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Fitness for transport of bovine animals

Introduction

Transport in most cases is an unfamiliar and threatening procedure in an animal's life, which can lead to distress, injury or even death if not properly planned and executed. As cattle are sociable animals they may become agitated or aggressive if they are isolated, when group composition is changed, or overcrowded, which can lead to welfare compromising and dangerous situations during transport. In addition to considering their behavioural response, many risks to animal welfare can be mitigated by providing appropriate facilities and equipment for handling and transportation (also with regard to current ambient conditions), as well as adequate training and supervision of the people operating the facilities, handling the animals and driving the vehicle. Ensuring that only animals deemed fit for their intended journey are loaded is the most important aspect of maintaining welfare throughout this management process, since it is impossible to assure good animal welfare during transport if the animal is unfit. The most serious problems regarding fitness for transport occur in young calves and cull breeding stock while it is less of an issue in beef cattle. For further information on the concept of fitness for transport, please refer to the ***Thematic factsheet 'Fitness for transport'***.

Legal requirements

Council Regulation (EC) No 1/2005 of 22 December 2004 specifies the protection of animals during transport.

'No animal shall be transported unless it is fit for the intended journey […].'
(Annex I, Chapter I, 1.)

'Animals that are injured or that present physiological weaknesses or pathological processes shall not be considered fit for transport […].'
(Annex I, Chapter I, 2.)
'However, sick or injured animals may be considered fit for transport if they are: (a) slightly injured or ill and transport would not cause additional suffering; in cases of doubt, veterinary advice shall be sought; […].'
(Annex I, Chapter I, 3.)
'When animals fall ill or are injured during transport, they shall be separated from the others and receive first-aid treatment […] be given appropriate veterinary treatment and if necessary undergo emergency slaughter or killing […].'
(Annex I, Chapter I, 4.)
'Lactating females of bovine, ovine and caprine species not accompanied by their offspring shall be milked at intervals of not more than 12 hours.'
(Annex I, Chapter I, 6.)

Method

Before livestock are being loaded for transportation, their fitness for the intended journey needs to be verified. The inspection should include a thorough assessment of animal-based health and welfare measures. This will reduce the risk of animals suffering from serious welfare problems or not surviving the journey. Animal-based measures as well as farm recordings shall relate to:

- Injury
- Physiological weakness
- Pathological process

For all cases where there is doubt regarding the animal's fitness for transport veterinarian advise shall be sought.

Injury

Animals that are injured shall not be considered fit for transport unless they are only slightly injured and transport would not cause additional suffering.

Injury	Description of animal-based indicator/measurement	Not fit for transport
Wound	If an animal presents a severe open wound (thoracic, abdominal, cranial cavities opened), a reopening surgical wound, a large infected wound, a large wound disturbing the integrity of the body surface (skin, mucosa, or muscle severed), or a severe haemorrhage, it must be considered unfit for transport.	E.g. deep or gapping wound, profuse bleeding, open abscess, frostbite, penis injury, fracture
	Since wounds are a painful condition, assessing pain levels according to Table 1 can be used to support decision making on the animal's fitness for transport.	Pain levels 'moderate' to 'very severe' (Table 1)
Absence of vital resources (e.g. due to bad ventilation, unappropriate temperature, feed, water)	The absence of vital resources can be assessed by signs of laboured breathing, heat or cold stress, or dehydration; Panting is defined as breathing in short gasps carried out with the mouth. Shivering is defined as the slow and irregular vibration of any body part, or the body as a whole. Visible signs of sweating on the skin are wet animals, dried sweat spots, or salt deposits.	***Heat stress:*** elevated breathing rate with possible pushing from the flanks, restless, animals standing, drooling or foaming, open-mouth breathing with possible protruding tongue, panting, gasping ***Cold stress:*** shivering ***Dehydration:*** sunken and/or dull eyes, dry mucous membranes (gums), tightening of skin, lethargy

Physiological weakness

Animals that present a physiological weakness shall not be considered fit for transport unless they are only slightly injured/ill and transport would not cause additional suffering.

Physiological weakness	Description of animal-based indicator/measurement	Not fit for transport
Body condition	An animal in a poor body condition is likely to be more susceptible to the stressors of transport, which is why extremely thin animals are not be considered fit for transport.	BCS < 2.0 on a scale of 1 to 5: V-shaped pelvic area, angular hook bones, angular pin bones with no palpable fat, corrugations between short ribs visible all the way up to the spine, thurl prominent
Unable to move independently without pain or to walk unassisted	If in standing animals weight is not distributed equally on all four limbs, as indicated by repeated weight shifting between legs or permanent resting of one limb, or reluctance to bear weight while walking is observed, it is highly unlikely that an animal is able to move without pain and thus unfit for transportation.	Lameness score ≥ 3 on a scale of 1–5: Short striding gait with one limb, more than one limb or strong reluctance to bear weight on one limb, does not support one limb or strong reluctance to put weight on two or more limbs
Exhaustion	An animal showing signs of severe fatigue or exhaustion is not fit for transport.	Reluctance to move or stand, strained breathing, chin or limbs resting at partitions or troughs, closed eyes, highly motivated to rest in recumbent position, muscle tremors, urine may be dark from myoglobin and dehydration
Non-ambulatory	An animal is considered non-ambulatory when it cannot rise or is unable to stand unaided, but is still alive. An animal presenting such a condition is unfit for transport.	The animal is unable to rise or stand unaided
Gestation status	Females for whom 90 % or more of the expected gestation period has already passed, or females who have given birth in the previous week.	In the last month of pregnancy as calculated by date of breeding and the first week post partum, respectively
Newborn	Calves in which the navel has not completely healed (i.e. scarring of the umbilical wound) must not be transported. Additionally, calves of less than ten days of age, unless they are transported less than 100 km, or calves younger than 14 days for long journeys are not fit for transport.	Umbilical stump attached, or scab on the umbilical wound visible; Date of Birth

Pathological process

Animals that present a pathological process shall not be considered fit for transport unless they are only slightly injured/ill and transport would not cause additional suffering.

Pathological processes	Description of animal-based indicator/measurement	Not fit for transport
Swelling	Animals showing an abnormal bodily protuberance or localised swelling which is causing pain are not to be considered fit for transport.	Enlargement of body part causing pain, e.g. abscess, lumpy jaw (actinomycosis), scrotal hernia
	Since swellings are often a painful condition, assessing pain levels according to Table 1 can be used to support decision making on the animal's fitness for transport.	Pain levels 'moderate' to 'very severe' (Table 1)
Prolapse	Prolapse refers to the protrusion of an organ that results in an animal no longer being fit for transport.	Any prolapse (colon, vagina, uterus)
Impaired vision	Blind animals appear disoriented, frightened, stressed and are not fit for transport.	Blind in both eyes caused by e.g. severe cancer eye, pink eye
Diarrhoea	Profuse diarrhoea with a severe disruption of the general condition and a high risk of dehydration rendering animals unfit for transport.	Loose, watery faeces, heavy faecal soiling of hindquarters, dehydration
Discharge	Evident purulent discharge is a sign of acute inflammation that results in animals unfit for transport. In such cases an animal's fitness for slaughter is questionable.	Evident purulent discharge of eyes, nose, or vulva
Respiratory disorder	Animals with signs of laboured or difficult breathing, often in association with evidence of general distress such as extended head, forelegs spread are unfit for transportation.	Severe dyspnoea, pneumonia, increased breathing frequency, laboured breathing, panting, open-mouth breathing, coughing
Bloated rumen	Animals that are bloated to the extent that they exhibit signs of discomfort or weakness are not fit for transport.	Bloated rumen
	Since a bloated rumen may be a painful condition, assessing pain levels according to Table 1 can be used to support decision making on the animal's fitness for transport.	Pain levels 'moderate' to 'very severe' (Table 1)
Aberrant behaviour	A generalised nervous system disorder resulting in aberrant behaviour or dangerous behaviour renders animals unfit for transportation.	Disorientation, forced movements, aggressive behaviour
Malposition of legs	(Congenital) deformity of the legs, or severely overgrown claws present a high risk for injury and are likely associated with pain, rendering animals unfit for transport.	Lameness score ≥ 3 on a scale of 1 to 5, weight not equally distributed on all four limbs

Pathological processes	Description of animal-based indicator/measurement	Not fit for transport
Joint alteration	Arthritis is a painful condition that leaves animals unfit for transport.	Lameness score ≥ 3 on a scale of 1 to 5, weight not equally distributed on all four limbs;
	Since arthritis is a painful condition, assessing pain levels according to Table 1 can be used to support decision making on the animal's fitness for transport.	Pain levels 'moderate' to 'very severe' (Table 1)
Retained placenta	Not fully expelled afterbirth indicates that the animal is within less than 1 week post partum or long-term metritic disorder.	Visible placenta
Udder alterations	Acute mastitis (acute inflammation of the mammary gland), engorged or gangrenous udder are painful conditions resulting in animals unfit for transportation.	Thickening and elongation of the teats, udder becomes swollen, red, and painful, affected cows look tired, lose weight, have an increased body temperature;
	Since udder alterations are a painful condition, assessing pain levels according to Table 1 can be used to support decision making on the animal's fitness for transport.	Pain levels 'moderate' to 'very severe' (Table 1)
Hypo-/Hyperthermia	Animals with a body temperature outside of physiological boundaries are unfit for transportation.	***Fever:*** body temperature > 39,5 °C ***Hypothermia:*** body temperature < 37,5 °C
Umbilical inflammation	Inflammation of the umbilicus (omphalitis/urachitis normally occurs in 2–5 day old calves; omphalophlebitis normally occurs in 1–3 months old calves) in new born or young calves leaves the animal unfit for transportation.	***Omphalitis/urachitis:*** swelling and/or discharge at the umbilicus; ***omphalophlebitis:*** mild fever, lethargy and failure to thrive
	Since umbilical inflammation is a painful condition, assessing pain levels according to Table 1 can be used to support decision making on the animal's fitness for transport.	Pain levels 'moderate' to 'very severe' (Table 1)

Recommendation for inspection

- Each animal's fitness for transport must be assessed prior to loading
- Assessing pain levels according to Table 1 may be used to support decision making on an animal's fitness for transport in connection with painful conditions
- Where there is doubt about an animal's fitness for transport, veterinary advice shall always be sought

Table 1: Pain levels and assessment in bovine animals (modified after Care4Dairy, 2024)*. Animals are considered unfit for transport if pain assessment exceeds level 'mild'.*

	Pain levels				
Signs	No Pain	Mild	Moderate	Severe	Very severe
Reaction to palpation	Bovine not bothered by palpation anywhere	Bovine may or may not react to palpation of an affected site (surgery site, wound,…): pull away, kick, vocalise	Bovine reacts to palpation may try to run away or act aggressive when handled	Bovine moves away from palpation may kick or bellow or be rigid	Bovine is rigid or unresponsive
Other signs	• Content and quiet • Grazing or eating at feeder • Curious about surroundings • Moves away when approached • Normal interaction with herd and calf (if a cow)	• Mild posture change • Stiff or subtle lameness • Less interested in surroundings • May warn off herd mates by head shaking or bunting	• Away from herd • Quiet, dull eyes • Abnormal posture-stiff, not moving, arched back, lame • Rough hair coat • Decreased appetite • Calf at foot may be hungry or bawling	• Away from herd • Stiff, unwilling to move • Not eating • Unkempt appearance • Weight loss • Abnormal posture-head down, tucked tail, arched back, ears down	• Rapid shallow respirations • Open mouth breathing • Bulging eyes • Depressed • Grunting • Teeth grinding • Not eating • Rigid posture or down