quietly) <input type="checkbox"/> Shouting (speaks or shouts harshly/loudly) <input type="checkbox"/> Rattle/slam (claps hands, slams wall etc) <input type="checkbox"/> Nothing of note <input type="checkbox"/> Not observed <input type="checkbox"/> 						
Personnel attitude	<ul style="list-style-type: none"> Positive (e.g. talking quietly, petting, touching) <input type="checkbox"/> Neutral (e.g. dominant talking, gentle touch of stick/hand) <input type="checkbox"/> Negative (e.g. talks/shouts impatiently, forceful use of stick/hand) <input type="checkbox"/> Nothing of note <input type="checkbox"/> Not observed <input type="checkbox"/> 						
Slips Falls	Present <input type="checkbox"/> Absent <input type="checkbox"/> Number:						
Floor surface	Poor <input type="checkbox"/> Moderate <input type="checkbox"/> Good <input type="checkbox"/> Not observed <input type="checkbox"/> Details:						
Ethogram (continuous sampling, conspicuous/focal behaviour)			Time in kill pen:(min/secs)				
State Behaviours	<input checked="" type="checkbox"/>	Head Behaviours	<input checked="" type="checkbox"/>	Eye Behaviours	<input checked="" type="checkbox"/>	Locomotive Behaviours	<input checked="" type="checkbox"/>
Sweating		Orient to bleeding area		Sclera visible		Kick/kick threat	
Calm/alert		Tries to turn in box /back-up		High blink rate		Stomping	
Hyper-responsive		Ears back		Frequent yawning		Pawing	
Dull/depressed		Head shaking		Mouth behaviours	<input checked="" type="checkbox"/>	Weight shifting	
Restlessness		Pull back on halter		Lick/chew		Trembling/shivering	
<i>Score: <input checked="" type="checkbox"/> if present, Blank if not present 'N/O' not able to observe</i>		Turn head/avoidant		Vocalisation (call/scream)		Urination	
		Head lowered		Snort		Defecation	
		Sniffing ground		Bite/bite threat		Rear	
						Rapid breathing/↑resp	
Other behaviours of note							
Primary method of slaughter	Captive Bolt <input type="checkbox"/> Details:.....			If 2nd shot: (Total no. of shots)			
Shot aiming position	Frontal <input type="checkbox"/> Side <input type="checkbox"/> Rear <input type="checkbox"/> Not observed <input type="checkbox"/>			Frontal <input type="checkbox"/> Side <input type="checkbox"/> Rear <input type="checkbox"/> Not observed <input type="checkbox"/>			
Shot distance	Not observed <input type="checkbox"/> Point blank (touching head) <input type="checkbox"/> Not point blank (details):			Not observed <input type="checkbox"/> Point blank (touching head) <input type="checkbox"/> Not point blank (details):			
Immediate collapse	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>			Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>			
Any other signs of insensibility / sensibility observed							

BLEEDING/HOISTING	ID:	Date:	
Signs of shooting effectiveness (sensibility/insensibility)	1 st shot	2 nd shot	(if 2+ shots, comment any additional info)
Immediate collapse	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Additional comments:
Leg kicking/convulsions	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Gasping	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Nystagmus	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Eyeball rotation	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Rhythmic respiration	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Corneal reflex	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Palpebral reflex	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Blinking	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Muscle spasms	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Painful response to ear pinch	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Painful response to nostril pinch	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Vocalisations	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Righting reflex	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Painful response to knife/cut	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Defecation	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Urination	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	Present <input type="checkbox"/> Absent <input type="checkbox"/> Could not assess <input type="checkbox"/>	
Ventral neck incision	No. of cuts		
	Time stun to stick	1 st cut..... (seconds) 2 nd cut..... (seconds)	
	Arteries cut/severed	Could not assess <input type="checkbox"/> Facial artery <input type="checkbox"/> Right Carotid <input type="checkbox"/> Left Carotid <input type="checkbox"/> Right Jugular <input type="checkbox"/> Left Jugular <input type="checkbox"/> Total severance of brachiocephalic trunk <input type="checkbox"/>	

POST-MORTEM	ID:	Date:	
Point of entry	Frontal lobe <input type="checkbox"/> Parietal lobe <input type="checkbox"/> Temporal lobe <input type="checkbox"/> Occipital lobe <input type="checkbox"/> Cerebellum <input type="checkbox"/> Missed brain <input type="checkbox"/> Other..... Could not assess <input type="checkbox"/>		Additional comments:
Extrusion of tissue from bolt cavity	Present <input type="checkbox"/> absent <input type="checkbox"/> N/A <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Cranial fractures	Present <input type="checkbox"/> , absent <input type="checkbox"/> ; depressed <input type="checkbox"/> radiating <input type="checkbox"/> Other..... Measure if necessary Could not assess <input type="checkbox"/>		
Skull thickness (at impact site)(mm) Could not assess <input type="checkbox"/>		
Macroscopic subdural haemorrhage to intercranial space	Left hemisphere(%) Right hemisphere(%) Total(%) Could not assess <input type="checkbox"/>		
Haemorrhage in wound cavity	Present = Y, absent = N; Details..... Could not assess <input type="checkbox"/>		
Bullet/bolt trajectory	Could not assess <input type="checkbox"/>		
Tissue displacement	Present = Y, absent = N; Position..... Could not assess <input type="checkbox"/>		
Cerebellum coning	Present = Y, absent = N Could not assess <input type="checkbox"/>		
Bone fragmentation	Present = Y, absent = N; Number..... Position..... Could not assess <input type="checkbox"/>		
Do bone and bullet fragments have a trajectory different to main path of bolt/bullet	Yes/No, details: Could not assess <input type="checkbox"/>		
Cavitation (inner surface of cranial vault)	Present = Y, absent = N; Position..... Could not assess <input type="checkbox"/>		
Petechiae	Pons <input type="checkbox"/> Thalamus <input type="checkbox"/> Cerebellum <input type="checkbox"/> Midbrain <input type="checkbox"/> Frontal lobe <input type="checkbox"/> Proprietal lobe <input type="checkbox"/> Occipital lobe <input type="checkbox"/> Temporal lobe <input type="checkbox"/> Medella <input type="checkbox"/> Reticular formation <input type="checkbox"/> Not observed <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Macroscopic subdural tissue damage to brain regions	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not seen <input type="checkbox"/> <i>(None = 0%; Mild <20%, Moderate=21%-49%; Severe >50%)</i> Could not assess <input type="checkbox"/>		
Frontal lobe:	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Parietal lobe:	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Occipital lobe:	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Temporal lobe:	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Midbrain:	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Pons:	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Thalamus:	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Cerebellum:	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Medella:	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Spinal chord:	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Macroscopic haemorrhage to brain regions	Ventral surface <input type="checkbox"/> 4th ventricle <input type="checkbox"/> 3rd ventricle <input type="checkbox"/> Lateral ventricles <input type="checkbox"/> Cerebral aqueduct <input type="checkbox"/> Pons <input type="checkbox"/> Thalamus <input type="checkbox"/> Cerebellum <input type="checkbox"/> Midbrain <input type="checkbox"/> Frontal lobe <input type="checkbox"/> Parietal lobe <input type="checkbox"/> Occipital lobe <input type="checkbox"/> Temporal lobe <input type="checkbox"/> Medella <input type="checkbox"/> Could not assess <input type="checkbox"/>		
Overall haemorrhage	None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not seen <input type="checkbox"/>		

General lairage information:

Date:		
Indicator	Score	Description/criteria
Air circulation/ventilation	Poor <input type="checkbox"/> Moderate <input type="checkbox"/> Good <input type="checkbox"/> Not observed <input type="checkbox"/> Wind speed: (m/sec)	Poor=none, mod=some but not reaching animal, good=well ventilated, clear unpolluted air
Temperature/humidity (°C) Unable to measure <input type="checkbox"/>	
Noise levels (decibels) Unable to measure <input type="checkbox"/>	
Cleanliness of pen/hazards	Poor <input type="checkbox"/> Moderate <input type="checkbox"/> Good <input type="checkbox"/> Not observed <input type="checkbox"/>	Poor=multiple faeces and severe hazards, moderate=minor hazards and some faeces, good=minimal faeces and minimal/none hazards
Food	Present <input type="checkbox"/> Absent <input type="checkbox"/>	
Water	Present <input type="checkbox"/> Absent <input type="checkbox"/>	
Bedding	Present <input type="checkbox"/> Absent <input type="checkbox"/>	
Shade/shelter	Present <input type="checkbox"/> Absent <input type="checkbox"/>	
Vision/lighting	Poor <input type="checkbox"/> Moderate <input type="checkbox"/> Good <input type="checkbox"/> Not observed <input type="checkbox"/>	Poor=none, mod=some but either too bright/artificial or limited, good=well lit with some natural light
Floor surface/slip risk	Poor <input type="checkbox"/> Moderate <input type="checkbox"/> Good <input type="checkbox"/> Not observed <input type="checkbox"/>	Poor=trip hazards and/or significant slip risks e.g. faeces/wetness, mod=flooring not suitable due to level of risk from slips/falls from wetness/minor hazards, good=absence of hazards or wetness/faeces, unobstructed dry/level flooring
Distance from lairage to holding pen		
Size of lairage pen		

Movement (from lairage to holding pen)		Date/Time of assessment:	
Animal ID/details + position/location in lairage			
Species	Horse <input type="checkbox"/> (Sports/TB/dolicomorfe <input type="checkbox"/> Purpose-bred meat horse/draft/brachimorfe) <input type="checkbox"/> Cob/native/mesomorfe <input type="checkbox"/> Donkey <input type="checkbox"/> Mule <input type="checkbox"/>		
Level of restraint	0= No restraint/halter (loose) <input type="checkbox"/> 1=mild (restraint with halter&lead but no pulling/tension) <input type="checkbox"/> 2=moderate (restraint with halter/lead minimal pressure/tension) <input type="checkbox"/> 3=severe (restraint with halter/lead with significant pressure/tension) <input type="checkbox"/>	Additional comments:	
Equipment used (device)	Stick/goad/whip <input type="checkbox"/> electrical <input type="checkbox"/> none <input type="checkbox"/> other <input type="checkbox"/>		
Equipment used (manner)	Gentle (soft/<5x) <input type="checkbox"/> Intense (stronger than before without damaging, >5-<10x) <input type="checkbox"/> Rough (>10x, excessive force, damaging) <input type="checkbox"/> (adapted from Huertas et al, 2018) Not applicable/none <input type="checkbox"/>		
Response to personnel/operator	Avoidant/nervous <input type="checkbox"/> agonistic/aggressive <input type="checkbox"/> friendly/affiliative <input type="checkbox"/> calm/alert <input type="checkbox"/> apathetic/depressed <input type="checkbox"/> not observed <input type="checkbox"/>		
Personnel vocalisations	Speaking (speaks or whistles softly/quietly) <input type="checkbox"/> Shouting (speaks or shouts harshly/loudly) <input type="checkbox"/> Rattling/slamming (makes noise/claps hands/slamming wall) <input type="checkbox"/> None/nothing of note <input type="checkbox"/> Not observed <input type="checkbox"/>		
Personnel attitude	Positive (e.g. talking quietly, petting, touching) <input type="checkbox"/> Neutral (e.g. dominant talking, gentle touch of stick/hand) <input type="checkbox"/> Negative (e.g. talks/shouts impatiently, forceful use of stick/hand) <input type="checkbox"/> Nothing of note <input type="checkbox"/> Not observed <input type="checkbox"/>		
Slips Falls	Present <input type="checkbox"/> Absent <input type="checkbox"/> Number: Present <input type="checkbox"/> Absent <input type="checkbox"/> Number:		
Lameness	Weight bearing on all 4 = no; holding up leg = yes		
			Yes <input type="checkbox"/> No <input type="checkbox"/> Not observed <input type="checkbox"/>

Appendices

(B): Ethogram for response to operator or to conspecifics

Categorisation	Definition	Reference
Avoidant/nervous	Moves or attempts to move away/turns head away	Burn et al, 2010
Agonistic/aggressive	Attempts to bite, rear, kick or strike with foreleg; ears held back or flattened	
Friendly/affiliative	Turns head towards/ears forward	
Calm/alert	Responding to surroundings e.g. ears moving and often forward, eyes open, feet may be moving, tail swishing, head up unless sniffing or eating	
Apathetic/depressed	Passive response to surroundings e.g. small ear movements, some tail swishing, feet may be moving, eyes may be half-closed, head may be lowered/unresponsive to surroundings, e.g. ears still and lowered, eyes closed or half-closed, no tail swishing or foot movement, head lowered	