

ALPACAS, LLAMAS

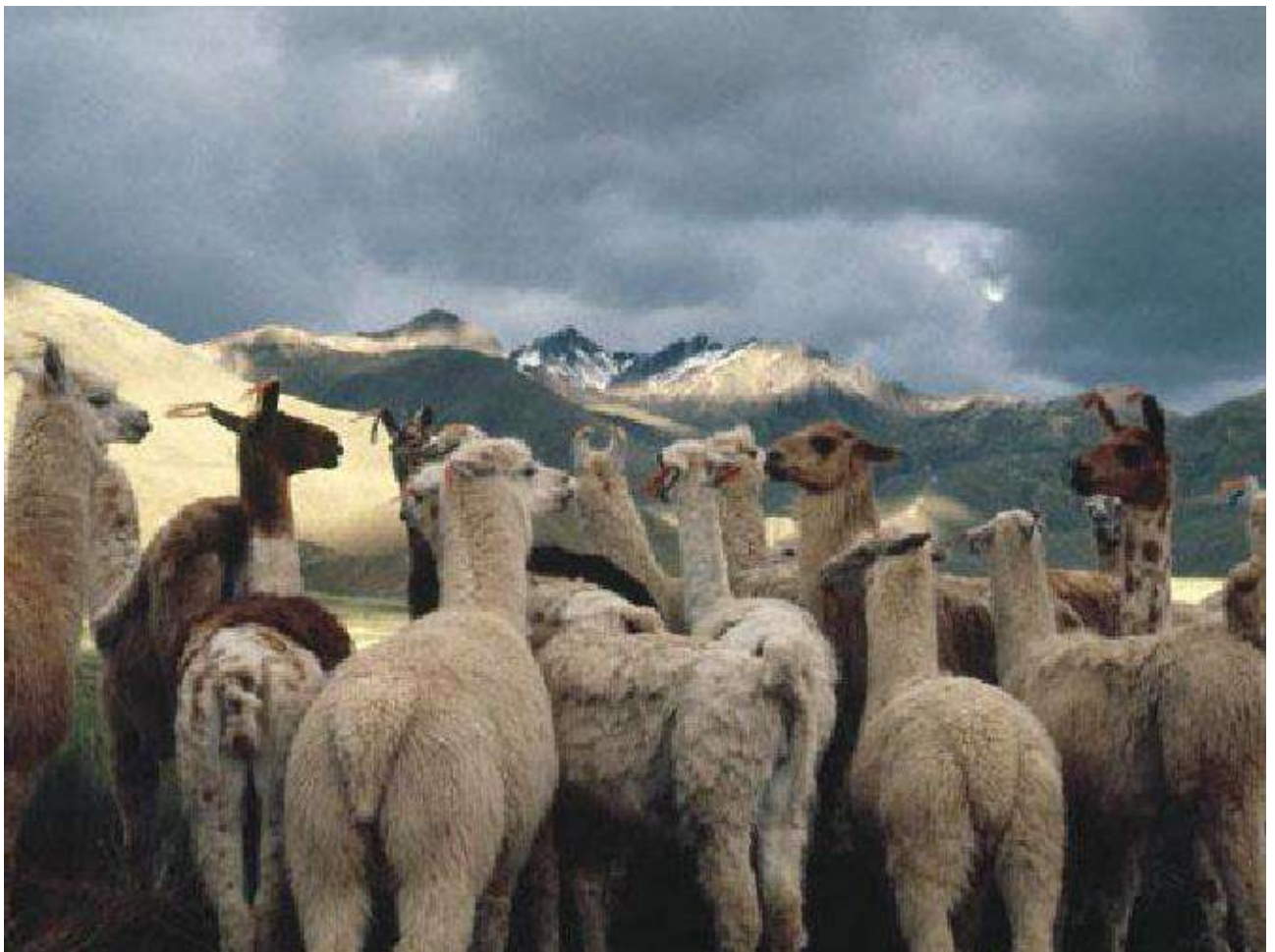
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Guanaco

Welfare Guide 2014

A welfare guide issued to form secondary legislation

Attached to the Animal Welfare Act 2006



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Preface

The Animal Welfare Act 2006 is based on a duty of care philosophy which obliges the owners and persons in charge of an animal to meet the physical, health and behavioral needs of animals in a manner that is in accordance with both good practice and scientific knowledge. The Act provides for the development of codes of animal welfare, which are designed to help everyone care for animals. Codes flesh out the provisions of the Act by setting minimum standards of care, which owners and persons in charge of animals are expected to meet. In addition, codes which should be preferably outcome-based, include recommended best practice and explanatory material intended to encourage optimum animal welfare that exceeds the requirements of the minimum standards.

Outcome-based standards in codes of welfare focus on defining welfare outcomes for animals based on known needs. They do this in a manner that requires those outcomes to be delivered, rather than prescribing specific requirements for facilities and management techniques and systems.

The challenge in developing a code of welfare is to integrate the various and often conflicting social, ethical, economic and production management value judgments with the available science in a way that does not stifle innovation or require frequent alteration of the codes. Codes of welfare should spell out the minimum acceptable standards for managing animals in a manner that accommodates new knowledge and the changes that will inevitably occur in housing and management systems. Therefore, minimum standards that focus on the animal and its minimum required welfare outcomes offer greater utility and are likely to be more long-lived than prescriptive facilities-based standards that become outdated by new developments and attitudes.

Experience with prescriptive standards has shown that if the intended outcome is not stated, there can be debate about the validity of the standard because of different interpretations of the intended outcome. Facilities specifications could be offered in support of outcome-based minimum standards but not be a part of them.

It is considered that outcome-based standards, which would include readily observable and measurable welfare indicators, as measures of the achievement of that outcome, would allow farmers (or owners) to use their own expertise, experience, available technology and judgment to meet the minimum standards and demonstrate compliance with them.

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Introduction

A.1 What is the purpose of this welfare guide?

South American camelids (llamas, alpacas and guanaco) are kept for both commercial and personal purposes, and in a variety of different systems. Whether the animals are being run in an extensive situation for large-scale fibre production, or being kept as intensively handled packing animals, or as companion animals, both experience and the observation of high standards is required to ensure the welfare of the animals. The purpose of this code is to encourage all those responsible for implementation to adopt the highest standards of husbandry.

The minimum standards in this code set out the minimum standard of care which owners or persons in charge of animals need to meet in order to meet their obligations under the Animal Welfare Act.

Suggested indicators do not have a legal effect but they can be used to determine whether minimum standards are being met. The recommendations for best practice are intended to encourage standards of care over and above the minimum.

Advice is given throughout this code which is designed to encourage owners and operators to strive for a high level of welfare. Explanatory material is provided where appropriate.

This code provides the general principles for the care of animals, but it is expected that the British Alpaca Society, the British Llama Society and British Camelids Ltd will develop operational specifications consistent with the requirements of this code and incorporate these specifications in quality assurance programmes (see Section 9 Quality Management).

A.2 Who does this guide apply to?

This code sets out the general principles for the care of New World (South American) camelids. It is intended for all persons responsible for the welfare of camelids, and applies to all camelids kept in the UK. Common species of camelids found in the UK include Vicugna pacos, (alpaca), Lama guanicoe (guanaco) and Lama glama (llama).

Under the Act the owner of an animal and the person in charge is responsible for meeting the legal obligations for animal welfare. In some cases or for particular procedures, the owner of the animals places them in the care of others who become the persons in charge.

A.3 What animals does this guide apply to?

This code applies to all South American camelids kept for any purpose in the UK (alpacas, llamas, guanacos and crossbreeds of these species).

A.4 What happens if I do not follow the minimum standards in this guide?

Failure to meet a minimum standard in this code may be used as evidence to support a prosecution for an offence under the Animal Welfare Act. A person who is charged with such an offence can defend him or herself by showing that he or she has equaled or exceeded the minimum standards in this code.

The recommendations for best practice in this code have no legal effect and are included to encourage higher standards of animal welfare.

The suggested indicators are included as examples of how to assess whether or not minimum standards have been met.

A.5 How does this guide relate to other codes of welfare?

Other codes of welfare should be consulted where appropriate (see Appendix V: Codes of Welfare and the DEFRA website at www.defra.gov.uk)

This code covers pre-transport requirements for camelids; further detail on the transport of camelids will be covered in the Animal Welfare (Transport) Code of Welfare when that code is issued.

Five Basic Freedoms

We consider that all animals have the right to enjoy five basic freedoms:

- Freedom from hunger and thirst - By access to fresh water and a diet to maintain full health and vision.
- Freedom from discomfort - By provision of an appropriate environment including shelter and rest areas.
- Freedom from pain, injury or disease - By prevention or rapid diagnosis and appropriate treatment including humane slaughter.
- Freedom to express normal behaviour - By providing sufficient space, proper facilities and company.
- Freedom from fear and distress - By ensuring that conditions and treatment avoid mental suffering.

Minimum Standard No. 1 Stockmanship

1.1 Introduction

Stockmanship and animal handling cover a wide range of skills and personal qualities. These include knowledge of animal needs, an understanding of the husbandry system and the skills to operate within it, a rapport with animals, an ability to observe them and interpret behaviors, as well as skill in the practical aspects of handling, care and manipulation of animals.

Owners and persons in charge of camelids are required to have the relevant knowledge to ensure that the health and welfare needs of the animals in their care are met. Any contracted or temporary staff should be trained and be competent in the relevant activity or under the supervision of a trained and competent person.

The owner or person in charge may place the camelid in the care of others for the purpose of breeding, transport or other routine management or husbandry practices but this does not absolve them from their responsibility.

- (a) Camelids must be cared for by a sufficient number of personnel, who, collectively possess the ability, knowledge and competence necessary to maintain the health and welfare of the animals in accordance with this code.
- (b) International studies including those conducted by the Rural Industries Research and Development Corporation indicate that a Standard Man Day value of 8 days should be allocated to 1 Alpaca breeding female, this would indicate the care attendance of at least one agricultural worker for 35 breeding females or over

Example indicators for Minimum Standard No. 1 Stockmanship

Animal health and welfare is in accordance with the minimum standards listed in this code

Training/competence in the care of camelids can be demonstrated and persons in charge are aware how their actions may affect the welfare of the animals

Owners with little or no previous camelid stock experience will ensure that they obtain both pre-purchase and ongoing training to ensure that animal welfare is maintained.

Recommended Best Practice

- (a) Staff should be trained on the job by supervisors who have competence in the husbandry of the animals
- (b) Stock handlers, owners and persons in charge of animals should keep up to date with developments in animal husbandry designed to maintain or improve animal welfare. Existing systems and practices should be reviewed regularly to ensure that they continue to be necessary/justified and newer and improved systems should be incorporated where possible.
- (c) Accurate records should be kept of operational procedures and of the history and treatment of animals.

General Information

The UK Qualifications Authority lists a number of training qualifications for stock handlers, and these can be found at www.animal-job.co.uk. This includes the Regional list of Animal Care Colleges and Training Course. Stock handlers with qualifications in non- camelid stock species must be familiarized with the specific aspects of camelid behaviour and handling

Information on these qualifications and accredited training providers is available through The BAS website: <http://www.bas-uk.com>

Minimum Standard No. 2 Mustering and Droving

2.1 Introduction

Mustering and droving of camelids is essential for their husbandry. While well-socialised camelids can be induced to move to new areas either through enticement with food or by means of triggering their natural curiosity for exploring new pasture land, in many cases they must be moved by using their natural tendency to move away from humans. The handlers skill lies in understanding the behaviour of the animals and adapting their behaviour in such a way as to facilitate mustering while minimizing stress to the animals. Mustering is usually best done slowly and quietly.

(a) Camelids must be moved at such a pace so as not to cause exhaustion, heat stress or injury.

Example indicators for Minimum Standard No. 2 Mustering and Droving

No animals are injured or exhibiting signs of exhaustion or heat stress as a result of mustering or droving. Signs of exhaustion and heat stress include kushing/lying/collapse, panting, or distressed vocalisations beyond the normal humming(also see Section 7)

Any animal that does not keep up with the herd is checked over to determine why it is not keeping up with the others

Animals are mustered and driven using appropriate tools (eg wands and herding tape)

Recommended Best Practice

- (a) The pace of mustering or droving should be aligned to the slowest animals in the herd, with particular attention given to cria, and those with illness or injury.
- (b) Sick, injured or lame animals should only be mustered if necessary and if it will not cause undue suffering.
- (c) On rough, uneven surfaces and difficult or steep terrain, stock should be moved and at a pace so as not to leave the slowest animals behind. It is preferable to avoid mustering or droving in hot and/or dusty conditions.
- (d)After mustering or droving, animals should be provided with suitable conditions and time to enable settling down, mothering up or shelter seeking before the onset of darkness.

Minimum Standard No. 3 Restraint

3.1 Introduction

Facilities such as yards, races, crushes and loading ramps need to be adapted to suit the animals and the husbandry systems. Equipment worn by or placed on a camelid (halters, packs, etc.) must also be designed or adapted to ensure that it does not harm the camelid.

Halter use and halter fit is a very important component of camelid handling. Haltered camelids can be at significant risk of being caught on fences or other objects resulting in injury or death, and extended use should be avoided. Although not considered equipment of restraint ear tags can also become caught on fencing leading to injury. Camelids are obligate nose-breathers, and an ill-fitting halter that slips down over the soft tissue of the nose can result in suffocation.

- (a) All facilities where camelids are restrained must be constructed, maintained and operated in a manner that minimises the likelihood of distress or injury to animals.
- (b) Methods of restraint must be appropriate for the animal, in good working order and used only for the minimum time and using the minimum force required to complete a procedure.
- (c) Animals which are restrained must be kept under supervision and released from the restraint immediately if at risk of injury.
- (d) Electro immobilisation devices must not be used.
- (e) Animals which are to be restrained by tether must have been habituated to being handled that way.
- (f) Halters must be specifically designed for use with camelids, and where used, must be properly fitted to each animal. For example, at shows, care should be taken to ensure that the noseband allows the alpaca to eat, drink and chew the cud.
- (g) Halters must never be left on unattended camelids for extended periods without being checked at a minimum of every 12 hours.

Example indicators for Minimum Standard No. 3 Restraint

Sharp objects, protrusions, edges, gaps, including damaged flooring likely to cause wounds, bruises or fractures have been removed, repaired or covered

Equipment designed for handling sheep or cattle is only used for handling camelids if safe and appropriate to do so

Storage of all health remedies, toxic materials and associated equipment is in an area inaccessible to camelids

Recommended Best Practice

- (a) Camelids should be handled quietly with care and patience. Familiarising camelids with handling facilities and management routines from an early age reduces apprehension and assists handling.
- (b) Managers should avoid handling animals in periods of adverse weather conditions (e.g. thunder and hailstorms, strong winds, excessive heat) except in cases where emergency movement or transport of the animals is required.
- (c) Handling camelids in dusty facilities should be avoided as it may cause lung or eye irritation, or disease. As a general rule, if the dust is uncomfortable for the handlers, it is uncomfortable for the camelids.
- (d) Isolation of individual camelids should be avoided whenever possible.
- (e) Haltered animals should not be left unattended longer than is necessary during periods when such handling is necessary e.g. shows, sales, mating and transporting.
- (f) A chucked animal should be released as soon as is practicable, and should not be left unattended.
- (g) All packs, covers and other equipment fitted to camelids should be designed for the purpose, should be fitted properly, and should not cause the animal undue discomfort or distress in its normal use. Where coats are being used, the alpaca should be observed to be acting normally wearing the coat before being let out into a field.
- (h) Catch-pens, in which camelids can be isolated and easily caught for examination and treatment should be available in all camelid operations, including extensive operations,

General Information

- When used appropriately, useful aids to assist in the safe movement of camelids include:
 - Wands
 - Herding Tape
- These aids provide visual cues to direct camelid movement
- Large herds of camelids may need to be broken down into smaller groups after entering handling facilities.
- Stress can be reduced by keeping camelids within sight of familiar animals where possible.
- When camelids, especially guanaco, are held in yards for long periods they are liable to become restless. They may attempt to jump over yard fences and there is an increased risk of injury. Work needs to be planned to ensure that camelids are only held for short periods. Alternatively, camelids can be held in adjacent pastures or paddock facilities until such time as they can be handled efficiently.
- Camelids may be chucked, a procedure where a rope is loosely tied around the hindquarters to immobilize the rear legs and keep the animal in kush. In The UK llamas and guanaco are generally too large to safely immobilize by chuckering, so the procedure is used primarily on alpaca.

Minimum Standard No 4 Food

4.1 Introduction

It is important that all camelids receive a diet in adequate quantities and containing sufficient nutrients to meet their requirements to maintain good health and welfare. Camelids are known as modified ruminants. In common with other ruminants, camelids have a digestive system requiring a regular supply of nutrients and micronutrients (minerals, vitamins and trace elements required in small amounts to enable the body's chemical reactions to function effectively); however, daily intake requirements are strongly influenced by ambient temperatures and changing seasons.

Grazed pasture is the main source of feed for camelids in the UK. Although there is considerable variation in pastoral management systems throughout the UK, there are some common feeding management techniques available for camelid keepers.

Feeding levels are best determined by monitoring the body condition of the camelids (see Appendix III, Condition Scoring of Camelids, to this code), or regular live weight monitoring. Body Condition Score (BCS) is a means of taking into account the variability in size and conformation.

Camelids must receive adequate daily food and nutrients to enable each camelid to:

- (i) maintain good health; and
- (ii) meet its physiological demands; and
- (iii) minimise metabolic and nutritional disorders.

When the body condition score falls below 2 in any adult camelid, 2 or below in a tui, or 3 or below in any cria or suri, immediate remedial action must be taken to resolve the issue.

Example indicators for Minimum Standard No. 4 Food

Feed (including pasture or fodder) is appropriate for camelids

No animal has a feed-related disease or disorder

No adult camelids has a BCS <2 and no tuis have a BCS of 2, or no documented evidence is available demonstrating remedial action is being taken for such animals

The feeder / food trough space is sufficient to ensure that no distress or injury to animals is caused.

Recommended Best Practice

- (a) All camelids rising 2 years and over (with the exception of suri-type animals) should generally have a BCS (body condition score) of 3 (see Appendix I, Condition Scoring of Camelids, to this code).
- (b) Feeding methods should be designed to reduce fouling and wastage.
- (c) Measures should be taken to minimise access of camelids, and particularly pregnant females, to toxins including mould-contaminated or excessively dusty supplementary feeds.
- (d) While camelids are unlikely to accidentally consume non-food items, measures should be taken to minimise access to items such as:
 - (i) electrical fittings
 - (ii) building paper
 - (iii) loose fencing wire
 - (iv) twine and plastic wrap.
- (e) All changes in diet should be performed gradually over a 5-10 day period.
- (f) When feeding brassicas and/or concentrates, a supplementary source of roughage such as hay, silage or haylage should be added to the diet to aid proper digestion. This should be provided daily throughout the year
- (g) There should be enough reserve feed to allow more frequent shifts of camelids if it is very wet and the fodder grazed becomes trampled and muddy. An alternative area should be made available, such as an adjacent paddock, to provide an area free of standing water and mud for animals to lie down.

General Information

Signs of ill-thrift or emaciation in crias and tuis may include rapid weight loss relative to herd mates, rough body appearance (hair loss) and being bullied by herd mates.

Suri-type llamas and alpacas have a natural BCS of 4 or 5. This is because normal and healthy suri type camelids naturally have a pad of fat along the spine and so may not actually be obese at BCS 4 or 5. However, suri-type camelids are able to become obese and suffer ill-health as a result, as is any other camelid. Other indicators can be used to assess if suri-type camelids are obese such as the presence of increased fat deposits on the inner thighs and on the chest.

On lush UK pastures many camelids will grow obese (BCS 5), even in the absence of any supplementary feed.

Live weight monitoring is a more appropriate measure of the success of a feeding regime than BCS for crias/tuis.

Camelids are hierarchical by nature and as a result of this; subordinate camelids may get less than their feed and water requirements when housed in group situations if a dominant animal monopolizes the food or water source. Having an appropriate number of feed and watering stations will help prevent this situation.

Pregnant females of BCS greater than 4 accompanied by a lack of fitness may have problems with dystocia during labour.

Minimum Standard No. 4 Food – General Information cont:

Feed demands are increased by sustained cold and wet weather and wind chill effects. Nutrient allowances should be increased when camelids are in exposed or poorly sheltered conditions in winter.

During prolonged dry conditions supplementary feeding for females with young at foot will have welfare and growth benefits.

Grain and other readily fermentable carbohydrates are not recommended for camelids. If they are fed, they should be gradually introduced over a 5 10-day period. This will allow rumen bacteria to adjust and thus prevent digestive problems and the risk of death through acidosis. Animals should be closely monitored during this period.

Minimum Standard No. 5 Water

5.1 Introduction

The provision of an adequate supply of water is critical for maintaining the health and welfare of camelids. Water needs for different species of camelids vary during the year.

- (a) All camelids must have access to an adequate daily supply of drinking water that is palatable to the camelid and not harmful to health.
- (b) Any camelids retained in yards or within holding facilities for longer than 3 hours must have access to drinking water.
- (c) Camelids being held for transport should not be without water for periods longer than 3 hours.

Example indicators for Minimum Standard No. 5 Water

Regular inspections are carried out to ensure that animals have access to sufficient quantity and quality of water

Inspection frequency of the water source is tailored depending on the grazing system used, the size of the water storage tank, weather and any other relevant variables
Water delivery system is at an appropriate height for the size of the camelids using it

Stock are free from water-related disease or ill-health

Water is supplied to camelids held in holding facilities or yards for periods longer than two hours

Recommended Best Practice

- (a) Watering facilities should be designed to reduce fouling and wastage.
- (b) Water reticulation systems without any storage capacity or other backup supply systems should be checked daily to ensure they are in working order and any problems promptly rectified.
- (c) When camelids are being worked in yards during hot weather and/or subjected to events such as weaning, Tb testing, pregnancy scanning or shearing, access to drinking water should be provided.

General Information

The daily consumption of water by camelids can vary widely according to species, body weight, age sex, climatic conditions, type of diet and feed intake.

Some camelids will have significantly increased requirements for water at certain times.
Eg Lactating females or weaned camelids (up to 10 days after weaning).

In excessively hot weather conditions, all camelids will require more water as they drink water to mitigate heat stress.

To ensure that water is always available, water reticulation systems, where used, need to be inspected regularly for normal function. This preferably would be daily during summer or during extended periods of dry weather and winter when the system may be frozen.

Minimum Standard No. 6 Shelter and Shade

6.1 Introduction

The relationship between an animal and its environment is crucial to its welfare and most camelids are required to cope with regularly changing climatic conditions and, occasionally, with more severe and extreme events. Depending on the environment and circumstances, persons in charge of animals have a fundamental obligation to ensure that animals in their care have adequate shelter or protection.

Adverse weather events can affect the welfare of fit and normal camelids but have a greater impact on those more vulnerable due to age (young cria or elderly animals) or condition (freshly shorn, suffering illness or disease). Severe or prolonged adverse weather conditions can also affect animal health, production and reproduction, as well as result in increased mortality.

Shelter and shade may be provided in a number of ways including through the use of topographical features such as gullies or hollows (of adequate depth), natural features such as stands of trees or scrub, hedges or shelter belts, however artificial structures such as buildings, etc. are essential and not just an option within a range of possibilities

Shelter may also be important when environmental conditions are not extreme, for example where female camelids seek isolation to give birth, or where an animal that is ill wishes to separate itself from its group.

Cold Conditions and Hypothermia

The combined effect of wind and cold ambient temperatures, measured as wind chill, has a major influence on the welfare of all camelids and increases the energy that they need to stay warm. The prevention of wind chill is an important welfare factor for camelids.

Rainy weather further compounds the influence of wind and cold as camelids, when wet, may have reduced insulation. While it lacks the high grease content of sheep's wool, camelid fibre does have effective water-repellent abilities. However, this ability is compromised when strong winds are combined with the rain as the fleece structure can be opened and allow rain to fully penetrate and waterlog the fleece, resulting in rapid heat loss and discomfort. Body condition will also have an influence on the effects of wind chill.

Young camelids (who have very little fat cover) and shorn animals are more vulnerable to the effects of cold weather and shelter can help prevent the body temperature from dropping too low.

Early signs of significant cold exposure in camelids include behavioural changes such as shivering and huddling together. Extreme or prolonged exposure to wind chill can cause the onset of hypothermia which can result in the death of the camelid.

Hot Conditions and Heat Stress

The combined effects of high ambient temperatures, high relative humidity and exposure to sunlight, combined with low wind speeds, can cause heat stress. Individual camelids may differ in their susceptibility to heat stress depending on a large range of physical, physiological and environmental factors.

When camelids are exposed to conditions that cause heat stress they will use a number of ways to relieve the heat load including an increased respiration rate, reduced grazing activity and increase water consumption. Early signs of significant heat stress include the exhibition of panting behaviour with tongues extended when severe. Extreme or prolonged heat stress can cause hyperthermia and death.

In some regions shade provision may be imperative even during normal sunny conditions during summer months. Regular shearing before seasonal hot conditions reduces the risk of heat stress and is beneficial to camelid health.

- (a) All camelids must have access to shelter to reduce the risk to their health and welfare caused by exposure to cold and/or wet weather conditions.
- (b) Camelids must be provided with shade or other means to minimise the effects of heat stress.
- (c) Camelids due to or giving birth must be provided with an environment affording the newborn cria protection from climatic conditions likely to compromise their welfare and survival.
- (d) Where animals develop health problems associated with exposure to adverse weather conditions, priority must be given to remedial action that will minimise the consequences of such exposure.

Example indicators for Minimum Standard No. 6 Shelter

Camelids have access to shelter from sun and adverse conditions

Natural shade or shelter is available and artificial shelter/s are provided which are large enough to hold all camelids

No animal is showing signs of ill-health caused by conditions relating to exposure to heat, cold, or adverse weather conditions

Recommended Best Practice

- (a) The timing of shearing should be adapted to account for local weather conditions as the fleece status has a significant impact on a camelids vulnerability to adverse weather conditions.
- (b) Shelter should be provided at all times to improve animal welfare.
- (c) Districts that are prone to heavy rainfall, unseasonal and winter snowstorms, flooding and droughts which can cause livestock distress and deaths should have pre-prepared contingency plans and monitor and take heed of severe weather warnings.
- (d) When ambient temperatures are extreme, climatic temperatures and animal behaviour and well-being should be monitored at an increased frequency and corrective action taken if needed.

General Information

Shelter can be provided by land contours, vegetation, windcloth or other artificial structures. Trees can diffuse rain and wind but without land contour shelter, camelids may still not be adequately protected in extreme weather and artificial shelter needs to be provided (Field shelter/Building).

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Supplying newly shorn animals with an increased amount of feed to sustain body temperature and maintain body condition may be required for up to two months post-shearing. There also needs to be ready access for shorn animals to covered yards or effective shelter for several weeks after shearing in case of cold wet weather.

Advice on preparing contingency plans for adverse weather events can be gained from local authorities, Federated Farmers, Rural Support Trusts, agricultural consultants or the BAS Welfare committee. Local farmers with greater experience of the conditions that are likely to be encountered in different regions can also be a good source of information.

7.1 Introduction

Few camelids are routinely housed in the UK as most routine management and husbandry practices result in the temporary holding of camelids for short-term specific needs (e.g. quarantine, weaning, drenching, weighing or display for on-farm sale).

In situations where camelids are being housed, they are totally dependent on their keepers for all daily requirements, welfare and safety, and keepers must be aware that there are additional responsibilities of care.

Sufficient floor or pad space needs to be provided to enable the camelids to exhibit normal behavior patterns relating to resting, kushing, rumination and play, and to minimise aggression within the group. When grouping animals, group structures need to take account of individual animal relationships where possible and avoid a wide range of liveweight to reduce the risk of bullying.

Stocking density is best calculated based according to the space requirements of the heavier animals.

Facilities originally intended for sheep or cattle may not be appropriate for camelids without modification. Likewise appropriate and safe facilities for llamas and guanaco may be different from those for the smaller alpacas. Properly managed facilities and restraint systems can greatly facilitate the undertaking of husbandry procedures resulting in reduced risk of injury and distress to animals and stock handlers.

- (a) Space must be provided to allow all animals to rest comfortably for sufficient periods each day to meet their needs.
- (b) Floors must be composed or constructed of a non-slip material to minimise the risk of injury.
- (c) When housed, camelids must be penned in groups, with individual confinement restricted to those under treatment for ill-health, injury, disease and those which are known to be aggressive and may injure other animals. Those confined camelids must always be able to see other camelids nearby.
- (d) All facilities must be constructed and maintained to ensure there are no hazards likely to cause injury to the animals.
- (e) Any electrical fittings and attachments to main voltages must be out of reach of the camelids, or protected from interference or damage by the camelids.
- (f) Immediate and appropriate action must be taken to reduce ammonia levels if they exceed 25 ppm at animal level.
- (g) Natural or artificial lighting must be available during daylight hours, but should not be so intense as to cause discomfort.

Example indicators for Minimum Standard No. 7 Housing Facilities

All housing systems are equipped to provide the animals with the minimal provision of accessible space per animal as follows:

1.2 m per animal less than 50 kgs

1.8 m per animal between 50 kgs and 80 kgs

2.1 m per animal between 80 kgs and 120 kgs

2.8 m per animal greater than 120 kgs

If animal health and welfare are likely to be compromised by equipment failure the corrective action is taken immediately and documented

Light control systems are working, are well maintained and light levels are sufficient to ensure that all animals in all parts of the house are clearly visible during inspections

Covered facilities have light available at a minimum of 20 lux to ensure safe inspection and handling of animals

Minimal signs of discomfort, distress or disease are apparent during daily inspections of the animals

Animal behaviour is monitored at least once per day (and preferably twice) and corrective action taken if signs of heat stress, cold stress, disease or injury are observed

Recommended Best Practice

- (a) Housing should be constructed with the well-being of the animals in mind. It should provide accommodation that is dry and well ventilated with shelter from the prevailing weather. Dust levels, air temperature and relative humidity should not be harmful.
- (b) Special care should be taken to make sure facilities in which camelids are kept have no gaps in which animals can get their heads or legs stuck.
- (c) Animals penned individually for health, management, or other reasons should be housed next to and within sight of other camelids, unless their medical condition precludes this.
- (d) Outdoor runs should be provided.
- (e) Ammonia levels should not consistently exceed levels of 10 15 ppm.
- (f) Soiled bedding and waste food should not be allowed to accumulate to a level that poses a threat to the health and welfare of the animals or attract vermin.
- (g) Emergency response plans should be developed to identify potential hazards. Staff should be trained to understand their responsibilities during an emergency response and the response plan should be incorporated as part of the management practice routine.
- (h) Alarm systems and emergency power supply, where fitted, should be tested on a regular schedule and test results documented.
- (i) To reduce aggressive interactions, pens should be large enough to allow camelids free movement and sufficient room to move past each other without confrontation a larger area may be necessary for stud males.
- (j) Ceiling height should be determined in relation to the size of the camelids to allow the camelids to exhibit normal playful behaviour (recommended ceiling height being > 2.4 metres).
- (k) Frequent changes of group structure should be avoided.

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- (l) Feeding and watering systems should be constructed to be readily accessible and to prevent competition between animals with respect to the feed type, stock type and size of the enclosure.
- (m) Holding facilities should provide for a separate pen to manage bullying and/or to hold and treat bullied, unwell or injured camelids until recovery.

General Information

As a guide, a level of 10 15 ppm of ammonia in the air can be detected by smell and an ammonia concentration above 25 ppm may cause eye and nasal irritation in people. In general, if the level of noxious gases within a housing facility is uncomfortable to people, it is also uncomfortable for the camelids. Such levels compromise animal welfare and may predispose them to respiratory disease and reduced performance.

Settling of camelids is improved by allowing them visual contact with animals in adjoining pens.

Emergency contingency plans need to consider:

- Rapid release of camelids into a secure environment
- Access to water source or fire extinguisher/s
- Familiarisation of staff with emergency procedures

Animals housed for long periods become accustomed to routine. Changes to routine such as visits from strangers, noise, vehicles and unfamiliar dogs can cause undue stress and should be discouraged. Owners and managers should be aware of this, and respond accordingly to ensure animal welfare is maintained.

Minimum Standard No. 8 Animal Handling

8.1 Introduction

Competent handling of camelids is essential to their husbandry.

Camelids are prey animals and fear motivates them to escape from perceived danger. Careful and quiet handling of camelids will reduce this fear and help to keep them calm, making them easier to handle. In addition, careful handling will also improve animal welfare and productivity, reduce the risk of injury, and result in animals settling down and resuming normal behaviour more quickly following a procedure.

Camelids are intelligent and curious animals, and can adapt to dealing with novel situations with a minimal fear response. However, the initial handling of a camelid can determine how it will react to procedures in future, and so treating a camelid with great care initially will have long lasting beneficial effects for both the animal and the handler. In a novel situation many camelids observe the herd reaction when formulating its own response. Putting a new animal in with animals that have been well accustomed to the handling procedures can help significantly reduce the new animals own fear and stress reactions.

Training, adapting, or habituating animals to handling (e.g. walking quietly among livestock, letting them approach novelties) may reduce fear and improve the camelids tolerance of novel situations, especially if this training is undertaken gradually using short sessions.

Camelids have a strong herd instinct and attempting to separate animals from the herd, and especially mothers from their cria, can induce significant stress. Separating an animal is best done in yards or other handling facilities.

- (a) Camelids must be handled in such a way to minimise the risk of pain, injury or distress to the animals.
- (b) Electric prods must not be used on camelids.
- (c) Only the minimal force required must be used when moving camelids.
- (d) Camelids must not be moved by twisting ears or tails or by lifting using the tail.

Example indicators for Minimum Standard No. 8 Animal Handling

Camelids are handled using calm and gentle encouragement using visual and audio cues rather than physical contact

Animals are not hit and are not lifted by the hair, head or neck, and ears or tails are not twisted.

Animals do not show whole herd wariness of animal handlers

Recommended Best Practice

- (a) The flow of animals should be monitored and if necessary controlled at gateways, in narrow laneways and corners, or other pressure points to ensure animals, especially young and small animals, are not injured or smothered
- (b) If the process of yarding is especially stressful, the animals should be given 20-30 minutes to calm down to ensure more controlled handling and to reduce fear and risk of injury.
- (c) Care should be taken so as not to induce sudden fear or panic in animals in confined spaces where flight increases the risk of injury.
- (d) Time spent in the yards should be as short as possible.
- (e) Vehicles should not be used to move stock where it can be avoided.
- (f) Practices to increase camelids familiarity with humans should be considered and, where used, should not increase the risk of injury to camelids. Such practices may include:
 - positive human contact
 - the use of a radio to accustom camelids to a range of noises and voices.

General Information

Human-animal interactions can be enhanced by accustoming animals to human contact and using the correct handling procedures; as well as improving the skill of the handler and the facilities in which the animals are handled.

Knowledge of the animals flight (safety) zone and the point of balance (the line through the animals shoulder which determines if it moves forward or backwards in the presence of a handler) will help when moving animals, while minimising fear. Animals with a large flight zone may become fearful and agitated when that zone is invaded. Moving camelids into a smaller area can reduce their flight response. It can be easier and less stressful to catch a camelid in a small pen than in a larger holding yard. Likewise keeping the animal with other camelids can help to reduce the flight zone and fear response to handling. The size of the flight zone varies depending on the animal's behavioural predispositions (genetics), its previous contact with people and the quality of that contact.

Some camelids can react aggressively to the presence of dogs. Llamas and alpacas are used as sheep guards in Australia and the United States to protect against foxes and coyotes, and the practice is becoming more common here in the UK as a protection against foxes

Camelids can be accustomed to dogs but the owner must take account of the circumstance and the personality of the camelids to assess the risk to both camelids and dogs.

Camelids, even if very accustomed to human contact and seemingly very friendly, should be respected by their human handlers. Inappropriate handling of animals, especially young cria and tui, can cause a loss of respect for human handlers.

Animals that initiate body contact, especially rough pushing or neck wrestling, have the potential to become dangerously aggressive.

The British Alpaca Society can be contacted for advice on animal handling issues.

Minimum Standard No. 9 Behaviour

9.1 Introduction

Camelids are highly social and hierarchical animals that seek comfort in herd situations. They must have other camelids for companionship, either in the same paddock or within sight in an adjacent paddock.

Camelids have a natural flight response and specific behavioural needs relating to dust bathing, kushing, giving birth, and social space.

- Newly weaned camelids are vulnerable to separation stress.
- Camelids are herd animals and must always live with a camelid companion.
- Cria must be raised in the company of other camelids.

Example indicators for Minimum Standard No. 9 Behaviour

Camelids are not raised or kept alone.

Camelids are held in paddocks with other camelids or the very least, in a paddock adjacent to, and within sight of, other camelids

Recommended Best Practice

- (a) Camelids should be kept with other camelids.
- (b) Camelids that cannot be housed with other individuals due to aggression should at the very least have visual contact with other camelids.
- (c) Camelids gain confidence and security from larger groups, so while two is the minimum, camelids should be kept in larger group sizes to improve animal welfare.
- (d) Camelids should be monitored for signs of aggression and bullying when unfamiliar camelids are being introduced into the herd.
- (e) Areas should be provided which will enable camelids to express their natural dust bathing behaviour.

General information

Camelids prefer to live with other camelids, but in emergency situations where a single camelid has to be kept on its own, other animals can be provided for companionship for short periods (sheep, goats, etc. but horses are not recommended as this can be a dangerous situation with some equines). In this case, the camelid needs to be observed frequently to ensure it is not under undue stress, nor that it is fighting with or fleeing from its non-camelid paddock companions.

Relevant skills and a good understanding of camelid behaviour is required in all aspects of the management of camelids as poor husbandry practices have a direct impact on camelids welfare.

Differences in behaviour arising from species, gender and bloodline variation occur and should be considered.

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Camelids in controlled grazing systems adjust quickly and positively to a consistent routine, whether it be movement time or supplementary feeding, which normally leads to a more settled behaviour, better growth and maintenance of body condition. Lack of, or disrupted, routine may aggravate bullying and disrupt herd structure, and hence impact on camelid welfare.

Some camelids bought as pets in a small group may be left alone upon the death of their companions. In these circumstances the onus is on the owner to ensure the remaining animals continuing welfare, either by obtaining a new companion camelid, by re-homing their animal with other camelids. If these options cannot be achieved, then based on the individuals reaction, euthanasia of the camelid may be necessary.

Minimum Standard No. 10 Mixing Camelids

10.1 Introduction

Camelids are highly social and hierarchical in nature. Mixing unfamiliar camelids can result in fighting and injury unless preventative measures are put in place. This is particularly important for breeding males. A large paddock can be used to minimise confrontation and, where possible, paddocks with broken contours and natural cover will assist in reducing stress. Where camelids are mixed, they must be managed to minimise the effects of aggression.

Example indicators for Minimum Standard No. 10 Mixing Camelids

Sufficient space is provided to enable any camelids being bullied to move away from their aggressor

Camelids subjected to persistent bullying are removed from the herd, but are placed within at least visual contact of other camelids at all times

Recommended Best Practice

- a) When a new camelid is added to an existing herd, or when two or more groups of camelids are joined into a single herd, they should be observed on mixing, and then daily until settled, for signs of injury or continued aggression.
- b) If any camelids are subjected to persistent bullying they should be removed from that herd, checked for illness and injury, and placed with another group where bullying is not a problem.
- c) When predisposing factors have been identified they should be dealt with immediately.
- d) Herds should be grouped according to factors such as previous management history, bodyweight, species, sex, age, and pregnancy status.

The ideal is one that balances management needs and animal behaviour needs.

General Information

When new animals are introduced to a herd, potential aggression and bullying by more dominant Camelids seeking to establish a pecking order can cause injuries or stress to more subordinate individuals. Signs of aggression or stress include continual harassment of subordinates, fighting, vocalization (including humming), excessive fence pacing or isolation and injuries can be seen as wounds or hair loss.

When mixing, consideration needs to be given to: differences in species, gender, bloodlines, age, body size, climatic conditions, physiological status and the seasonality of camelids as it affects their behavioural status (e.g. late pregnancy, crias at foot, recently weaned), temperament, size of facility or paddock in which camelids are to be mixed and availability of food and water.

During the breeding season, studs require particularly careful management to limit fighting. New arrivals can be easier to integrate into larger herds, as the herd size makes it easier for a new animal to avoid potential bullies. Running camelids in large enough areas will assist integration of new arrivals by giving them space to avoid conflict.

Minimum Standard No. 11 Male (Macho) Camelids

11.1 Introduction

Male camelids kept separately from the herd have the same requirements as all other camelids as regards shelter, health and other aspects of their well-being.

Males still need to socialise and to have sight of other camelids or behavioural problems can arise.

Care needs to be taken to ensure social compatibility between one or more male camelids if they are kept or held within the same area of confinement and fighting teeth should be removed to prevent injuries.

Castrated camelids may display behaviour associated with non-castrated (male) camelids and therefore may not be suitable to keep with female camelids.

Castrated camelids can be observed to determine whether their behaviour is suitable to be included within a female herd. Should the castrated camelids display aggression to other males, or sexual attraction to the females they need to be treated as male camelids.

Appropriate management practices must be used to cater for the specific welfare needs of male camelids.

Example indicators for Minimum Standard No. 11 Male (Macho) Camelids

Documented evidence is available of specific management practices for machos

Females that are pregnant or less than 12 months of age are not housed with machos or in areas accessible by machos

Management practices are as appropriate to minimise the risk of injury resulting from aggression

Recommended Best Practice

- Adult male camelids should be kept separate from females who are under 12 months of age
- When a male camelid is being used to pen mate a female under supervision, the keeper should ensure that the mating proceeds safely without injury to either animal.

General Information

It is possible to run large groups of male camelids together without incident. This situation mimics the bachelor herds that naturally form. Care needs to be taken during the breeding season, as engaging in matings or observing other males mating may result in an increase in aggressive behaviour. Guanaco males can be significantly more territorial and aggressive towards other males compared to other camelids, and extra care may be required.

Minimum Standard No. 12 – Female (Hembra) Camelids

12.1 Introduction

The behaviour and nutritional needs of female camelids varies depending on their pregnancy and lactation status. This can complicate husbandry in herds where births are spread out over many months.

- Animals having difficulty giving birth must be given assistance.

Example indicators for Minimum Standard No. 12 – Female (Hembra) Camelids

Hembras are assisted with difficult Births

Camelids are provided with shelter met as per minimum standards in Section 4 (Shelter and Shade) and additional shelter is provided for animals due to give birth as necessary

Recommended Best Practice

- (a) As full term approaches, planning should be undertaken to minimise stress on females to reduce neonatal losses. Appropriate planning should be undertaken for feed, water and shelter requirements to minimise disturbance.
- (b) During labour and directly after birth, care should be taken to minimise stress to mothers and newborns.
- (b) Guanaco females should be settled into appropriate paddocks for at least 7 – 10 days prior to the start of labour.
- (d) If new females are to be added to or removed from a herd approaching full term, care should be taken to ensure that the new social situation does not cause undue stress to the newly introduced or existing members of the herd.
- (e) Females due to give birth should be observed on a regular basis and any interventions to maintain animal welfare, made as needed.

General Information

Birth can be a particularly stressful period for females, and all aspects of care, including shelter and provision of food and water, need to be carefully managed at this time.

Females in good condition at full term (BCS 3) are more able to cope and be good providers to their offspring. Regular exercise appears to reduce labour problems but, if possible, it would be good practice to avoid putting females on hill paddocks prior to set-stocking as full term approaches, given the higher incidence of uterine torsion from animals on hilly pasture (and less controlled rolling) First time mothers have a higher incidence of difficulties giving birth and mothering, and need to be observed more closely and frequently.

While supervision of labour is recommended, if camelids are unaccustomed to close contact with humans it is better to leave them undisturbed and observe them from a distance.

Minimum Standard No. 13 – Colostrum & Cria

13.1 Introduction

Colostrum is a high-energy food and is required by the cria to obtain nutrients and antibodies when first born. Its timely ingestion and absorption gives newborn animals protection from infections and so is critical for survival. Colostrum is not only important for immunity but also for gastrointestinal function and newborn animals that are better able to absorb their food will have a greater chance of surviving and growing well. The best colostrum is contained in the first milk from the female; subsequent milking provides lower concentrations of antibodies.

Breeders should be prepared for the possibility that crias may need to be hand reared after being deserted following birth or orphaned through the death of the mother, and so breeders preferably need to have equipment and colostrum on hand.

If camelid colostrum is not available, then colostrum from any ruminant species can be used. Reconstituted powdered colostrum can be used to provide energy, but should not be relied on to help develop a functioning immune system.

Cria must obtain colostrum, either from their dam or other ruminant species substitute within the first 6-8 hours of their life to ensure their welfare.

Example indicators for Minimum Standard No. 13

Colostrum present

The dam allows cria to suckle

Cria show typical vigour, body condition, vitality and freedom from injuries

Full records are kept of the amount and origin of colostrum that are offered/consumed by hand reared cria

Management systems for hand reared cria are such that the cria receives sufficient feed and water but contact with humans is minimised

Recommended Best Practice

Adequately fed alpaca cria should gain a minimum of 100 grams per day, and llama and guanaco cria a minimum of 200 grams per day, for the first few weeks of life.

Cria should be inspected daily during the rearing period for signs of diarrhoea, dehydration, constipation and/or coughing and veterinary advice sought if they are observed.

A supply of frozen colostrum from a camelid or another ruminant species should be readily available upon birth in case the cria need to be hand raised.

In a case of Failure of passive transfer, Plasma can be given IV/LP

The keeper should minimise their social interaction with hand raised cria to ensure that cria do not inappropriately bond with humans, which can lead to the camelid exhibiting severe behavioural issues later in life.

General Information

A hereditary condition can cause dams to produce inadequate amounts of milk. Cria of these dams need to be monitored carefully and provided with colostrum as necessary.

Cria that do not receive sufficient colostrum have a significantly higher susceptibility to infection and sudden death within the first 3 months of life.

Hand rearing cria involves additional responsibilities in terms of time, facilities and commitment. A good understanding of the crias requirements is essential for success.

Good hygiene practices are required when maintaining feeding equipment, bedding material and toileting areas to keep crias healthy.

Colostrum preferably would be fed for the first four days of a hand reared crias life, and ideally longer, as it provides local immunity in the gut. A colostrum/milk mix with a declining fraction of colostrum can be fed to the cria in the days that follow.

Hand reared cria require frequent small feeds (preferably 6-8 daily) in the first 2 weeks of life and need to be fed 8% to 10% of their body weight daily for the first two months. Camelid milk generally has a higher fat and protein content and lower sugar content and is more concentrated than cows milk. It is more similar to sheep and goats milk than cows milk and for this reason; ewes or goat milk replacers are preferable to cow milk replacers.

There are additional challenges in raising cria by hand and avoiding future behavioural problems in the mature camelid.

Hand reared cria should be reared, weaned and associated with other camelids as soon as is practicable. Those cria lacking appropriate contact with others of their species may become overly dependent on humans and this may lead to unpredictable and possibly highly aggressive behaviour when reaching maturity.

This is sometimes referred to as berserk male syndrome; although this type of behaviour can also occur in females.

Minimum Standard No. 14 Weaning

14.1 Introduction

Weaning is a highly stressful time for cria and Hembra. For management reasons, weaning of captive crias generally occurs before natural weaning, where suckling often continues until the cria is at least 10 months old. Management of weaning requires particular care, handling and husbandry.

Weaning must be managed in a way that avoids excessive stress on the dam and cria and minimises negative impact on their health and welfare.

Newly weaned cria must be provided with adequate high quality familiar feed, water and shelter. They also require other suitable camelid companions.

Recently weaned camelids must be monitored frequently to check for signs of ill-thrift, injury or stress, and where appropriate remedial action taken.

Example indicators for Minimum Standard No. 14 Weaning

While a small loss of weight and body condition immediately after weaning is normal, weaned animals resume growth and remain in good body condition

Recommended Best Practice

- a) In order to allow sufficient development of the rumen to enable cria to digest forages effectively crias should not be weaned at less than 24 weeks of age unless climatic or management extremes are a factor.
- (b) Weaning should be carried out in fine settled weather if possible.
- c) Newly weaned animals can be more susceptible to parasitism and disease due to stress, and extra care should be taken to manage this.
- d) Crias should be weaned into an environment with which they are familiar.

New weaned cria should be accompanied by a companion camelid.

General Information

Feeding supplements to females and cria a few weeks before weaning accustoms the cria to the feed, to the farm and to peoples routines. Continuing with the routine feeding supplements over the weaning process can be helpful in reducing the stress of separation.

It is important that newly weaned animals are provided with high quality forages to support growth and compensate for the lower efficiency of fibre fermentation. Dietary nutrient content and forage quality can be gradually decreased over the next a 12 months as the animal matures. The growth rate and body condition of the animal needs to be monitored throughout the post-weaning growth phase to ensure that the young are neither undernourished nor gaining too much condition.

Adding a small number of well-behaved older camelids (auntie females for females, uncle wethers for males) to a group of newly weaned camelids may aid in settling the cria and helps with handling, and shifting from paddock to paddock.

There is debate on the best and least stressful technique for weaning. Some farms move the dams and cria out of sight and sound of each other, while on others the two are separated but visible to one another. Fences need to be cria-proof and secure. Double-fencing may be necessary to prevent cria from continuing to feed through the fence. Crias that are in danger of self-harm due to their attempts to reunite with their dam should be moved out of sight of the dam.

Very fast-growing cria are sometimes mistakenly assumed to be capable of being weaned early. This is not necessarily the case, as these animals may be more milk dependent, as they are receiving such a copious supply from their dam.

Cria that are weaned prior to 24 weeks of age need to be monitored closely to ensure that they can meet their metabolic needs from pasture forage alone

Cria should be weaned from their dam in order to allow sufficient time for the dam to recover condition and re-establish colostrum in advance of the next birth.

Crias that have been weaned and again in with their dam prior to her next delivery should be monitored in case they try to steal colostrum and deprive the new cria.

Minimum Standard No. 15 Shearing

15.1 Introduction

Shearing is an important part of camelid husbandry requiring animals to be handled carefully during the procedure and managed well afterwards to prevent ill effects from exposure.

Alpacas and most llamas do not naturally shed their fibre, and they must be shorn periodically to prevent them from becoming over-fleeced with the associated health risks (heat stress, skin infection, development of dags etc). Guanaco shed their coats annually, but they may require shearing so as to efficiently collect the fleece for commercial purposes.

The time of shearing can have a significant effect on the welfare of camelids and the local conditions and the weather forecast needs to be taken into account when planning shearing. While most alpacas and many llamas require shearing on an annual basis, some animals with particularly thin or slow-growing coats may be best managed with a less frequent shearing frequency.

Separate parts of the fleece may be removed at different times to ensure animal welfare. This includes removal of matted or contaminated fleece to reduce discomfort and skin inflammation or wool around the face that is obscuring vision. Animals trained to carry packs may require the fleece on the torso to be shorn to a length that allows the packs to be fitted safely and comfortably.

- a) In winter and in districts subject to cold or wet weather, camelids must be shorn in a way that ensures that they retain an insulating layer of fibre.
- b) Camelids must not be shorn if the forecast is for cold wet weather, unless the animals are provided with adequate shelter to minimise the risk of hypothermia.
- c) Camelids must be provided with sufficient shelter and additional feed (especially hay or other suitable fibre) after shearing to minimise the risk of hypothermia.
- d) All severe shearing cuts or injuries must be treated immediately.

Example indicators for Minimum Standard No. 15

Shearers are experienced to ensure that the number and severity of cuts and injuries are minimized.

Planning for shearing includes careful consideration of weather forecasts and provision of shelter and adequate feed, including making food and water available for animals immediately after shearing

Shearing is timed to coincide with forecast of good weather

Where weather forecasts are for cold or wet conditions, shearing does not proceed unless adequate shelter is provided.

Recommended best practice

Camelids should be shorn as frequently as is necessary to mitigate animal health and welfare concerns. Usually this would be once a year.

Camelids should not be shorn if the forecast is for cold wet weather unless the animals are to be given additional feed after shearing and/or provided with suitable shelter minimising the risk of exposure.

Access to covered yards or effective shelter should be provided for several weeks after shearing where there is a risk of cold wet weather.

If an animal must be shorn in winter, or in areas that are subject to very cold weather, and in areas where there is minimal natural shelter, camelids should be shorn using winter, snow or cover combs, or blade shears to ensure that they retain a protective and insulating layer of fleece.

Shearing should be carried out skillfully to ensure that shearing cuts are kept to a minimum.

Lengthy shearing times increase the stress levels of the animals and the procedure should be performed as rapidly as possible, whilst not compromising on the effectiveness and care.

Freshly shorn animals should not be kept in dusty yards for longer than necessary, as shearing cuts may be potential access sites for pathogens causing infection.

General information

While most llamas are shorn while standing, alpaca are normally shorn in a recumbent position with the legs secured, either by handlers or ropes.

All equipment for restraining a camelid for shearing needs to be well designed, and capable of releasing the animal quickly if necessary.

In a typical shearing situation one handler holds the restrained camelids head, while the other shears the animal. Keeping the head slightly elevated above the body can reduce stress reactions during shearing.

Care should be taken such that the animal cannot place itself in a position where it might regurgitate and then aspirate the stomach contents, such as with the head hanging below the body.

Quick, efficient shearing by a trained team greatly reduces the stress level on the animals. The experience of previous shearing will affect a camelids reaction to subsequent encounters.

Animals shorn in summer may suffer from the effects of sunburn. Use of a cover comb to leave a protective layer of fleece can prevent this. Other forms of sun protection may be used e.g. sunscreen or covers

Minimum Standard No. 16 Animal Identification

Individual animal identification underpins good camelid-keeping practices and allows traceability, production recording and selection.

When micro chipping or tagging camelids, care should be taken to ensure that stress and discomfort are minimised by the use of appropriate restraint, the selection and maintenance of instruments, attention to hygiene and the after-care of animals

- a) All identification procedures must be applied by a competent operator.
- b) Pain relief must be used with any hot or freeze branding.

Example indicators for Minimum Standard No. 16 Animal Identification

No ear injuries or infections are apparent

Recommended Best Practice

- a) Manufacturer's instructions for applying microchips and tags should be followed.
- b) Camelids should be restrained when ear tagging is being undertaken to avoid soft tissue damage as ears tear easily during application with some equipment. Alternative animal-friendly tagging systems are recommended (e.g. breakaway pin-type applicators).
- c) When ear tagging, care should be taken to avoid cartilage ridges and major blood vessels.
- d) The quantity or size of ear tags should not damage the ear structure, or cause the animal undue discomfort.
- e) Branding of camelids should not be performed

Minimum Standard No. 17 Pre-transport Selection

Introduction

Transport should be in accordance with the Animal Welfare (Transport within The UK) Code of Welfare. Good Stockmanship skills and patience are essential when yarding, selecting and loading camelids for transport.

Correct design of yards, loading ramps and other associated equipment is necessary to facilitate loading and unloading with minimum distress and risk of bruising and/or other injuries.

Newly weaned camelids are also often sold and relocated. Preparation for transport is an important part of the weaning process.

- (a) Camelids must be inspected prior to transport to ensure all are fit to be transported.
- (b) Camelids must be able to stand and bear weight on all four limbs and be fit enough to withstand the journey without suffering unreasonable or unnecessary pain or distress.
- (c) Camelids that are likely to give birth during travel must not be selected for transport.

Example indicators for Minimum Standard No. 17 Pre-transport Selection

All camelids selected for transport are healthy, able to support their weight on four limbs and are able to walk unaided.

Compliance with Animal Welfare (Transport within The UK) Code of Welfare is ensured

Recommended Best Practice

- a) Stock handlers should seek veterinary advice before transporting an animal in a condition that may deteriorate during transport, and result in significant welfare compromise to the animal.
- b) Camelids should be held off pasture for a minimum of 4 hours before transport, but for no more than 12 hours. Clean water should be available from a familiar source. Clean meadow hay may be fed during lengthy transports.
- c) Pregnant camelids should not be transported after 320 days of gestation. An exception can be made for short journeys of less than 20 minutes where the animal is not unduly stressed by the transport process.
- d) Camelids generally travel in the Kush position (sternal recumbancy). Transports must have solid flooring, and on long journeys cushioning should be provided in the form of rubber matting, carpet, straw, or similar.
- e) Females with cria less than 10 days old should not be transported, except in case of emergency

Minimum Standard No18 Health

18.1 Animal Health, Disease and Injury Control & 18.2 Elective Husbandry Procedures

18.1 Introduction

To ensure the welfare of camelids, it is necessary for camelid owners, stock handlers and persons in charge to be familiar with the normal behaviour of camelids, and the signs of good health as well as ill-health. They also need to be aware of the common diseases of camelids. Early recognition of ill-health will enable expert assistance to be sought.

Example indicators for Minimum Standard No. 18 Health

A written health management plan is designed and implemented and animals do not display signs of ill-health.

Health management plans are adapted to the local conditions.

Recommended Best Practice

All farms should have a catch-pen where camelids can be confined for close examination and treatment.

- a) During and after treatment, sick or injured camelids should not be kept alone unless
- b) Records detailing deaths, sickness in animals, nature of illness, treatments given, withholding periods if any, and responses to treatment should be kept to assist with any disease investigations.
- c) Records detailing routine health management (e.g. parasite control, vaccinations, including date of treatment and withholding period) should be kept.
- d) Medication should only be used in accordance with registration conditions, manufacturer's instructions or professional advice.
- e) A veterinarian or expert camelid consultant should be consulted for advice on establishing a preventative health care programme covering disease, injury and parasite control.
- f) As often as practicable, post-mortems should be carried out to assist in monitoring the health of the herd.
- g) When persistent scouring occurs, especially in conjunction with a rapid loss of weight or body condition, a veterinarian should be consulted to determine the probable cause and appropriate treatment for the problem.

General Information

Poor growth performance, signs of bullying, frequent hair in the mouth, bare skin patches, and ill-thrift are all indicative of welfare issues that require remedial action.

Behavioural attributes can give a prior indication of ill-health. Isolation of camelids from a herd is not a common behaviour, except occasionally at birthing, and any isolated camelid needs to be examined to check for any health problems.

In some areas of the UK ticks can be a welfare problem and should be controlled by grazing management and appropriate treatment of camelids.

Camelids are vulnerable to hypophosphataemia (rickets) due to inadequate vitamin D levels. This is especially true of dark-coloured or heavily fleeced animals and vitamin D supplementation is important for camelids, especially young and growing animals and in conditions when less sunlight is available (i.e. during winter). The risk increases in areas with less sunlight. Alpacas seem to suffer from hypophosphataemia more frequently than llamas.

Newly weaned animals are more susceptible to infestation by internal parasites.

This needs to be taken into account and animals monitored to ensure that they are given prompt treatment to reduce parasite load when necessary

When moving camelids from a paddock as a result of them exhibiting poor or debilitating condition, they need to be moved slowly and carefully while keeping stress at a minimum as stress can exacerbate the condition.

A companion animal can be moved with the affected animal to provide company and reduce stress. There is considerable variability among individual camelids in their sensitivity to toxic Endophyte but alpacas seem to be generally more susceptible than llamas to developing this condition.

All camelids are vulnerable to the toxic effects of facial eczema. Spore counts that are only considered low to moderate for sheep and cattle can be fatal to camelids.

Where a health plan is implemented this can include, but is not limited to, spraying paddocks with anti-fungal agents before peak spore-development time, or by feeding sufficient zinc during high-risk times.

18.2 Elective Husbandry Procedures

Introduction

Farming camelids involves a number of husbandry procedures including castration, dentistry and some artificial reproduction techniques which have been identified as causing pain and distress

These procedures are covered in a separate code of welfare and readers are directed to the Defra Animal Welfare (Painful Husbandry Procedures) Code of Welfare 2006 for information and requirements.

Minimising the stress, pain or discomfort of these procedures requires attention to the suitability of the area in which the operation is performed, the catching facilities, the type and amount of restraint, the selection and maintenance of appropriate instruments, good hygiene, the subsequent care of the animals and the skill of the stock handlers carrying out the procedures.

Castration is performed in camelids to reduce undesirable behaviour such as aggression and mounting behaviour and to make male camelids more amenable to one another.

Recommended Best Practices

- a) Castration of camelids is a surgical procedure and should be performed by a veterinarian.
- b) Camelids should not be castrated before 18 months of age to allow for correct musculoskeletal development.
- c) Pain relief should be used on camelids during removal or blunting of fighting teeth.

General Information

Castration of prepubertal camelids (and a decrease in the circulating hormones that aid development) can cause geldings to develop with a tall, straight legged stature (particularly in the hind limbs) due to a delay in the closure of long-bone physes. In llamas, this can result in the patella (kneecap) moving out of place in the adult animal, resulting in lameness. Early onset of degenerative osteoarthritis of the stifle joints can also develop as a result of the abnormal stance. It is therefore recommended that male camelids are at least 18 months of age, and preferably older, before castration is performed.

Male and castrated camelids grow fighting teeth which can be used to inflict severe injury to one another. Where male camelids are kept together and aggression becomes a problem, fighting teeth can be inspected (usually on an annual basis) and any points on the teeth removed. Pre-emptive removal or blunting of fighting teeth, where practical, can significantly reduce the risk of injury.

Minimum Standard No. 19 Emergency Slaughter

Emergency Humane Destruction

19.1 Introduction

The humane destruction of a camelid may be required because of injury or disease.

The overriding consideration during emergency destruction is to prevent the animal from suffering further pain or distress.

Any emergency destruction procedure must be humane. Humane killing depends on rapidly inducing failure of brain function. This can be achieved by causing sufficient brain damage to render the animal insensible and then cutting the major blood vessels of the neck to cause heart failure and death

- a) Equipment kept for emergency slaughter must be well maintained in order to operate efficiently.
- b) When killing camelids they must be rapidly rendered insensible, and remain in that state, until death supervenes.
- c) The spinal cord must not be severed or broken in any camelid until death has occurred.
- d) Camelids rendered insensible by a blow to the head or shot to the brain from a firearm must be bled out immediately to ensure death occurs before recovery from stunning.

Emergency Slaughter

Any camelid being killed on farm is managed gently and calmly at all stages of the process

All camelids are stunned before killing (this includes a method of stunning (e.g. shooting) that results in immediate insensibility)

All camelids are inspected following the procedure to ensure death

Persons performing the emergency killing of large livestock are appropriately trained to do so

Equipment is regularly cleaned and well maintained

Documented training and equipment maintenance records are available

Recommended Best Practice

- (a) Devices for killing should be in good condition (e.g. knives need to be sharp), and appropriate for the animal (firearm of the appropriate calibre).
- (b) Free-bullet firearms should never be used at point blank range. Firearms should be used between 5 25 cms from the head.

General Information

Bleeding an animal should be carried out using a sharp knife with the incision cutting both carotid arteries and jugular veins in one swift stroke. Breaking the neck or severing the spinal cord immediately after cutting only produces paralysis, it does not affect the time it takes for the animal to become unconscious and adds to the potential pain and distress of the procedure.

Whenever a firearm is used, it is very important that the operator is competent to use the gun and takes care in ensuring the safety of themselves and other animals.

The correct position of delivery of the captive-bolt or firearm shot is critical for the humane and effective slaughter of animals. In camelids the optimum position may be found by drawing two imaginary lines from the rear of the eyes to the base of the opposite ears (see Appendix II Humane Destruction). The shot should be delivered where these lines cross. The shot needs to be delivered towards the back of the head to ensure it does not just pass through the nasal cavity, this is especially important if the animal is lying with its head flat on the ground in front of it. When the animal is standing a shot from behind the ear aiming into the skull, or through from the back of the skull can be very effective.

For further information on humane emergency slaughter, see the Code of Recommendations and Minimum Standards from the Emergency Slaughter of Farm Livestock and/or consult your veterinarian

Quality Assurance

In general, the elements of a quality assurance system should provide for the minimum standards and the recommendations for best practice in this welfare code.

Recommended Best Practice

To ensure that standards of animal welfare and husbandry are maintained, each farm should implement a quality assurance programme.

General Information

The British Alpaca Society, British Llama Society & British Camelids Ltd will, through their industry publications and Society-sponsored events, endeavour to keep the membership informed on the latest developments in camelid health and welfare.

Appendix I: Condition Scoring of Camelids

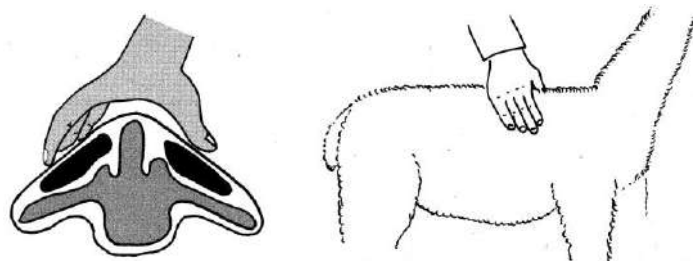
This chart can be used broadly for all species of farmed camelids in The UK.

Body condition scoring (BCS) is based on palpation of the ribs, spine, pelvis and rump of live animals. The simple scoring system varies from score 1 (emaciated) to 5 (obese).

Visual assessment of the body condition of live camelids is difficult, particularly when fibre is long. A long coat can disguise the actual appearance of the pelvis, ribs and spine, while a short coat can make an animals appearance more irregular and highlight these areas.

The only reliable method of assessing live animal body condition is by palpation of the ribs, spine, pelvis and rump.

Check the spine as per diagram
Keep a record of each body score
Check the ribs
Look at upper rear legs
Feel the chest
Look at front legs and chest

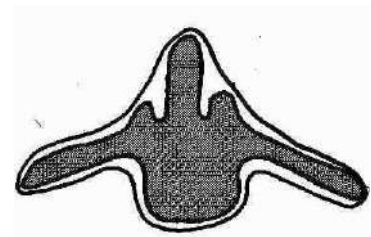


Score 1 requires a vet inspection as soon as possible.

Score 4 and 5 may require nutritional advice, or simply a reduction in feed.

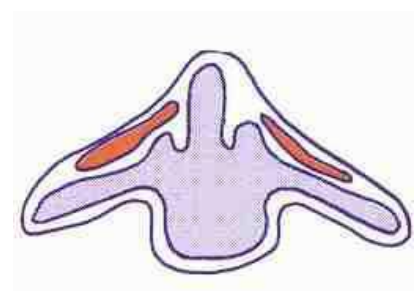
BCS1 – EMACIATED

- very steep angle along spine & curves inward
- ribs are very easily felt
- hard bony v-shaped chest
- increased space between rear legs
- very little muscle & absolutely no fat



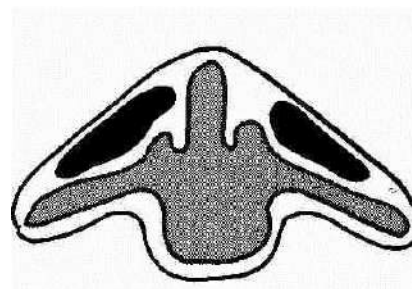
BCS2 – THIN

- spinal slope more that 45 degrees
- ribs can be easily felt
- hard chest with a slight v-shape
- some increased space between rear legs



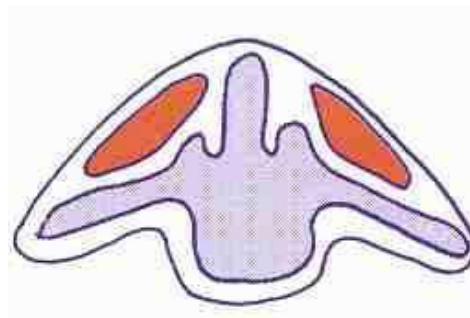
BCS3 - OPTIMAL (for adult camelids)

- about 45 degree angle along spine
- ribs felt with slight pressure
- firm muscular chest
- chest makes straight line between front legs



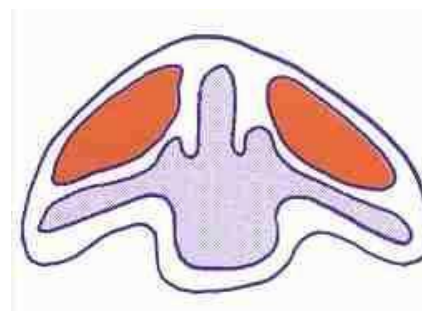
BCS4 - OVERWEIGHT (for adult camelids)

- convex shape between the backbone & upper ribs (ideal for adolescent Huacaya alpaca under one year old)
- ribs felt with some pressure
- somewhat rounded soft feeling chest
- inner thighs smooth & less defined



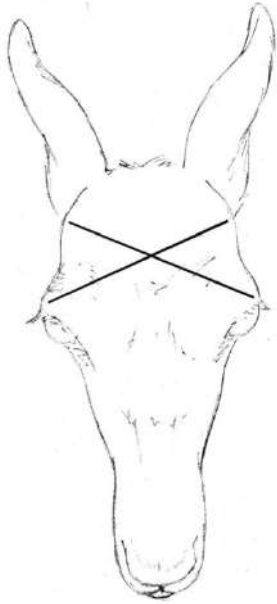
BCS5 - OBESE (for adult camelids, normal for Suri-type adult llamas and alpacas, and in cria < 6 months old)

- backbone looks flat
- firm pressure needed to feel ribs
- rounded soft feeling chest
- large area of contact between rear legs
- little or no definition on inner thighs
- may have difficulty walking properly
- some loss of muscle



Appendix II: Humane Destruction

Diagram of correct target for euthanizing with firearm



**For further information on emergency humane destruction see Code of Recommendations and Minimum Standards for the Emergency Slaughter of Farm Livestock.
Handlers who are inexperienced with the procedure should consult a veterinarian.**

Appendix III: Interpretation and Definitions

Act :	The Animal Welfare Act 2006.
Adult :	Any camelid over the age of 2 years.
Adverse weather:	Unfavourable weather conditions that may pose harm or risk to the animals.
Animal :	As defined in the Act: “(a) Means any live member of the animal kingdom that is – (i) A mammal; or (ii) A bird; or (iii) A reptile; or (iv) An amphibian; or (v) A fish (bony or cartilaginous); or (vi) Any octopus, squid, crab, lobster, or crayfish (including freshwater crayfish); or (vii) Any other member of the animal kingdom which is declared from time to time by the Government, to be an animal for the purposes of the Act; and (b) Includes any mammalian foetus, or any avian or reptilian pre-hatched young, that is in the last half of its period of gestation or development; and (c) Does not include – (i) A human being; or (ii) Except as provided in paragraph above, any animal in the pre-natal, pre-hatched, larval, or other such developmental stage.”
Available technology:	DEFRA takes to mean technologies which are used practically to care for and manage animals, for example, existing chemicals, drugs, instruments, devices and facilities.
Baleage :	Baled pasture, plastic wrapped and ensiled.

Berserk male syndrome:	A condition of unpredictable and often highly aggressive behaviour seen in camelids, particularly intact males, those that have been hand raised in the absence of other camelids, or have had excessive human contact.
BCS :	Body Condition Score – a 5-stage scoring system for adult camelids to classify their body condition, based on the assessed amount of fat and/or muscle covering, particularly over the spine and pelvis. (see Appendix III, “Condition Scoring of Camelids”, to this code).
Brassicas :	Fodder crop of the brassica family.
Camelid :	For the purposes of this code of welfare a camelid refers to New World (South American) camelids including <i>Vicugna pacos</i> , (Alpaca), <i>Lama guanicoe</i> (guanaco) and <i>Lama glama</i> (llama).
Chuckering :	A restraint procedure where a rope is loosely tied around the posterior midsection of a camelid, and the hind feet are looped into the rope to keep a camelid in kush and prevent it from standing.
Colostrum :	Milk secreted by the Hembra for the first few days following birth (parturition) characterised by high antibody content.
Cria :	Newborn camelid until weaned.
Crude protein :	The total nitrogen content of a feed multiplied by 6.25 (used to assess the protein content of a feed source).
Drought :	A prolonged period of very low rainfall resulting in a severe feed and water available from the environment
DM (dry matter) :	A standardised measure of feed quantity, expressed as the percentage of feed remaining following removal of all moisture. While it is commonly used to compare different feed types, it does not reflect feed quality, in particular the energy content of feed.
Dystocia :	Difficult birth.
Feed budget :	The process of allocating available feed resources (grazed pasture or crop, and supplementary feeds) to meet the daily requirements of a group of animals. Development of a feed budget ensures that those periods when feed supply may be inadequate are identified, thus allowing contingency planning for allocation, feeding (and purchase) of supplementary feed supplies.

Fighting teeth :	Machos develop three pairs of fighting teeth, two upper pairs and one lower pair. In the female, the fighting teeth are usually rudimentary.
Flight zone :	The space surrounding an animal in which it will move, or take flight, when entered for example by a stock handler.
Food/feed :	The words “food” and “feed” are used interchangeably.
Gelding :	Castrated macho (male) llama.
Good practice :	DEFRA takes to mean a standard of care that has a general level of acceptance among knowledgeable practitioners and experts in the field; is based on good sense and sound judgment; is practical and thorough; has robust experiential or scientific foundations; and prevents unreasonable or unnecessary harm to, or promotes the interests of, the animals to which it is applied. Good practice also takes account of the evolution of attitudes about animals and their care.
Handling facilities:	An area set up to handle camelids for routine animal health treatments, sorting and drafting (e.g. pens, sheds, yards).
Hand reared cria:	A cria that is unable, for whatever reason, to obtain sufficient colostrum and milk from its own dam and so relies on humans to provide for its nutritional requirement
Heat stress :	Hyperthermia brought on by prolonged high air temperatures, combined with high humidity, causing elevated body temperatures.
Hembra :	Adult female camelid.
Herd :	Group of camelids.
Holding facilities:	An area set up to temporarily hold camelids (e.g. pens, sheds, yards).
Huacaya :	A type of alpaca characterized by its sheep-like fleece.
Husbandry :	Care and management practices of camelids farming.
Hypothermia:	Abnormally low body temperature.
Ill-treat :	As defined in the Act: “in relation to an animal, means causing the animal to suffer, by any act or omission, pain or distress that in its kind or degree, or in its object, or in the circumstances in which it is inflicted, is unreasonable or unnecessary.”
Kush :	The natural resting position of camelids with all four legs under the body.
Keeper :	A common term referencing the “person in charge” of a camelid.

Lactating female :	A female that has given birth and is producing milk to feed her cria.
Lux :	SI unit of luminance (light intensity) (not to be confused with watts).
Macho :	An entire (ungelded) adult male camelid.
Minimum standards:	Minimum standards provide the details of specific actions people need to take in order to meet the obligations in the Act. They are identified in the text by a heading, and generally use the word “must” or similar. They are highlighted in boxes within the text.
Owner :	As defined in the Act: “in relation to an animal, includes the parent or guardian of a person under the age of 16 years who – (a) Owns the animal; and (b) Is a member of the parent’s or guardian’s household living with and dependent on the parent or guardian.
Painful husbandry:	Means any procedure carried out with or without instruments which involves physical interference with the sensitive soft tissue or bone structure of an animal and is carried out for non-therapeutic reasons. It does not apply to those procedures used to treat animals with existing injuries or disease Pasture : A mix of grass species that provides nourishment to livestock, generally directly consumed or mechanically harvested for consumption at a later time.
Pecking order:	The social hierarchical order resulting from individuals establishing dominance within a group of camelids
Persistent bullying:	Enduring aggression towards a camelid by one or more other Camelids, leading to welfare being compromised
Person in charge :	As defined in the Act: “in relation to an animal, includes a person who has an animal in that person’s possession or custody, or under that person’s care, control, or supervision
Pest :	As defined in the Act: “means – (a) Any animal in a wild state that, subject to subsection (2), Defra : declares, by notice , to be a pest for the purposes of this Act (b) Any member of the family Mustelidae (except where held under a licence under regulations made under the Wildlife Act 1953): Badgers are yet to be fully determined

Recommended Best Practise:	DEFRA takes to mean the best practice agreed at a particular, time following consideration of scientific information, accumulated experience and public submissions on this code. It is usually a higher standard of practice than the minimum standard, except where the minimum standard is best practice. It is a practice that can be varied as new information comes to light. Recommendations for best practice will be particularly appropriate where it is desirable to promote or encourage better care for animals than is provided as a minimum standard. Recommended best practices are identified in the text by a heading, and generally use the word “should”.
Scientific knowledge:	DEFRA takes to mean knowledge within animal-based scientific disciplines, especially those that deal with nutritional, environmental, health, behavioural and cognitive/neural functions, which are relevant to understanding the physical, health and needs of animals. Such knowledge is not haphazard or anecdotal; it is generated by rigorous and systematic application of the scientific method, and the results are objectively and critically reviewed before acceptance.
Scouring :	Diarrhoea, producing voluminous, soft to fluid, and often vile smelling faeces.
Set-stocking :	The practice of allowing a fixed number of animals on a fixed area of land during the time when grazing is allowed.
Shelter :	Cover or protection from weather including sun, rain, wind and snow.
Silage :	Pasture which has been preserved by fermentation, which may be made in a pit, stack or in wrapped bales (baleage).
Species:	Vicugna pacos, alpaca Lama guanicoe, guanaco Lama glama, llama
Stock handler :	A person who undertakes the immediate day-to-day husbandry tasks associated with management and care of camelids. This person may be either the person in charge or the owner, depending on the circumstance.
Stockmanship :	Putting into practice the skills, knowledge, experience attributes and empathy necessary to manage stock
Supplementary feeds:	Feeds which are additional to grazed pasture including baleage, hay, silage, crops and cereal-based foods which may be fed in

circumstance where grazed pasture is not available, or when pasture growth rates are insufficient to meet the needs of a group of animals. The nature and amount of supplementary feed required is calculated within a feed budget, with consideration to meeting the crude protein and other nutritional requirements of the animal.

Suri :	A type of llama or alpaca characterized by the fleece hanging parallel to the body.
Tui:	A camelid after it has been weaned (typically at 6 months of age) until it reaches approximately 2 years of age.
Weaning :	The act of separating one or more cria from their mothers for a period sufficient to stop lactation and feeding behaviour. For camelids this is usually a period of four or more weeks.
Wether :	Castrated macho (male) alpaca.

Codes and Guidelines may be obtained from or can be inspected at: www.defra.gov.uk
www.bas-uk.com

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