

Code of Welfare

Llamas and Alpacas

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1 October 2018

TITLE

Code of Welfare: Llamas and Alpacas

COMMENCEMENT

This Code of Welfare comes into force on 1 October 2018.

REVOCATION

This Code of Welfare revokes and replaces the Animal Welfare (Llamas and Alpacas) Code of Welfare 2013, dated 26 April 2013.

ISSUING AUTHORITY

This Code of Welfare is issued by the Minister of Agriculture, by a notice published in the Gazette, under section 75 and 76 of the Animal Welfare Act 1999, after having complied with the matters specified in section 75(1) and 76(2).

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Introduction

This introduction is not part of the Code of Welfare, but is intended to indicate its general effect.

Purpose

The purpose of this Code is to provide information to the owners and persons in charge of llamas and alpacas and guanaco (and crossbreds of these species) about the standards they must achieve in order to meet their obligations under the Animal Welfare Act 1999.

Camelids are commonly kept for the purposes of farming (for fibre or for meat), for showing, trekking or as companion animals (pets). This Code encourages all those responsible for the care of llamas, alpacas and guanaco to adopt the highest standards of husbandry, care and handling, and to equal or exceed the minimum standards.

Adequately maintaining the welfare of llamas, alpacas and guanaco requires experience, training and the observance of high standards.

Background

The Animal Welfare Act 1999 provides for the welfare of animals in New Zealand. It puts obligations on people who own or are in charge of animals to provide for the welfare of their animals.

The Act establishes the fundamental obligations relating to the care of animals and provides for the development and issue of codes of welfare.

Codes of welfare expand on the basic obligations of the Act by setting minimum standards and recommending best practice for the care and management of animals.

This Code of Welfare also references regulations issued under the Animal Welfare Act 1999. Regulations are prescribed under the Animal Welfare Act and impose enforceable requirements on owners and persons in charge of animals. For ease of reference, regulations relevant to this Code are set out in an appendix to this Code. Penalties for failure to comply with the regulations are specified in the relevant regulations. The appendix to this Code is not intended to provide an exhaustive list of all obligations under the Act or regulatory requirements. Owners and persons in charge of animals are responsible for ensuring that they are aware of and understand all Act and regulatory requirements that are relevant to them.

Who should read this Code of Welfare?

This Code of Welfare is intended for all persons responsible for the welfare of llamas, alpacas and guanaco (and crossbreds of these species).

Under the Act the “owner” and every “person in charge” of an animal are responsible for meeting the legal obligations for the welfare of animals under their care.

For llamas, alpacas and guanaco, the owner of the animals may place them in the care of others who become the persons in charge, but this does not derogate from their responsibility to ensure that the requirements of the Act are met.

Why is this important?

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

This Code includes information and example indicators for each minimum standard. The list of indicators is not exhaustive but is given to provide guidance on ways in which a minimum standard may be met.

Owners and persons in charge of animals are not required to comply with the recommendations for best practice in this Code, but are encouraged to do so to provide higher standards of welfare.

Legislative background

This Code does not provide an exhaustive list of the Act's requirements, and owners and those in charge of animals should note that they must comply with the minimum standards in this Code and in the general provisions of the Act. A copy of the Act is accessible at: www.legislation.govt.nz.

Other information

Other codes of welfare should be consulted where appropriate (see www.mpi.govt.nz). Further detail on the transport of camelids can be found in the Code of Welfare: Transport within New Zealand.

Codes of welfare must be accompanied by a report that sets out the deliberations that the National Animal Welfare Advisory Committee (NAWAC) undertook when developing the codes of welfare including the standards and recommendations for best practice, the nature of any significant differences of opinion during drafting and consultation, and any matters that should be dealt with by regulation. Code reports can be accessed online (see www.mpi.govt.nz).

Although efforts to include relevant regulations within this Code have been made, there may be other regulations which are relevant to you. The full list of all animal welfare regulations should be consulted where appropriate (see www.legislation.govt.nz).

Part 1: General Requirements

1.1 Application

This Code of Welfare applies to all persons responsible for South American camelids kept for any purpose in New Zealand (alpacas, llamas, guanacos and crossbreds of these species).

1.2 Interpretation and Definitions

Refer to Schedule I – Interpretation and Definitions.

Part 2: Stockmanship

Introduction

Stockmanship and animal handling covers 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 behaviours, 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.

Maintaining the welfare of camelids may require responsibility for the camelid's care being transferred to others and so, under the Animal Welfare Act 1999, both the owner and the person (or persons) in charge of camelids have responsibilities for meeting the camelid's needs. The owner or person in charge may place the camelid in the care of others for a number of reasons, (e.g. breeding, transport or other routine management or husbandry practices) but this does not derogate from their responsibilities under the Act. Responsibilities may be shared between several people. If there is any question in a legal situation, the responsibilities of the owner(s) and person(s) in charge will be determined on a case-by-case basis.

Minimum Standard No. 1 – Stockmanship

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.

Example Indicators for Minimum Standard No. 1 – Stockmanship

- Training and 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 can demonstrate that they have obtained 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.
- c) Existing animal husbandry systems and practices should be reviewed regularly to ensure that they continue to be necessary and improved systems should be incorporated where possible.
- d) Accurate records should be kept of operational procedures and of the history and treatment of animals.

General Information

The New Zealand Qualifications Authority (NZQA) lists a number of training qualifications for stock handlers including the National Certificate in Agriculture. Stock handlers with qualifications in non-camelid stock species need to be familiarized with the specific aspects of camelid behaviour and handling.

Information on these qualifications and accredited training providers is available through the NZQA website: www.nzqa.govt.nz

Part 3: Food and Water

3.1 Food and Feeding

Introduction

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 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 New Zealand. Although there is considerable variation in pastoral management systems throughout New Zealand, there are some common feeding management techniques available for camelid handlers.

Feeding levels are best determined by monitoring the body condition of the camelids (see Schedule II – Condition Scoring of Camelids) or regular liveweight monitoring. Body condition score (BCS) is a means of taking into account the variability in size and conformation.

Minimum Standard No. 2 – Food

- (a) 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.
- (b) When the body condition score falls to 2 in any camelid, immediate remedial action must be taken to improve body condition.

Example Indicators for Minimum Standard No. 2 – Food

- Feed (including pasture or fodder) is appropriate for camelids
- No animal has a feed-related disease or disorder
- No adult camelid has a BCS of two or below unless 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 through competition for food

Recommended Best Practice

- a) All camelids rising two years and over should generally have a BCS of 3 (see Schedule II – Condition Scoring of Camelids).
- b) Remedial action is taken to reduce the body weight of a camelid which has a BCS of 5.
- c) Feeding methods should be designed to reduce fouling and wastage.
- d) Measures should be taken to minimise access of camelids, and particularly pregnant females, to toxins including mould-contaminated or excessively dusty supplementary feeds.
- e) 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.
- f) All changes in diet should be performed gradually over a 5 to 10-day period.

- g) When feeding brassicas and/or concentrates, a supplementary source of roughage such as hay, silage or baleage should be added to the diet to aid proper digestion.

General Information

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 monopolises the food or water source. Having an appropriate number of feed and watering stations will help prevent this situation.

Suri-type camelids and cria may carry slightly more fat along the spine than other types of camelids but the presence of fat deposits on the inner thighs indicates when these types of camelids are obese. On lush New Zealand pastures many camelids may grow obese (BCS 5), even in the absence of any supplementary feed.

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

Pregnant females of BCS greater than 4, which is also accompanied by a lack of fitness, may have problems with birthing. Reducing weight and ensuring the female is of optimal body condition prior to birthing can reduce the risk of difficulties occurring.

During prolonged dry conditions, the provision of supplementary feed for females with young at foot will have welfare and growth benefits.

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.

Grain and other readily fermentable carbohydrates are not recommended for camelids. If they are fed however, it is important that this type of foodstuff is introduced gradually over a 5 to 10-day period. This will allow rumen bacteria to adjust and thus prevent digestive problems and the risk of death through acidosis. Animals need to be closely monitored during this period to ensure that they are suffering no ill effects as a result of the change in diet.

3.2 Water

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.

Minimum Standard No. 3 – Water

All camelids must have access to an adequate daily supply of drinking water that is palatable to the camelid and not harmful to health.

Example Indicators for Minimum Standard No. 3 – 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 to 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.

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) Access to drinking water should be provided when camelids are being worked in yards during hot weather and/or subjected to stressful procedures such as weaning, pregnancy scanning or shearing.

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. Lactating females and recently weaned camelids (up to ten days after weaning) will have significantly increased requirements for water. 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 or when the system may be frozen, and at least weekly at all other times.

Part 4: Shelter and Shade

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 extreme events. 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 will have a greater impact on those more vulnerable due to age (young cria or elderly animals) or condition (freshly shorn or suffering from 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, or artificial structures such as buildings or hay stacks.

Shelter may also be important in other situations, 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 utilise to stay warm. The prevention of wind chill is an important welfare factor for camelids.

Wet weather compounds the influence of wind and cold as camelids 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 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 the provision of shelter can help prevent 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 death.

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 increased water consumption. Early signs of significant heat stress include panting behaviour, with tongues extended when severe. Extreme or prolonged heat stress can cause hyperthermia and death.

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

Minimum Standard No. 4 – Shelter

- (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. 4 – Shelter

- Camelids have access to shelter from sun and adverse conditions
- Natural shade or shelter is available or 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
- Hembra and newborn cria are provided with sufficient shelter that enables them to maintain a normal body temperature following birth of the young
- Signs of cold or heat stress in camelids are recognised and addressed.

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 camelid's vulnerability to adverse weather conditions.
- b) When ambient temperatures are extreme, 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 either natural or artificial structures. Trees can diffuse rain and wind but, without land contour, camelids may still not be adequately protected in extreme weather. When limited natural shelter exists, artificial shelter needs to be provided (e.g. hay bales, covers etc).

Shorn animals may require an increased amount of feed to sustain body temperature and maintain body condition for up to two months post-shearing. Ready access needs to be provided for shorn animals to covered yards or effective shelter for several weeks after shearing in case of cold wet weather. Provision of additional feed during cold and wet weather also enables non-shorn camelids to generate body heat and maintain their body temperature.

Advice on preparing contingency plans for adverse weather events can be gained from local authorities, Federated Farmers, Rural Support Trusts, agricultural consultants or the National Animal Welfare Emergency Management Liaison Group (NAWEM). 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.

Part 5: Housing and Facilities

5.1 Farm Facilities

Introduction

Farm facilities include fences, gates, holding pens, internal yards, and additional areas such as shearing facilities. Their proper construction, maintenance and operation are important to facilitate management and provide a safe and hygienic environment for husbandry procedures to be carried out. Careful planning and design will assist movement of animals and minimise stress of both animals and handlers.

Minimum Standard No. 5 – Farm Facilities

All facilities must be designed, constructed, maintained and operated in a manner that minimises the likelihood of distress or injury to animals.

Example Indicators for Minimum Standard No. 5 – Farm Facilities

- Sharp objects, protrusions, edges, gaps, including damaged flooring likely to cause injury have been removed, repaired or covered
- Storage of all health remedies, toxic materials and associated equipment is in an area inaccessible to camelids
- Electrical fittings and attachments to main voltages are placed out of reach of camelids or protected from interference by camelids
- Floor surfaces are not slippery
- Minimal signs of discomfort, distress or disease are apparent during daily inspections of the animals
- If sheep, goat or cattle facilities are used, they are adapted to suit camelids

Recommended Best Practice

- a) 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.
- b) The flow of animals through facilities should be monitored and if necessary controlled at gateways, in narrow laneways and corners, or other pressure points to ensure that animals, especially young and small animals, are not smothered or injured.
- c) Care should be taken to not induce sudden fear or panic in animals in confined spaces where flight increases the risk of injury.
- d) Camelids should not be held in facilities with high dust levels, as it may cause lung or eye irritation, or disease. As a general rule, if the dust is uncomfortable for the handler, it is uncomfortable for the camelids.

General Information

Facilities originally intended for other species of animal (e.g sheep, cattle, deer etc) 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.

5.2 Housing

Introduction

Few camelids are routinely housed in New Zealand, as most routine management and husbandry practices require the holding of camelids for temporary purposes only (e.g. quarantine, weaning, drenching, weighing or display for on-farm sale). However, in situations where camelids are being housed, they are totally dependent on their handlers for all daily requirements, welfare and safety, and handlers must be aware that there are additional responsibilities of care.

The well-being of the animals needs to be a key consideration when camelid housing systems are designed and constructed. Camelids require accommodation that is dry, well-ventilated and draught-free. They prefer to lie on soft surfaces and the provision of plentiful dry bedding will encourage camelids to lie down. Sufficient floor or pad space needs to be provided to enable the camelids to exhibit normal behaviour 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 liveweights to reduce the risk of bullying. Stocking density is best calculated according to the space requirements of the heavier animals.

Minimum Standard No. 6 – Housing Facilities

- (a) Group housed camelids must be able to stand, move about and lie down without undue interference from each other.
- (b) Adequate space must be provided to allow all animals to rest comfortably for sufficient periods each day to meet their needs.
- (c) Bedding must be of good quality, friable, and with minimal risk of toxic agent contamination.
- (d) Building design or ventilation must ensure that housed camelids do not become cold or heat stressed and prevent a build up of harmful concentrations of gases such as ammonia and carbon dioxide.
- (e) Immediate and appropriate action must be taken to reduce ammonia levels if they exceed 25 ppm at camelid level.
- (f) Natural or comparable artificial lighting must be provided during daylight hours.
- (g) 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.

Example Indicators for Minimum Standard No. 6 – Housing Facilities

- Camelids are all able to lie down and rest simultaneously
- Bedding materials are dry and comfortable for camelids to lie on
- Humidity, dust, temperature or ammonia (as detected by smell) are kept within acceptable levels
- Immediate corrective action is taken where ammonia levels are 25ppm or greater (by increasing ventilation, reducing litter moisture or reducing stocking density) and instances where this has occurred are documented
- Waste food and contaminated bedding material does not accumulate to an extent that it poses a threat to the health and welfare of the animals (e.g. wet, mouldy or noxious)
- Where thermal stress occurs, it is immediately remedied
- 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 corrective action taken if signs of heat stress, cold stress, disease or injury are observed

- Contingency plans are in place for dealing with any hazards or emergencies and incorporate the ability to rapidly release camelids into a secure environment

Recommended Best Practice

- a) Housing should be constructed with the well-being of the animals in mind, and provide accommodation that is dry and well ventilated, with shelter from the prevailing weather.
- b) 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.
- c) Outdoor runs should be provided.
- d) Ammonia levels should be maintained at less than 10 ppm.
- e) To reduce aggressive interactions, pens should be large enough to allow camelids free movement and sufficient room to move past each other without confrontation.
- f) 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.
- g) 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 will also be uncomfortable for camelids. Such levels compromise their welfare and may predispose them to respiratory disease and reduced performance.

Settling camelids in housing facilities can be aided by allowing them visual contact with animals in adjoining pens. 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. Owners and managers need to be aware of this and act accordingly to ensure animal welfare is maintained.

Part 6: Animal Handling

Introduction

Competent handling of camelids is essential to their welfare. Camelids are prey animals and fear motivates them to escape from perceived danger. Careful and quiet handling of camelids helps to keep them calm, reduces fear and makes 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 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 gently 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 their own response. Putting a new animal in with animals that have been well accustomed to the handling procedures can help significantly reduce the new animal's 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 camelid's 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.

See summary of regulations appended to this Code:

- Regulation 48 – Use of electric prodders
- Regulation 49 – Prodding animals in sensitive areas

Minimum Standard No. 7 – Animal Handling

- (a) Camelids must be handled in such a way as to minimise the risk of pain, injury or distress to the animals.
- (b) Electric prodders must not be used on camelids.
- (c) Only the minimum force required must be used when moving camelids.
- (d) Camelids must not be lifted or dragged by their head, neck, fleece or tail or moved by twisting ears or tails or by lifting tails.

Example indicators for Minimum Standard No. 7 – 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) 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) 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.

- d) The amount of time that the animals are kept in yards for a husbandry procedure to be performed should be as short as possible.
- e) Vehicles should not be used to move stock.

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.

A good stockman will recognise how to optimally balance the two opposing factors that will affect the amount of stress that an animal experiences when being handled; that of performing husbandry procedures quickly and efficiently so that the stress that the animals experience is not drawn out over a longer time period than necessary, with that of performing the process gently enough to ensure that the animal remains calm. If yarding has caused the animals stress, handling may be made easier by allowing the animals 20-30 minutes to calm down prior to commencing other procedures.

Knowledge of the animal's flight (safety) zone, and the point of balance (the line through the animal's 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. Camelids can be accustomed to dogs but the handler must take account of the circumstance and the personality of the camelids to assess the risk to both camelids and dogs.

Camelids need to be respected by their human handlers, even if they are very accustomed to human contact. 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 dangerous.

Using practices that increase camelids' familiarity with humans can help to make them easier to handle during future procedures such as leading by halter, loading for transport, providing medical attention or assistance during birthing. Providing positive human contact and exposing camelids to the sound of a radio will accustom camelids to a range of noises and voices. It needs to be ensured that any practices designed to increase camelids' familiarity with people do not place them under undue risk or stress.

Large herds of camelids may need to be broken into smaller herds 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.

Advice on camelid handling issues can be sought from veterinarians, animal behaviouralists or specialised camelid groups.

6.1 Mustering and Drowsing

Introduction

Mustering and drowsing of camelids is an important part of 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 need to be moved by using their natural tendency to move away from humans. The handler's 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 best done slowly and quietly.

Minimum Standard No. 8 – Mustering and Drowsing
Camelids must be moved at such a pace so as not to cause exhaustion, heat stress or injury.

Example Indicators for Minimum Standard No.8 – Mustering and Drowsing

- No animals are injured or exhibiting signs of exhaustion or heat stress as a result of mustering or drowsing. 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 examined to determine why this is the case
- Animals are mustered and driven using appropriate tools (e.g. wands and herding tape)

Recommended Best Practice

- a) The pace of mustering or drowsing should be aligned to the slowest animals in the mob, 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 the process will not cause undue suffering.
- c) Stock should not be moved over long distances and/or difficult terrain in hot and/or dusty conditions.
- d) After mustering or drowsing, animals should be provided with suitable conditions and time to enable settling down, mothering up or shelter seeking before the onset of darkness.

General Information

Attention needs to be paid to the terrain and environmental conditions when mustering. Camelids are likely to experience higher physical stress when negotiating rough, uneven surfaces and difficult or steep terrain, especially when the ambient temperature is high. Close attention needs to be given to the health of camelids when mustering under these conditions.

When used appropriately, aids such as wands and herding tape can provide good visual cues to assist in directing and moving camelids safely.

6.2 Restraint

Introduction

Husbandry systems and facilities such as yards, races, crushes and loading ramps need to be adapted to suit camelids. Properly managed facilities and restraint systems can greatly facilitate husbandry procedures, resulting in reduced risk of injury and distress to animals and stock handlers. Equipment worn by or placed on a camelid (e.g. halters, packs) also needs to be specially designed or adapted for camelids to ensure that they do not cause harm.

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. Camelids are obligate nose-breathers, and an ill-fitting halter that slips down over the soft tissue of the nose can result in suffocation.

See summary of regulations appended to this Code:

- Regulation 23 – Use of equipment that may injure llama or alpaca
- Regulation 47 – Collars and tethers

Minimum Standard No. 9 – Restraint

- (a) Methods of restraint must be appropriate for the animal, in good working order and used only for the minimum time and with the minimum force required to complete a procedure.
- (b) Animals which are restrained must be kept under supervision and released from the restraint immediately if at risk of injury.
- (c) Electroimmobilisation devices must not be used.
- (d) Animals which are to be restrained by tethering must be placid and trained to the conditions.
- (e) Halters must be specifically designed for use with camelids, and where used, must be properly fitted to each animal.

Example Indicators for Minimum Standard No.9 – Restraint

- Maintenance of restraint equipment is up to date and recorded, and there are no protruding parts or sharp-edged parts on the equipment that might injure camelids
- A camelid is released quickly if any difficulty is encountered during restraint
- Equipment designed for handling other species is only used for handling camelids if safe and appropriate to do so
- Halters are correctly fitted with no signs of discomfort or distress, especially breathing difficulties, in camelids as a result of the halter

Recommended Best Practice

- a) Electric fencing should not be used for containing camelids.
- b) Isolation of individual camelids should be avoided whenever possible.
- c) A chucked animal should be released as soon as is practicable, and should not be left unattended.
- d) All packs, covers and other equipment fitted to camelids should be designed for the purpose, be fitted properly and should not cause the animals undue discomfort or distress in their normal use.
- e) Camelids should not be left unattended when fitted with a halter.

General Information

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 New Zealand llamas and guanaco are generally too large to safely immobilize by chuckering, so the procedure is used primarily on alpaca.

If electric fencing is used, it needs to be positioned low enough, with the strands of tape close enough together, so that the camelid is unlikely to place its head under or through the tape to graze, thus avoiding the risk that it becomes entangled in the tape.

Halters need to be the right size for the individual camelid and correctly fitted to avoid the risk of the nose piece of the halter slipping lower over the nose and preventing the camelid from breathing. If a camelid is fitted with a halter it needs to be closely monitored to ensure that it is not suffering any discomfort or distress as a result of the halter.

6.3 Female (Hembra) Camelids

Introduction

The process of giving birth in camelids is called 'unpacking' or 'criating'. This is a critical period for the welfare of both hembra and cria. Potential compromises to animal welfare at this time are diverse and include feeding levels during pregnancy, disturbance from other animals and humans, predisposition to dystocia (difficulties during birthing), the weather and available shelter. The appropriate level of supervision will differ depending whether hembra are managed extensively or are more familiar with people and managed more intensively.

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

Minimum Standard No. 10 – Female (Hembra) Camelids

- (a) Hembras that are due to give birth must be inspected frequently to ensure that they are not experiencing birthing difficulties.
- (b) If a hembra is exhibiting any signs that indicate that she is experiencing difficulties at any point during birthing, expert assistance must be sought.

Example Indicators for Minimum Standard No.10 – Female (Hembra) Camelids

- Hembras are assisted with difficult births

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) First time mothers should be observed more closely and frequently.
- c) During labour and directly after birth, care should be taken to minimise stress to mothers and newborns.
- d) Females should be settled into appropriate paddocks for at least 7 – 10 days prior to the start of labour.
- e) If new females are to be added to or removed from a herd in which members are approaching full term pregnancy, 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.

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 and, if possible, it is good practice to set-stock females on hill paddocks as full term approaches.

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.

6.4 Crias

Introduction

Colostrum is a high-energy food and is required by the newborn cria to obtain nutrients and antibodies. 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.

Minimum Standard No. 11 – Colostrum

Cria must be provided with colostrum, or a suitable substitute, within the first 24 hours of life to ensure their welfare.

Example Indicators for Minimum Standard No.11 – Colostrum

- The dam allows cria to suckle
- Cria are given colostrum within 24 hours of birth
- Cria show typical vigour, body condition, vitality and freedom from injuries
- Full records are kept of the amount and origin of colostrum that is offered/consumed by hand reared cria

Recommended Best Practice

- a) Colostrum should be given to cria within six hours of birth.
- b) Colostrum should be fed for the first four days of a cria's life, and ideally longer, as it provides local immunity in the gut.
- c) Females should be observed to ensure they are allowing their cria to feed, and that the cria are gaining sufficient nutrition from the dam's milk.
- d) Cria should be inspected daily during the rearing period for signs of diarrhoea, dehydration, constipation and/or coughing and veterinary advice sought if these signs are observed.
- e) A supply of powdered or frozen colostrum from a camelid or another ruminant species should be readily available upon birth in case the cria need to be hand raised.
- f) The handler should minimise 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 substitute 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. Consideration needs to be given before breeding from such females and their offspring in future.

Hand rearing cria involves additional responsibilities in terms of time, facilities and commitment. A good understanding of the cria's requirements is essential for success. Good hygiene practices are required when maintaining feeding equipment, bedding material and toileting areas to keep crias healthy.

Colostrum ideally needs to be fed for at least the first four days of a hand reared cria's life, and a colostrum/milk mix with a declining fraction of colostrum to be fed to the cria in the days that follow. Hand reared cria require frequent small feeds (preferably four or five daily) in the first two 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' milk replacers are preferable to cow milk replacers.

Weighing young cria regularly is the best way to ensure they are receiving sufficient nutrition. 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.

There are challenges in raising cria by hand and avoiding future behavioural problems in the mature camelid. Hand reared cria need to 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 referred to as "berserk male syndrome" (although can also affect females), berserk llama syndrome (although can also affect alpaca and guanaco) "aberrant behaviour syndrome" or "novice handler syndrome".

6.5 Weaning

Introduction

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

Minimum Standard No. 12 – Weaning

- (a) Weaning must be managed in a way that minimises negative impacts on the health of the dam and cria.
- (b) Newly weaned cria must be provided with adequate feed, water and shelter.
- (c) Recently weaned cria must be monitored to check for signs of ill-thrift, injury or stress, and where appropriate remedial action taken.

Example Indicators for Minimum Standard No.12 – Weaning

- Cria look healthy and vigorous after weaning

Recommended Best Practice

- a) Cria should not be weaned until the rumen is sufficiently developed to enable cria to digest forages effectively, usually after 24 weeks of age.
- b) Weaning should be carried out in fine settled weather if possible.
- c) Extra care should be taken to manage the increased susceptibility to parasitism and disease that can occur in newly weaned animals as a result of the increased stress.
- d) Cria should be weaned into an environment with which they are familiar.

General Information

Feeding supplements to females and cria a few weeks before weaning accustoms the cria to the feed and to the farm routines. Continuing to feed supplements throughout 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 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 to a group of newly weaned camelids may aid in settling the cria and help 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 other farms the two are separated but visible to one another. Fences need to be cria-proof and secure and, in some cases, double-fencing may be necessary to prevent cria from continuing to feed through the fence. Crias that are in danger of harming themselves due to their attempts to reunite with their dam need to 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, which 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.

6.6 Shearing

Introduction

Shearing is an important part of camelid husbandry. Careful handling of the animals during this procedure is required, together with good management following shearing to prevent ill effects from exposure.

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

While most alpacas and llamas generally require shearing on an annual basis, some animals with particularly thin or slow-growing coats may be best managed with less frequent shearing.

The removal of matted or contaminated fleece to reduce discomfort and skin inflammation or wool around the face may also be necessary.

Minimum Standard No. 13 – Shearing

- (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) All severe shearing cuts or injuries must be treated immediately.

Example Indicators for Minimum Standard No.13 – Shearing

- Shearers are experienced and so able to ensure that cuts and injuries are minimised
- Any cuts and injuries have been treated
- Shearing equipment is appropriate for shearing camelids
- Planning for shearing includes the provision of shelter and adequate feed, immediately after shearing

Recommended Best Practice

- a) Camelids should be shorn as frequently as necessary to mitigate animal health and welfare concerns. Usually this would be once a year.
- b) 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 for several weeks after shearing to minimise the risk of exposure.
- c) Shearing should be carried out skilfully and carefully to prevent shearing cuts.
- d) Freshly shorn animals should not be kept in dusty yards for longer than necessary as shearing cuts may be potential access sites for infection causing pathogens.

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 while 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 camelid's 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 inhale the stomach contents, such as with the head hanging below the body.

Quick, efficient shearing by a trained team greatly reduces the amount of stress imposed on the animals. Shearing should be performed as rapidly as possible, whilst not compromising on the effectiveness and care or resulting in cuts and injuries. The experience of previous shearing will affect a camelid's reaction to subsequent encounters.

Animals shorn in summer may suffer from the effects of sunburn. Protection can be provided by applying, for example, sunscreen or covers. The use of a cover comb to leave a protective layer of fleece can also provide protection from the sun. The cover comb can also be used during the colder months to ensure that camelids retain a protective and insulating layer of fleece.

6.7 Animal Identification

Introduction

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

When microchipping or tagging camelids, it is important 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..

Minimum Standard No. 14 – Animal Identification

- (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.14 – Animal Identification

- No ear injuries or infections are apparent
- Use of pain relief is documented

Recommended Best Practice

- a) Manufacturers' instructions for applying microchips and tags should be followed.

- b) When ear tagging, care should be taken to avoid cartilage ridges and major blood vessels.
- c) When ear tagging is being undertaken, camelids should be restrained to avoid soft tissue damage.
- 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.

General Information

Animal-friendly tagging systems are available on the market and are recommended for use where practicable (e.g. breakaway pin-type applicators).

6.8 Pre-transport Selection

Introduction

Transport should be in accordance with the Code of Welfare: Transport within New Zealand. 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 cria are often sold and relocated. Preparation for transport is an important part of the weaning process.

Minimum Standard No. 15 – Pre-transport Selection

- (a) The person in charge must examine the selected camelids prior to transport to ensure all are fit and healthy for transportation.
- (b) Camelids must be able to stand and bear weight evenly on all 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.15 – Pre-transport Selection

- All camelids selected for transport are healthy, able to support their weight on four limbs and are able to walk unaided
- No camelid gives birth during transport
- Animals are transported in compliance with Code of Welfare: Transport within New Zealand

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 welfare compromise to the animal.
- b) Camelids should be held off green feed for a minimum of four hours before transport, but for no more than 12 hours. Clean water should be available from a familiar source.
- c) Pregnant camelids should not be transported after 320 days of gestation (the normal gestation length of a camelid is on average, 340-350 days).
- d) Camelids generally travel in the kush position (sternal recumbancy) and vehicles should 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.

Part 7: Behaviour

Introduction

Camelids are highly social and hierarchical animals that seek comfort in herd situations. They have a strong need for the companionship of another camelid, either in the same paddock or within sight in an adjacent paddock. In an emergency situation, a camelid may be kept with another compatible companion animal (e.g. sheep, goats), but, in general, they will experience better welfare and well-being in the company of their own kind. 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.

Care needs to be taken however, when mixing unfamiliar camelids as this can result in fighting and injury unless preventative measures are put in place. This is particularly important for breeding males and care needs to be taken when mixing two or more male camelids. A large paddock can be used to minimise confrontation and, where possible, paddocks with broken contours and natural cover will help to reduce stress.

Minimum Standard No. 16 – Behaviour

- (a) Camelids are herd animals and must always live with a companion animal.
- (b) Cria must be raised in the company of other camelids.
- (c) Where camelids are mixed into new or altered groups, they must be managed to minimise the effects of aggression.

Example Indicators for Minimum Standard No. 16 – Behaviour

- Camelids are not raised or kept alone
- Camelids are held in paddocks with other camelids or companion animals, or the very least, in a paddock adjacent to, and within sight of, other camelids
- Management systems for hand reared cria are such that the cria receives sufficient feed and water but contact with humans is minimised
- 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 have, at the very least, visual contact with other camelids at all times

Recommended Best Practice

- a) Camelids should be kept with other camelids.
- b) 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.
- c) 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.
- d) Areas should be provided to enable camelids to express their natural dust bathing behaviour.

General Information

Camelids are herd animals, so in the event that a camelid is left alone upon the death of a companion, then the onus is on the owner to ensure the remaining animal's continuing welfare, either by obtaining a new companion camelid or by rehoming their animal with other camelids. If this cannot be arranged immediately and, in the interim, it has been necessary to provide a camelid with other animals for companionship (e.g. sheep, goats), then 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 companion(s).

When new animals are introduced to a mob, potential aggression and bullying by more dominant camelids seeking to establish a “pecking order” can cause injuries or stress to 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.

It can often be easier to integrate new camelids into larger (in comparison to smaller) herds, which are housed in larger areas as the size of the herd and the additional availability of space makes it easier for a new animal to avoid potential bullies. Camelids that are subjected to persistent bullying need to be removed from the herd, checked for illness and injury, and placed with another group where bullying is not a problem. Where predisposing factors in the onset of bullying have been identified, they need to be taken into account when mixing with subsequent herds.

When mixing camelids, consideration needs to be given to differences in species, gender, bloodlines, age, body size, physiological status, temperament and the environment in which the group is kept. The ideal grouping of camelids is one that balances both management and animal behaviour requirements.

It is possible to run large groups of male camelids together without incident. This situation mimics the “bachelor herds” that form naturally in the wild. 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 camelid species, and extra care may be required.

Castrated male camelids may sometimes display behaviour associated with entire males (such as aggression to other males) and, in this case, they need to be treated as entire male camelids and may not be suitable to keep with female camelids. Castrated males can be observed to determine whether their behaviour is suitable for inclusion within a female herd.

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 affect camelid welfare.

Part 8: Animal Health, Disease and Injury Control

8.1 Health

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 to recognise the indicators of good health, as well as ill-health and the common diseases of camelids. Early recognition of ill-health will enable expert assistance to be sought and treatment provided.

Camelids are very stoic animals and often mask signs of distress or ill-health. It is therefore possible for a very sick camelid to conceal its condition to a large degree and the indication of problems can be very subtle.

Routine checks and preventative care are important to reduce the risk of parasite burden, vitamin deficiency, disease and injury. Regular attention also needs to be given to a camelid's toenails to prevent lameness.

Minimum Standard No. 17 – Health

- (a) Those responsible for the welfare of camelids must be competent at recognising the signs of ill-health or injury, and take remedial action as appropriate.
- (b) A recumbent camelid must receive immediate attention.
- (c) Toenails must be maintained so as to not cause lameness or other injury to the foot.
- (d) Camelids must receive sufficient vitamin D supplementation to ensure their health and welfare.

Example Indicators for Minimum Standard No. 17– Health

- Stockhandlers are trained and competent to recognise ill-health and injury and undertake prompt action and treatment as necessary
- A written health management plan is implemented and animals do not display signs of ill-health
- Health management plans are designed to take the local conditions into account

Recommended Best Practice

- a) All farms should have a catch-pen where camelids can be confined for close examination and treatment.
- b) During and after treatment, sick or injured camelids should not be kept alone unless absolutely necessary.
- c) 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.
- d) Records detailing routine health management should be kept (e.g. parasite control, vaccinations, including date of treatment and withholding period).
- e) Medication should only be used in accordance with registration conditions, manufacturers' instructions or professional advice.
- f) A veterinarian or camelid consultant should be consulted for advice on establishing a preventative health care programme covering disease, injury and parasite control.
- g) As often as practicable, post-mortems should be carried out to assist in monitoring the health of the herd.
- h) 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.

- i) Efforts should be made to provide pastures low in toxic endophytes for camelids that are susceptible to ryegrass staggers.
- j) Camelids observed to be displaying symptoms of ryegrass staggers should be removed from the affected paddock until they recover.
- k) A management plan should be implemented in regions where facial eczema is a hazard, to reduce the risk of this disease.

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 within 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 New Zealand (particularly in the upper North Island), ticks are a welfare problem and should be controlled by grazing management and appropriate treatment of camelids.

Some camelids can be vulnerable to hypophosphataemia (rickets) as a result of inadequate vitamin D levels. This is especially true of dark-coloured or heavily fleeced animals and alpacas seem to be more susceptible to this condition than llamas. If intake of Vitamin D is inadequate, supplementation of this vitamin is important, especially for young and growing animals and in conditions when less sunlight is available (i.e. during winter). The risk of hypophosphataemia increases in areas with less sunlight.

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 camelids are being moved from a paddock as a result of ryegrass staggers, they need to be moved slowly and carefully while keeping stress at a minimum, as stress can exacerbate the effects of the staggers. 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.

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 spraying paddocks with anti-fungal agents before peak spore-development time.

8.2 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. The principles of performing painful procedures on animals are covered by the general provisions of the Code of Welfare: Painful Husbandry Procedures.

Blunting or removal of fighting teeth reduces the risk of injury due to aggression between camelids. Castration is performed in camelids to reduce undesirable behaviour such as aggression and mounting behaviour and make male camelids easier to handle. While in other animals castration is performed when the animal is as young as possible, in camelids, while the pain and distress in performing this procedure needs to be minimised, the animal needs to be allowed to mature sufficiently prior to castration to prevent abnormal

development of the musculoskeletal system. In general, llamas and guanacos are slower to reach developmental maturity than are alpaca.

Minimising the stress, pain or discomfort of painful husbandry 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.

Minimum Standard No. 18 – Elective Husbandry Procedures

- (a) Elective husbandry procedures must only be carried out where they are justifiable to prevent undesirable consequences that could subsequently result in animal suffering.
- (b) The musculoskeletal system of camelids must be sufficiently developed prior to castration to ensure health and welfare.
- (c) Castration must be carried out by a veterinarian.

Example Indicators for Minimum Standard No. 18 – Elective Husbandry Procedures

- Procedures are documented and only undertaken when justified
- No camelid shows abnormal development as a result of early castration
- Castration is performed by a veterinarian using pain relief
- Alpaca are not castrated prior to eight months of age
- Llama and guanaco are not castrated prior to 15 months of age

Recommended Best Practice

- a) Castration of alpaca should be performed when they are aged 12 months or older to allow for correct musculoskeletal development.
- b) Castration of llama and guanaco should be performed when they are aged 18 months or older to allow for correct musculoskeletal development.
- c) Removal or blunting of fighting teeth should be performed by a veterinarian using pain relief.
- d) If a camelid is likely to become distressed during blunting of the fighting teeth, light sedation should be used.

General Information

Castration of prepubertal camelids (and a decrease in the circulating hormones that aid development) can cause males to develop a tall, straight-legged stature (particularly in the hind limbs) due to a delay in the closure of long-bone physes. 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. Ensuring alpaca are at least 8, and preferably 12, months and llama and guanaco are 15-18 months of age before castrating will allow them to reach a developmental stage where, upon castration, the deleterious effects to their musculoskeletal system will be significantly reduced.

Male and castrated camelids grow “fighting teeth” which can be used to inflict severe injury to other camelids. Pre-emptive removal or blunting of fighting teeth, where practical, can significantly reduce the risk of injury. When blunting the fighting teeth, care needs to be taken to ensure that the cut of the tooth is made parallel to the gum line so that the cut does not involve touching the gums.

Part 9: Emergency Humane Destruction

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.

Minimum Standard No. 19 – Emergency Humane Destruction

- (a) Camelids to be killed must be handled, restrained, and killed in a manner that minimises unnecessary pain and distress prior to death.
- (b) When killing camelids, they must be rapidly rendered insensible and remain in that state, until death.
- (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.

Example Indicators for Minimum Standard No. 19 – Emergency Humane Destruction

- Any camelid being killed on farm is managed gently and calmly at all stages of the process
- No camelid is killed without prior stunning
- All camelids are inspected following the procedure to ensure death
- Persons performing the emergency killing of livestock are appropriately trained to do so
- Equipment is regularly cleaned and well maintained

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) Persons undertaking the humane slaughter of livestock should be trained and competent.

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 Schedule III – 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.

Part 10: 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 Code.

Recommended Best Practice

- a) To ensure that standards of animal welfare and husbandry are maintained, each farm should implement a quality assurance programme.
- b) The quality assurance programme should incorporate continual review of existing systems, procedures and training schedules that could enhance the welfare of camelids.
- c) The quality assurance programme should enable all incidents resulting in significant sickness, injury or death of animals to be investigated and documented.
- d) Quality assurance programmes should identify the responsibilities of staff in the event of an emergency.

Schedule I – Interpretation and Definitions

Act

The Animal Welfare Act 1999.

adult

Any camelid over the age of 2 years.

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 Governor-General, by Order in Council, 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) Includes any marsupial pouch young; but
- d) Does not include –
 - i) A human being; or
 - ii) Except as provided in paragraph b) or paragraph c),, any animal in the pre-natal, pre-hatched, larval, or other such developmental stage.

available technology

NAWAC takes to mean technologies which are used practically to care for and manage animals, for example, existing chemicals, drugs, instruments, devices and facilities.

berserk male/ berserk llama/ novice handler syndrome

A condition of unpredictable and often highly aggressive behaviour seen in camelids, particularly intact males, 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 used to classify their body condition, based on the assessed amount of fat and/or muscle covering, particularly over the spine and pelvis. (see Schedule II – Condition Scoring of Camelids).

camelid

For the purposes of this Code of welfare a camelid refers to New World (South American) camelids including Vicugna pacos, (alpaca), Lama guanicoe (guanaco) and Lama glama (llama).

castrated male camelid

An non-entire male camelid that is incapable of reproduction. Also known as 'gelding' or 'wether'.

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. Most commonly used on alpaca in New Zealand.

colostrum

Milk secreted by the hembra for the first few days following birth (parturition) characterised by high antibody content.

cria

Newborn camelid until weaned.

dust bathing

Behaviour where camelids roll and cover themselves in dust and dirt.

dystocia

Difficult birth

electric prodder

A device that is capable of delivering an electric shock to make an animal move.

Does not include electric stunners used to stun an animal immediately prior to slaughter.

fighting teeth

Entire adult male camelids 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.

good practice

NAWAC 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 judgement; 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.

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 requirements.

heat stress

Hyperthermia brought on by prolonged high air temperatures, combined with high humidity, causing elevated body temperatures.

hembra

Adult female camelid.

holding facilities

An area set up to temporarily hold camelids (e.g. pens, sheds, yards).

hypothermia

Abnormally low body temperatures

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.

lactating female

A female that has given birth and is producing milk to feed her cria.

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 procedures

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.

pecking order

The social hierarchical order resulting from individuals establishing their dominance within a group of camelids.

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."

recommended best practice

NAWAC 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

NAWAC 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 behavioural 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.

shelter

Cover or protection from weather including sun, rain, wind and snow.

stockmanship

Putting into practice the skills, knowledge, experience, attributes and empathy necessary to manage stock.

supplementary feeds

Feeds provided which are additional to grazed pasture.

suri

A type of llama or alpaca characterized by the fleece hanging in long curls towards the ground.

tui

A camelid after it has been weaned (typically at 6 months of age) until it reaches approximately 2 years of age.

weaning

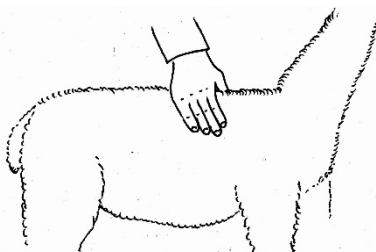
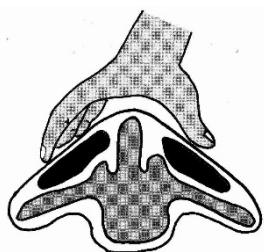
The act of permanently removing milk (or milk replacer) from the diet of the cria.

Schedule II – Condition Scoring of Camelids

This chart can be used broadly for all species of farmed camelids in New Zealand.

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).

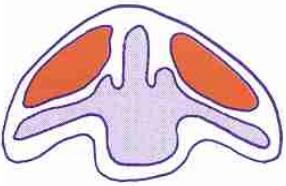
Visual assessment of the body condition of live camelids is difficult, particularly when fibre is long. A long coat can disguise the actual appearance of the pelvis, ribs and spine, while a short coat can make an animal's appearance more irregular and highlight these areas. The only reliable method of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

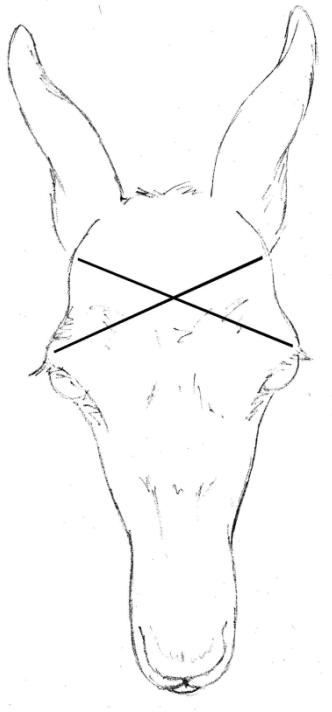
Score 1 requires a vet inspection as soon as possible. Score 4 and 5 may require nutritional advice, or simply a reduction in feed.

	BCS1 – EMACIATED
	<ul style="list-style-type: none"> • Very steep angle along spine & curves inward • Ribs are very easily felt • Hard bony v-shaped chest • Large increased space in between rear legs • Very little muscle & absolutely no fat
	<ul style="list-style-type: none"> • Spinal slope more than 45 degrees • Ribs can be easily felt • Hard chest with a slight v-shape • Some increased space between rear legs • Some loss of muscle
	<ul style="list-style-type: none"> • About 45 degree angle along spine • Ribs felt with slight pressure • Firm muscular chest • Chest makes straight line between front legs
	<ul style="list-style-type: none"> • Convex shape between the backbone & upper ribs • Ribs felt with some pressure • Somewhat rounded soft feeling chest • Inner thighs smooth & less defined

	<p>BCS5 - OBESSE</p> <ul style="list-style-type: none">• 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
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Schedule III – Humane Destruction

Diagram of correct target for euthanizing with firearm



Handlers who are inexperienced with the procedure should consult a veterinarian.

Appendix of extracts from the Animal Welfare (Care and Procedures) Regulations 2018

Although efforts to include relevant regulations within this Code have been made, there may be other regulations which are relevant to you. The full list of all animal welfare regulations should be consulted where appropriate (see www.legislation.govt.nz).

3 Interpretation

skin abrasion means an injury where the skin has started to scrape or rub away, but does not include (by itself) hair loss

tether means any form of restraint that secures any part of an animal to an object or the ground

23 Use of equipment that may injure llama or alpaca

- (1) The owner of, and every person in charge of, a llama or alpaca must ensure that any halter, lead rope, pack, or other equipment used on the animal does not—
 - a) cause a cut that bleeds or discharges; or
 - b) cause a skin abrasion that bleeds or discharges; or
 - c) cause a swelling; or
 - d) prevent the animal from breathing normally or drinking.
- (2) A person who fails to comply with this regulation commits an offence and is liable on conviction to a fine not exceeding \$900.
- (3) The offence in subclause (2) is an infringement offence with an infringement fee of \$300.

47 Collars and tethers

- (1) The owner of, and every person in charge of, an animal must ensure that any collar or tether on the animal (whether on the neck or on any other part of the animal) does not—
 - a) cause a cut that bleeds or discharges; or
 - b) cause a skin abrasion that bleeds or discharges; or
 - c) cause a swelling; or
 - d) prevent the animal from breathing normally, panting, or drinking.
- (2) A person who fails to comply with this regulation commits an offence and is liable on conviction to a fine not exceeding \$900.
- (3) The offence in subclause (2) is an infringement offence with an infringement fee of \$300.

48 Use of electric prodders

- (1) A person must not use an electric prod on any animal, except—
 - a) on cattle that weigh over 150 kg; or
 - b) during loading or unloading for transport, on pigs that weigh over 150 kg; or
 - c) during loading of a stunning pen at any slaughter premises, on pigs that weigh over 150 kg; or
 - d) during loading of a stunning pen at any slaughter premises, on deer of any weight.
- (2) If an electric prod is used on an animal where permitted by subclause (1),—
 - a) the prod may be used only on the muscled areas of the animal's hindquarters or forequarters; and
 - b) the animal must have sufficient room to move away from the prod.
- (3) A person who fails to comply with this regulation commits an offence and is liable on conviction to a fine not exceeding,—

- a) in the case of an individual, \$1,500; or
 - b) in the case of a body corporate that has been issued an infringement notice for the offence, \$1,500; or
 - c) in the case of a body corporate that has not been issued an infringement notice for the offence (because proceedings in respect of the infringement offence have been commenced by filing a charging document), \$7,500.
- (4) The offence in subclause (3) is an infringement offence with an infringement fee of \$500.
- (5) In this regulation, electric prod—
- a) means a device that is capable of delivering an electric shock to make an animal move; but
 - b) does not include electric stunners used to stun an animal immediately prior to slaughter.

49 Prodding animals in sensitive areas

- (1) A person must not strike or prod an animal with a goad in the udder, anus, genitals, or eyes.
- (2) A person who fails to comply with this regulation commits an offence and is liable on conviction to a fine not exceeding \$1,500.
- (3) The offence in subclause (2) is an infringement offence with an infringement fee of \$500.
- (4) In this regulation, goad means an object used to make an animal move, but does not include an electric prod as defined in regulation 48(5).