

# ALPACAS AND LLAMAS (AND OTHER CAMELIDS)

## STANDARD OPERATING PROCEDURE Approved 15 November 2023

Approval to conduct activities under this Standard Operating Procedure (SOP) is conditional upon curriculum justification for this use of animals being documented by the activity leader and reviewed by the principal.

Schools may undertake the approved activities outlined in this SOP once authorised to do so by the Queensland Schools Animal Ethics Committee (QSAEC) Animal Ethics Officer.

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## SECTION 1 | OBLIGATIONS

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### 1.1. LEGAL OBLIGATIONS

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Schools have legal obligations under the [Animal Care and Protection Act 2001 \(Qld\)](#), the [Animal Care and Protection Regulation 2023 \(Qld\)](#), and the [Australian code for the care and use of animals for scientific purposes, 8<sup>th</sup> edition 2013 \(updated 2021\)](#) (Cwlth) (the Code), including:

- 1) ensuring persons in charge of an animal fulfil their duty of care to that animal
- 2) obtaining animal ethics approval prior to conducting scientific activities involving animals and acting in accordance with that approval once granted
- 3) reporting on the use of animals for scientific purposes.

Non-compliance with this legislation may result in schools receiving a maximum fine of 2000 penalty units. (Penalty unit value is notified in the [Penalties and Sentences Regulation 2015 \(Qld\)](#)).

All Queenslanders have a 'general biosecurity obligation' under the [Biosecurity Act 2014 \(Qld\)](#). Schools are responsible for [managing biosecurity risks](#) that are under their control and that they know about, or should reasonably be expected to know about. Contact Biosecurity Queensland on 13 25 23 for advice on managing specific risks or to report [notifiable incidents](#).

### 1.2. DUTY OF CARE FOR ANIMALS

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If you are in charge of an animal, you have a duty of care to that animal - no matter why you are in charge of it, what you are using it for or how long it will be in your care. All decisions and actions involving the care and use of animals for scientific purposes must be underpinned by respect for animals. This respect is demonstrated by:

- using animals only when justified
- supporting the wellbeing of the animals involved
- avoiding or minimising harm, including pain and distress, to those animals
- applying high standards of scientific integrity
- applying the principles of Replacement, Reduction and Refinement ([the 3Rs](#)) at all stages of animal care and use through:
  - **replacement** of animals with other methods (alternatives)
  - **reduction** in numbers of animals used
  - **refinement** of techniques used, in order to minimise adverse impacts on animals
- knowing and accepting one's responsibilities.

### 1.3. CURRICULUM JUSTIFICATION FOR THE USE OF ANIMALS IN EDUCATION

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It is the teacher's responsibility to provide a curriculum justification for any learning activity that involves the use of animals, including activities approved under a SOP. The use of animals must provide an added component to the learning that is neither trivial nor available in other ways, and there must be evidence to support this position. Planning documents must clearly identify how the use of animals is essential to achieving the learning objectives. The justification should consider whether [non-animal alternatives](#) could achieve the same learning objectives, the minimum number of animals necessary to achieve the objectives, the impact on the animal/s involved and whether the potential effects on the wellbeing of the animals are justified by the potential benefits of their use.

The QSAEC, when undertaking a site visit at the school, may request to see documentation detailing the curriculum justification for the use of animals.

If there are viable alternatives to animal use that meet the learning objectives, they should be used in preference to using animals. At all times the impact on the animal/s should be considered and, where appropriate, discussed with the students in an age-appropriate way.

To seek approval to conduct activities additional to those approved under this SOP or to modify an activity approved in this SOP, submit a [Modification, SOP variation or amendment form](#) in conjunction with the Application/Activity notification form at the last page of this SOP.

**Please note:** The QSAEC will **not** approve any activities classified as Category 4 in the [Categories of animal use](#).

## 1.4. ANIMAL HEALTH AND WELFARE

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[Responsibilities of school personnel under the Code](#) details obligations of staff under animal welfare legislation to promote the responsible care and use of animals for scientific purposes.

An **unexpected adverse event** is any event that may have a negative impact on the wellbeing of an animal and was not foreshadowed in the approved proposal, SOP or subsequent documents to the QSAEC.

An unexpected adverse event may result from different causes, and includes but is not limited to:

- death of an animal, or group of animals, that was not expected (e.g. during surgery or anaesthesia, or after a procedure or treatment)
- adverse effects following a procedure or treatment that were not expected
- adverse effects in a larger number of animals than predicted during the planning of the project or activity, based on the number of animals actually used, not the number approved for the study
- a greater level of pain or distress than was predicted during the planning of the project or activity
- power failures, inclement weather, emergency situations or other factors external to the project or activity that have a negative impact on the welfare of the animals.

In the event of an unexpected adverse event or emergency, prompt action must be taken to address any adverse impacts on the animal/s. Alleviating unanticipated pain and distress must take precedence over an individual animal reaching the planned endpoint of the project, or the continuation or completion of the project. Emergency treatment may be required and, if necessary, animals must be humanely killed without delay.

In response to an unexpected adverse event, action and investigation by the activity leader or facility manager is required to ensure students, staff or other animals are not inadvertently affected. The specific response will depend on the animal and the circumstances. It may require seeking advice from a veterinarian to determine the best course of action (e.g. necropsy of the dead animal by the vet), removal of the deceased animal (e.g. by the supplier), or diagnostic investigations of facility or management practices to determine cause of death (e.g. water testing of fish tank, checking of ventilation).

All adverse events provide opportunities for students to learn from the experience. Activity leaders should optimise student learning outcomes (incidental and planned) by focussing on the learning potential of a specific event (e.g. prevention, animal welfare, diagnostic tools, treatment, security, harm minimisation).

Notify the QSAEC within 7 days of the event, using an [Unexpected adverse event report](#).

Operators should seek professional advice on current pain minimisation strategies that align with current best practice.

**Please note:** Necropsy of a dead animal is not an approved activity under this SOP due to potential health and biosecurity risks, and must only be performed by a competent person. QSAEC recommends that if a necropsy is required it is performed by a vet.

Further advice about reporting unexpected adverse events is available on the [Department of Primary Industries website](#).

## 1.5. STUDENT AND STAFF HEALTH

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Those involved in the care and use of animals should make themselves aware of the potential disease hazards and other associated occupational health and safety issues, and manage risks according to the school's risk management process. Apart from injuries which may occur due to handling animals, there are a variety of infectious diseases (zoonoses) that are transmissible from various animals to humans.

Zoonotic diseases are common and the illnesses they cause can be serious. They can be spread by direct contact with animals, for example via bites or scratches, or through contact with animal faeces, bodily fluids, airborne particles, birth products, or enclosures contaminated with these materials.

Staff should familiarise themselves with the zoonoses the animals in their care may potentially transmit, the routes of transmission and what activities may potentially expose staff or students to infection. This research will inform the risk assessment to determine how to manage these risks or determine whether the activity should be conducted at all.

For comprehensive advice regarding zoonotic diseases and precautionary measures to minimise risks to staff and students, refer to [Animal observation and handling](#), [Animal contact guidelines - reducing the risk to human health 2014 \(Interim\)](#) and [Preventing zoonoses](#).

[Risk management](#) of animal activities ensures the health, safety and well-being of students, staff and others involved. If a specific [Curriculum Activity Risk Assessment activity guideline](#) exists, that guideline must be adhered to at a minimum. Risks associated with [zoonotic diseases](#) carried by alpacas and llamas must be identified and measures planned to allow activities to be conducted with an acceptable level of residual risk.

Any incident or injury that occurs in association with an activity must be reported, recorded and notified in accordance with the [Health, safety and wellbeing incident management procedure](#).

## 1.6. RECORDKEEPING

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Schools must keep a [school-based animal activity register](#) which includes records relating to their use of animals for scientific purposes for seven years for audit purposes. This includes:

- scientific user registration (for non-state schools)
- signed applications, activity notification forms and modifications
- approval responses from QSAEC
- signed QSAEC reports (e.g. annual completion reporting, unexpected adverse events, complaints).

Clear and accurate records relevant to the particular species used in the activity/s should be readily available, including, as relevant:

- animal identification records (e.g. species, ear tag number or name, and number of animals in each enclosure/paddock)
- dates and sources of acquisition (include relevant agreements such as for agistment or the use of privately-owned animals)
- feeding/watering logs (times/amount)
- supervision/monitoring logs of animal health and wellbeing
- maintenance/monitoring logs for each enclosure
- dates and types of husbandry practices carried out
- breeding records
- vaccination/treatment records (include chemical/medication administration details and any veterinary treatment provided)
- fate plan and disposal details and dates for each animal (including transport requirements)
- emergency contacts and procedures.

## SECTION 2 | QUALIFICATIONS, SKILLS AND EXPERIENCE

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Any teacher conducting scientific animal activity must have competency in the particular procedure and:

- a relevant science or science education qualification (e.g. Agricultural Science, Biological Science) or
- relevant science or science education experience as deemed appropriate by the school principal (generally 2 years' experience).

For new or inexperienced teachers (less than two years' experience), all activities must be conducted under the supervision of a Science or Agricultural Science Head of Department (HOD) or suitably experienced person.

Where direct supervision of a suitably experienced person is not available, a new or inexperienced teacher must:

- identify a mentor, maybe a Science or Agriculture HOD from a neighbouring school
- provide planning documents to the mentor.

Persons deemed to be suitably qualified must have:

- conducted risk assessments on the procedure/s to be carried out
- found the procedure/s to be safe and humane considering animal and student welfare
- considered the maturity and suitability of the student/s involved in the activity.

Teachers should ensure that animal users, including students, staff and volunteers are provided with adequate prior instruction in specific activities to enable appropriate care of an animal and to minimise risk of undue stress or harm to an animal.

## SECTION 3 | STANDARDS OF PRACTICE

Alpacas (*Vicugna pacos*) and llamas (*Lama glama*) are domesticated species of the South American camelid family, commonly kept in Australia for the purposes of farming (for fibre, for meat or as guard animals), for showing, trekking or as companion animals.

### 3.1. PHYSICAL ATTRIBUTES OF ALPACAS AND LLAMAS

Llamas are used as meat and pack animals, and produce a soft lanolin-free wool. Vicunas and guanaco are wild breeds of llama. Llamas are taller than alpacas, with a longer head and long ears that curve inwards slightly.

Alpacas resemble a small llama, with a shorter head and straight ears. They are too small to be used as pack animals and are bred for their wool. There are two breeds of alpaca – the Suri and the Huacaya.

	Alpacas	Llamas
Size	78-104 cm (at the withers)	170-180 cm (at the top of the head)
Weight	47-80 kg	130-200 kg
Age at adult size	2-3 years	3 years
Life expectancy	15-25 years	15-30 years
Gestation period	11.5 months	11.5 months
Weight at birth	6-8 kg	9-14 kg
Number of offspring	1 (cria) Twinning is extremely rare.	1 (cria) Twinning is extremely rare.
Weaning	6-8 months	5-6 months
Healthy characteristics	Body temperature: 37.5-38.6 °C Heart rate: 60-100 beats/minute Respiration rate: 20-30 breaths/minute	Body temperature: 38.1-39.9 °C Heart rate: 60-90 beats/min Respiration rate: 20-30 breaths/min
Range of breeding ages	Female (hembra or dam): 12-14 months Male (macho or sire): 18-24 months	Female (hembra or dam): 12-15 months Male (macho or sire): 36 months

### 3.2. ENVIRONMENT

**MOVEMENT AND EXERCISE** Alpacas and llamas need space to run and room for a dust bath. Access to shade and feed/water throughout the day is essential and sprinklers may be provided on very hot days to allow the animals to cool down.

**HOUSING** Most routine management and husbandry practices require the holding of camelids for temporary purposes only (e.g. quarantine, weaning, drenching, weighing). Facilities should be dry, well-ventilated and draught-free, and should minimise the likelihood of distress or injury (e.g. low dust levels; no sharp objects or protrusions or damaged flooring; no gaps in which animals can get their heads or legs stuck; flow of animals through the facility; protection from predators). Sufficient floor or yard space must be provided to enable the animals to stand, move about and lie down without undue interference from each other. Animals penned individually for health, management or other reasons should be housed within sight of other camelids.

**LIGHTING** Natural or comparable artificial lighting must be provided during daylight hours. Darkness must be provided at night.

**FENCING** 1.2 metre high sheep fencing is adequate for alpacas and llamas. Do not use barbed wire where the animals may come into contact with it. Electric fencing should not be used. Alpacas and llamas rarely test fences. However, if they are confined and stressed, they will easily jump over 1m high pens, particularly if they are confined without companions. For this reason, it is always advisable to take a pair of animals to shows and displays. All fencing must provide adequate protection from predators.



**SHELTER** Shelter may be provided in a number of ways, using topographical features (e.g. gullies, shelter belts) or artificial structures. The prevention of wind chill is important. Alpacas and llamas prefer shelters that allow them to see their external surroundings. A simple three-sided shelter is often all that is needed for protection. They rarely seek shelter from rain but usually lie down with their legs tucked underneath them. Newborn cria must be provided with a hygienic environment with protection from climatic conditions.

**TEMPERATURE** Alpacas and llamas can survive harsh conditions but are susceptible to heat stress and wind chill. They should be provided with access to shade, feed/water and sprinklers in very hot weather. Fleece status has a significant impact on the animal's vulnerability to adverse weather. Camelids should be shorn before seasonal hot conditions (i.e. around September or October). Shorn animals should be provided with ready access to effective shelter and may require increased feed to sustain body temperature and maintain body condition.

**CLEANING** Alpacas and llamas avoid defecating in their pens unless confined for long periods. They usually wait until they can reach a communal dung pile, which is an area designated by the animals where they urinate and defecate. There are usually several dung piles within any one field. Ammonia levels for housed animals should be maintained at less than 10ppm (10-15ppm can be detected by smell).

Water troughs should be cleaned out at least weekly, and more often as necessary. Water reticulation systems, where used, should be checked daily to ensure they are in working order.

**BEDDING** Camelids prefer to lie on soft surfaces. The bedding should be dry, comfortable, and absorbent and made of good quality materials with minimal risk of toxic agent contamination. Due to the problems of fleece contamination, bedding for penned animals should be made from rubber, woven or slatted matting rather than straw. If straw is used, ensure that it is free from seed as seed is difficult to remove from the fleece.

### 3.3. FOOD AND WATER REQUIREMENTS

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Alpacas and llamas are hierarchical by nature and subordinate camelids may get less than their feed and water requirements when housed in group situations. Having an appropriate number of feed and watering stations will prevent this. They must have access to fresh, clean drinking water at all times.

Alpacas and llamas thrive on a high fibre, low protein diet. They are more efficient feed converters than sheep. A maintenance diet for alpacas and llamas is about 1.5% of their body weight each day on a dry weight basis. The additional energy and nutrient requirements of a lactating alpaca or llama increases the daily requirement to 3-4% of their body weight.

Supplementary feeding may be necessary if insufficient grazing is available on pastures. Alpacas and llamas can have their diets supplemented with a stud mix, lucerne hay or alpaca/llama pellets and chaff. They should have a regular or constant supply of roughage such as hay, silage or chaff to meet their high fibre needs. Do not feed excessive grains to alpacas.

**It is very important not to change the diet of an alpaca and llama quickly as this can lead to death.** All changes in diet should be performed gradually over a 10-14 day period.

Feeding levels are best determined by monitoring the body condition of camelids. Refer to the [Code of Welfare for Alpacas and Llamas](#) for condition scoring of camelids.

Seek advice from Department of Primary Industries for correct feeding, pasture quality and supplementation as needed.

### 3.4. NORMAL BEHAVIOUR

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Alpacas and llamas are herd animals and need the company of others. A minimum of two animals should be kept, either in the same paddock or within sight in an adjacent paddock. Intact males should be separated from female camelids and ewes, does or sows. Care needs to be taken to prevent fighting between breeding males and to monitor aggression and bullying where camelids are mixed into new or altered groups.

Alpacas and llamas are normally alert and inquisitive and move together when herded. They groom themselves by having regular dust baths and scratching on posts or bushes. The herd will have a community dung pile and, if necessary, will even line up and wait their turn.

Camelids are intelligent and curious animals, and can adapt to novel situations with a minimal fear response.

Alpacas and llamas chew their cud, usually while lying down in the early morning. They will sprawl out and sun themselves, especially after periods of rain and will wade and swim in creeks, dams or even water troughs to cool down.

Alpacas and llamas can react aggressively to the presence of dogs. They can be used for guarding sheep, warning the herd about intruders by making a high-pitched whine. When run as a herd guard, a camelid may be kept with another compatible companion animal (e.g. sheep, goats). They may attack smaller predators with their front feet and can spit and kick.

To signal friendly behaviour, alpacas make a clucking sound, possibly generated by suction on the soft palate. When content, most camelids make a humming sound. When llamas make a groaning noise or a 'mwa' sound, it is often a sign of fear or anger. If a llama is agitated, it will lay its ears back. If it notices a strange noise or feels threatened it will send out a warning bray to alert others in the herd. Llamas also hum to each other as a form of communication.

### 3.5. BREEDING MANAGEMENT

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In accordance with s.4.6 of the [Code](#), animal breeding that does not achieve an educational outcome in science and fails to provide for the lifetime welfare of animals (and their offspring) cannot be demonstrated to, or carried out by, students.

Camelids are non-seasonal induced ovulators (i.e. the females do not go into heat but release an egg on mating). Mating occurs in a kush (lying down) position and may take up to 45 minutes.

The process of giving birth is a critical period for the welfare of both female and cria, requiring frequent monitoring by activity leaders. Pregnant females with a high body condition score may have problems with birthing due to excessive fat deposits in the pelvic canal and lack of fitness. Ensuring the female is in optimal body condition prior to birthing can reduce the risk of difficulties occurring.

Pregnant females should be placed into birthing paddocks at least 4-6 weeks prior to their due date. They should be injected with a booster 5-in-1 clostridial vaccination and vitamin D as they enter the birthing paddock to bolster colostral levels. Faeces should be checked for parasite burdens.

Expert assistance must be sought urgently if a female experiences any difficulties during/after birthing.

Timely ingestion of colostrum by crias is the single most important factor that contributes to long-term survival and growth. Crias must be provided with colostrum, or a suitable substitute, within the first 6-12 hours of life if they have not suckled the dam adequately. Colostrum should be fed to hand-reared crias for the first four days of a cria's life, as it provides local immunity in the gut. It is essential to maximise socialisation of an orphan cria with other camelids. Inappropriate bonding with humans may lead to the camelid exhibiting severe and dangerous behavioural issues later in life which may necessitate euthanasia of the animal. This is referred to as 'berserk male syndrome' (although it can also affect females), or 'aberrant behaviour syndrome'.

Weaning is a highly stressful time for females and their cria. Crias should not be weaned until the first compartment of the stomach is sufficiently developed to enable crias to digest forages effectively, usually after 12-14 weeks of age. Crias should be fed a high quality (protein and energy) creep ration prior to weaning so that the dams show their crias how to eat supplementary feed ('imprinting') and the crias are adapted to the feed on which they are to be weaned.

Refer to Sections 6.3 to 6.5 of the [Code of Welfare for Alpacas and Llamas](#) for minimum standards and recommended best practice for breeding management.

### 3.6. SUPERVISION AND MONITORING

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Camelids must be inspected at least once a day to assess health and wellbeing. Young cria require more frequent monitoring as they can dehydrate quickly. Water, paddocks, fencing and other environmental needs of camelids should also be inspected daily.

Feeding, watering and cleaning logs/schedules must be easily accessible, preferably displayed, for ease of monitoring.

Diligence in observation does not alter on weekends and holidays. Staff members need to be rostered to maintain observation schedules as per weekdays.



Daily/weekly monitoring logs must be maintained and should include monitoring of water quality, automated feeders, structures, back-up power, security, as well as animal health and behaviour.

Ongoing risk management of potential hazards (e.g. areas of entrapment, breaches of fencing, zoonotic diseases) should be rigorously applied.

Staff should ensure that appropriate records are maintained.

### 3.7. HANDLING

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Careful and quiet handling of camelids helps to keep them calm, reduces fear and makes them easier to handle. Competent handling will 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.

The initial handling of a camelid can determine how it will react to procedures in future, and so treating a camelid gently but firmly initially will have long lasting beneficial effects for both the animal and the handler. Training, adapting or habituating animals to handling should be undertaken gradually using short sessions. Exposing camelids to the sound of a radio will accustom them to a range of noises and voices.

Take care not to over-handle cria and tui (i.e. weaned camelids up to 2 years old) as they may become difficult to handle when mature, when they will treat humans as they treat each other, initiating rough pushing, spitting and neck wrestling.

Knowledge of an animal's flight zone will help when moving animals, while minimising fear.

Camelids have a strong herd instinct and attempting to separate animals from the herd, and especially mothers from their cria, can induce significant stress. Muster all camelids from a paddock simultaneously, then separate an animal in yards or other handling facilities. When used appropriately, wands and herding tape can provide good visual cues to assist in directing and moving camelids safely.

Avoid handling animals in periods of adverse weather conditions (e.g. storms, strong winds, excessive heat) except in emergencies.

Camelids must not be lifted by their ears, head, fleece or tail or moved by twisting ears or tails. Vehicles and electric prods must not be used to move stock.

### 3.8. MOVEMENT

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Schools that own or keep one or more alpacas, llamas or other camelids are required to register as a [biosecurity entity](#) with Biosecurity Queensland and will be allocated a property identification code for the property where the animal(s) are kept. Please refer to Department of Primary Industries [On-farm biosecurity](#) for further information on biosecurity obligations.

There are a number of restrictions relating to the movement of alpacas, llamas and camels. Refer to Department of Primary Industries [Camels, alpaca and llama website](#) or contact Department of Primary Industries directly for more information.

### 3.9. TRANSPORT

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The [Regulation](#) includes a compulsory code of practice for the transport of livestock at Schedule 5 (the Transport Code).

All persons involved in the transport of livestock must ensure that they are aware of and comply with their obligations under this code.

The key features of the transport code are detailed on the [Department of Primary Industries website](#).

The transport code applies to the transport process from animal assembly prior to loading to unloading at the final destination. It applies to commercial and non-commercial livestock.

General requirements for transporting all livestock are mandated in the [Transport code](#) and include fitness for transport, advice of estimated time of arrival, impact of extreme weather conditions, suitability of handling facilities and vehicles, ramp alignment, livestock handling, loading density, inspection duties and record-keeping, use of prodders and dogs, and arrangements for distressed stock including killing.

Additionally, specific requirements for transporting certain animals are mandated. These include maximum journey time, spell duration and time off food and water. Requirements for alpacas include, but are not limited to, the following:

- prodders must not be used
- sufficient space must be available in the vehicle for the alpaca to sit down or lie on its sternum and sufficient cover must be provided to protect alpacas of less than 12 months of age or less than 10 days off shears
- maximum journey times, maximum time off water and minimum spell durations are specified. These times differ for camels and the transport code should be referred to for further information.

Class of alpaca	Maximum hours journey time	Maximum hours off water	Minimum hours spell duration
Alpacas known or visually assessed to be less than 33 weeks pregnant; Alpacas between 6 and 12 months of age (inclusive)	8	8	8
Alpacas known or visually assessed to be between 33 and 43 weeks pregnant (inclusive); Lactating alpacas travelling with dependent young less than 6 months of age; Alpacas less than 6 months of age	4	4	4
Alpacas known or visually assessed to be more than 43 weeks pregnant	4	4	24
Any other alpaca	24	24	24

### 3.10. DISEASE PREVENTION

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian or Department of Primary Industries officer. Health management plans should include at a minimum:

- feed management
- vaccination schedules dependant on regional disease status: clostridial diseases, leptospirosis, cheesy gland
- internal and external parasite control including regular faecal egg counting, pasture rotation, strategic drenching with effective parasiticides
- vitamin D supplementation, particularly for dark-coloured or heavily-fleeced animals
- spore counting in pastures susceptible to sporidesmin (facial eczema). All camelids are vulnerable to the toxic effects of facial eczema. Facial eczema is a fungus that is contracted from old or dead pasture and feed in warm, moist conditions. To minimise the risk of this, any hay, silage, feed or pasture that is dead or has not been eaten should be cleaned away out of the alpacas paddock or pen. This is particularly important in warm, moist conditions. Spore counts that are only considered low to moderate for sheep and cattle can be fatal to camelids.
- toenails maintenance to avoid lameness or other injury to the feet
- quarantine and monitoring of newly introduced livestock.

There is considerable variability among individual camelids in their sensitivity to toxic endophyte. Efforts should be made to provide pastures low in toxic endophytes for camelids that are susceptible to ryegrass or other grass staggers.

Newly weaned animals are very susceptible to infestation by internal parasites and need to be weaned onto pastures with low parasite burdens.

Alpacas may be affected by Johne's disease. Refer to [Department of Primary Industries](#) for your obligations to manage this disease.

All actions should be documented in the appropriate records.

### 3.11. SIGNS OF ILLNESS / PAIN

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Routine checks and preventative care are important to reduce the risk of parasite burden, vitamin deficiency, disease and injury.

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. Veterinary attention should be sought sooner rather than later if signs of illness (such as those outlined below) are observed.

One of the first signs of illness is a change in their natural demeanour. They may be listless or lethargic and a closer examination may show variations in:

- body temperature
- gastrointestinal function (e.g. diarrhoea, constipation, weight loss, loss or change of appetite)
- lack of regular dust bathing habits or bathing in unusual places
- urogenital function such as abortion, infertility or abnormal discharges
- respiratory function (e.g. nasal flaring, persistent coughing, gasping or panting).

There may be evidence of:

- failure to thrive or grow
- skin conditions around the face (Seek veterinarian assistance immediately to rule out facial eczema.)
- skin conditions, such as hair loss, patchy coat, lesions or abnormal growths
- stiff gait or abnormal posture
- kushing (i.e. sitting in an upright resting position with all legs tucked under) more often, and being easily approached
- excessive scratching or rubbing
- swollen joints or lameness
- pale gums
- watery eyes, holding eyes shut.

A recumbent camelid must receive immediate attention. Ill ambulatory animals must be confined in a catch-pen to allow close examination and treatment. Camelids being moved from a paddock as a result of ryegrass or other grass staggers should be moved slowly and carefully while keeping stress to 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.

Those responsible for the welfare of alpacas/llamas must be competent at recognising the signs of illness or, if unable to identify and correct the cause of ill health, assistance from a veterinarian familiar with alpacas/llamas should be sought.

Any signs and nature of illness or injury, treatments given, withholding periods if any, responses to treatment and deaths must be documented in the appropriate records.

### 3.12. Q FEVER

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Q fever is a highly infectious bacterial infection which may be acquired from camelids.

Animals cannot be vaccinated against Q fever. Infected animals show no signs of illness but shed the bacteria into their environment through urine, faeces, milk and birth tissues and fluids. Pregnant and birthing animals present a high risk as birth tissues and fluids can have particularly high concentrations of Q fever bacteria.

Q fever is mainly spread by inhalation of bacteria particles from infected animal body fluids, either directly or attached to dust particles. Contaminated dust becomes airborne through dusty stockyards and prevailing winds, animal movement, dry sweeping, handling wool, hides, straw/hay and manure etc. Q fever bacteria can also become airborne directly during animal birthing, handling birth products, high pressure hosing, slaughtering animals and dressing carcasses. Less commonly, Q fever can be spread through drinking unpasteurised milk.

Humans can gain immunity to Q fever through previous exposure or vaccination. Vaccination is licenced for those aged 15 years or older.

Q fever can be a very serious disease and prevention is a priority. Higher risk activities that should be avoided by non-immune staff and students include those that expose staff and students to dust and aerosols, for example:

- observing or assisting with animal birthing
- handling birth products
- slaughtering animals and dressing the carcass
- generating dust and aerosols when cleaning up birth products and animal excreta (e.g. dry sweeping, using a high pressure hose)
- visiting at-risk workplaces (e.g. abattoirs, tanneries).

Refer to the [Q fever in the school environment](#) fact sheet for comprehensive advice and precautionary measures to take when conducting the approved activities described in Section 4.

### 3.13. ANIMAL EMERGENCY ARRANGEMENTS

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The school must have an emergency management plan to deal with events in and out of school hours. Details of the plan will vary according to the needs of each school and must include:

- signage that includes emergency contacts, animal identification details
- monitoring of animals, including on weekends and school holidays
- a first aid kit for animals
- at least one local veterinarian on call
- strategies to withdraw individual animals (e.g. due to illness or death) or all stock (e.g. due to equipment issues, leaks, natural disasters, vandalism)
- strategies for animals to be easily identified and returned to the school (e.g. due to escape, theft, or displacement in natural disasters)
- a list of who is competent to euthanase animals if necessary
- a schedule of persons authorised to respond to emergencies and engage veterinary assistance.

### 3.14. HUMANE KILLING & EUTHANASIA

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Where an animal has become so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, euthanasia must be arranged with a local veterinarian or a person competent in the technique for the breed. Devices for killing should be in good condition and appropriate for the animal.

The euthanasia of a camelid must result in a rapid loss of consciousness followed by death while unconscious. Refer to Section 8 of the [Code of Welfare for Alpacas and Llamas](#) for approved euthanasia methods.

Notify the QSAEC of deaths and other unexpected adverse events within 7 days of the incident's occurrence, using the [Unexpected adverse event report](#). The signed hardcopy should be held in the school's animal activity register.

### 3.15. DISPOSAL – FATE PLANNING

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Forward planning (e.g. how and when to retire an animal from the program) will support animal welfare and wellbeing and ensure that animals used are fit to fulfil the needs of the program.

Camelids can be sold privately or at auction, consigned to a registered processor/abattoir, or returned to the normal husbandry conditions at the end of scientific use. If animals are rehomed with a student, section 3.4.1 of the Code requires a written commitment from a parent or guardian for the provision of adequate, ongoing and responsible care of the animal.

Any animal that is returned to normal husbandry conditions at the end of scientific use can remain on school property and continue to be cared for by the school in accordance with current best practice. Stocking rates, facilities and assets need to be managed accordingly to ensure the animal's wellbeing is maintained.

In the event that a camelid is left alone upon the death of a companion, 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).

Carcasses must be disposed of in accordance with local council regulations.

## SECTION 4 | APPROVED ACTIVITIES

All activities must be conducted in line with industry and veterinary standards. Chemicals and drugs used must be judged to be required by a qualified instructor, must be registered products, and must be used in accordance with Safety Data Sheet information and manufacturer's instructions.

**Note:** Instructor:student and student:animal ratios cannot always be specified with accuracy given the wide variety of class sizes, student ages and settings in which activities are being conducted. While ratios stated in this document are suggested minimum requirements, careful consideration must be given to determine ratios that are most effective in supporting and safeguarding animal wellbeing.

### 4.1. CAPTURE, RESTRAINT AND HANDLING

Category 3 – moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Capture, restraint and handling	To instruct students in methods of capturing for human handling in yard facilities; to lead (including halter training), tie up and stand in show setting.	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing 1:1 supervising <b>Students:Animals</b> 30:1 observing 2:1 performing	<a href="#">Animal Care and Protection Regulation 2023</a> ; <a href="#">Code of Welfare for Alpacas and Llamas Australia 2016</a> ;

Where possible, it is recommended that the alpacas and llamas be herded into a smaller enclosure or their usual handling area, where they are more comfortable and settled, before handling the animals. Isolating an animal is best performed by slowly confining the herd into increasingly smaller numbers.

In areas where alpacas are handled, illumination should be uniform and shadows and bright spots minimised. Objects or items such as clothing hanging on a race may stop animal movement.

One method of confining the herd is to use a moveable fence, working in a quiet, calm manner. A moveable fence can be established by having a long rope held at waist height between two people and stretched across a paddock. This enables the alpacas and llamas to be herded to a particular location.

Extra care should be taken when handling pregnant alpacas, crias, lame alpacas, machos or isolated alpacas. Always ensure that an alpaca has one or more alpacas in close proximity or view to avoid them becoming stressed and possibly dangerous to the handler.

Alpacas are very trainable animals and will easily respond to food reward, coming up to a feeding pen when called or at a routine feed time.

All school alpacas and llamas should be halter trained to make working with them more efficient and safer for them and the handlers. To do this, the handler needs to hold an animal firmly and use a reassuring voice. With a lead attached to the halter, the handler stands in front, faces the alpaca and pulls the animal gently forward. As soon as the animal takes a step forward, the tension on the lead is loosened. Continue this process until the animal walks with the handler. The alpaca or llama can then be taught to walk beside the handler. With young alpacas and llamas that are happy to be handled, it may be easier for the handler to walk beside the animal with one hand holding the lead.

A young alpaca/llama will frequently follow a companion who has already been halter trained, making the job much easier.

Capture is easiest with the handler's arm high up around the animal's neck. Even though most alpacas and llamas do not enjoy being cuddled or touched around the head, they will be quite comfortable in this position while a halter is fitted. Before students attempt these tasks, they should be familiar with alpaca and llama behaviour and be instructed to move quietly and slowly.

Camelids can be restrained for a procedure by holding the animal's head and neck firmly to the handler's chest with the other hand resting over the withers. If necessary, another handler can be used to pin the back end of the animals firmly against the side of the pen, taking care to ensure the animals cannot get its legs caught in the fencing. Tethering is only ever a short-term form of restraint, in the presence of adequate close supervision as camelids are prone to entanglement.



Alpacas can be chucked, a procedure where a rope is tied firmly around the hindquarters to immobilise the rear legs and keep the animal in kush. Llamas are generally too large to safely immobilise by chucking. The rear legs can be lifted and the feet placed into the loop of soft rope under the abdomen. If it is necessary to lay the animal down, use two people standing on one side of the animal. Both lean across the animal's back and grasp the legs closest to the handlers. Carefully flip the animal over with the front handler also supporting the neck.

## 4.2. TAMING

Category 3 – moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Taming	To instruct students in methods of taming camelids	Theoretical learning, modelling, step-by-step guides, simulations	<b>Instructors:Students</b> 1:30 instructing 1:1 supervising <b>Students:Animals</b> 30:1 observing 2:1 performing	<a href="#">Code of Welfare for Alpacas and Llamas Australia 2016</a>

All alpacas and llamas to be used at schools should be tamed as early as possible to avoid stress on the animals when students handle them. Young animals at 6-8 months that have just been weaned are easy to tame. Older animals that have been handled extensively and are well tamed will be the most suitable to purchase for the school environment. Older, untamed animals may never settle in and are likely to become stressed when handled extensively by students.

Even when there is adequate pasture, animals can be given a small amount of hand feeding each day to help the taming process. Alpacas and llamas learn quickly and will learn to come up to a feeding pen when called.

Alpacas and llamas respond to calm and gentle handling using visual and audio cues rather than physical contact. They usually prefer not to be touched on the head. Each individual animal's flight zone will influence how the animal can be handled and how they will react to a handler and groups of students. Alpacas will have a decreased flight zone after extensive handling when they feel comfortable around the handler and in handling facilities.

## 4.3. TRAINING AND GROOMING FOR SHOWING

Category 2 - low impact				
Activity	Objective	3R activities	Ratios	References
Training and grooming	To instruct in methods of preparation of alpaca showing, including grooming, washing, combing and clipping	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing 1:10 supervising <b>Students:Animals</b> 30:1 observing 2:1 performing	

Animals that will be used for showing need to become comfortable with being groomed and having their bonnets trimmed. Grooming consists of picking debris off the fleece and lightly blowing the dirt/dust out of the fleece using the blower end of a vacuum cleaner or a cattle blower. Most shows have classes for alpaca/llama wethers (castrated males) and fleeces.

N.B. Blowing dirt/dust out of fleece is a high risk activity for staff and students who are not immune to Q fever.

#### 4.4. ADMINISTRATION OF TREATMENTS

Category 3 – moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Administration of treatments, including oral drench and subcutaneous injections	To instruct students in the procedures for the administration of treatments	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing 1:1 supervising <b>Students:Animals</b> 30:1 observing 2:1 performing	<a href="#">Code of Welfare for Alpacas and Llamas Australia 2016;</a> <a href="#">Australian Alpaca Association;</a> <a href="#">Alpaca husbandry activities – drenching;</a> <a href="#">Alpaca husbandry activities - vaccinating</a>

##### ORAL – DRENCH

Most school camelids will be with other livestock and therefore, will need to be drenched routinely at the same time as the other livestock. The dose will depend on the weight of the animal. Ensure the dose is calculated accurately. Restrain the animal securely and place the nozzle of the gun on top of the back of the tongue. Hold the animal's head upwards until it has swallowed the drench. Do not share any injecting or drenching equipment to avoid cross-contamination between animals. As there are currently no drenches registered for use in camelids, seek advice from the local vet to determine [appropriate products](#).

##### INJECTION – SUBCUTANEOUS

It is important to maintain a program of [vaccination and control of parasites](#). Faecal testing is recommended to determine if and what types of internal parasites are to be treated. When treating for internal and external parasites, all animals should be treated at the same time and paddocks should be rotated in conjunction with the drench program. These activities need to be documented in the appropriate records.

Alpacas and llamas should be vaccinated six monthly using either 5-in-1 or 7-in-1 vaccine. First vaccinations should occur at one month of age and a booster given one month later. Injection should be subcutaneous and placed behind the elbow or on the shoulder.

When using medications, animal care chemicals and equipment, staff must be appropriately qualified and care must be taken to:

- read labels carefully and follow label directions
- use correct animal weight to determine correct dosage/rate
- adhere to withholding periods and check expiry dates where applicable before use
- store and dispose of chemicals/medications/syringes/bandaging being used appropriately
- use protective clothing when required
- use correct equipment for application
- document the dose, chemical/medication name, batch number, expiry date, withholding period, identity of animal(s) administered to and date of administration.

#### 4.5. COLLECTION OF FAECAL AND URINE SAMPLES (NON-INVASIVE)

Category 2 - low impact				
Activity	Objective	3R activities	Ratios	References
Collection of faecal and urine samples	To instruct students in the process of collection of faecal and urine samples	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing 1:1 supervising <b>Students:Animals</b> 30:1 observing 30:1 performing	

Faeces can be easily collected from a communal dung pile. To collect faeces from a particular animal, clean up the dung pile and place a large cloth or feed bag over the dung pile. The animal will defecate on top of, or very close to it.

Collection of urine would rarely need to be carried out. If it is deemed necessary, a bucket placed over the dung pile or a container on a long pole may be a useful technique to collect the sample.

Ensure that staff and students wear gloves and follow strict hygiene procedures.

N.B. The collection of camelid excreta is a high-risk activity for staff and students who are not immune to Q fever.

#### 4.6. EAR TAGGING

Category 3 – moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Ear tagging	To instruct students in ear tagging used to identify individual animals in a herd situation	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing 1:1 supervising <b>Students:Animals</b> 30:1 observing 1:1 performing	<a href="#">Code of Welfare for Alpacas and Llamas 2016</a>

Registered alpacas and llamas have a brass ear tag that is placed on the left ear for a male and on the right ear for a female. Plastic numbered tags may be used in the opposite ear. Applicators and tags should be smooth, sharp and thoroughly cleaned.

Ensure that the animal is restrained to avoid soft tissue damage. Make sure the tag avoids cartilage ridges and major blood vessels.

#### 4.7. GROWTH MEASUREMENT

Category 2 - low impact				
Activity	Objective	3R activities	Ratios	References
Growth measurement	To instruct students in methods of measuring growth, including wool growth	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing 1:2 supervising <b>Students:Animals</b> 30:1 observing 2:1 performing	

The animal's growth can be followed by measuring the height of the animal at the withers. Wool growth can be measured by using a ruler to take a series of random measurements on different sections of the animal's fleece. Students can compare growth rate of the different sections. While the quality of the saddle and neck fleece may often be similar, it is the different growth rates that necessitate its separation during classing. After shearing, wool can be sent off for fibre diameter analysis. This process is quite cheap and provides an excellent resource for students.

#### 4.8. MEASUREMENT OF BODY WEIGHT

Category 2 - low impact				
Activity	Objective	3R activities	Ratios	References
Measurement of body weight	To instruct students in the measurement of body weight	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing 1:1 supervising <b>Students:Animals</b> 30:1 observing 2:1 performing	

Alpacas and llamas that are handled regularly can be easily trained to stand quietly on livestock scales.

#### 4.9. MEASUREMENT OF BODY TEMPERATURE

Category 3 - moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Measurement of body temperature	To instruct students in the measurement of body temperature	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing 1:1 supervising <b>Students:Animals</b> 30:1 observing 1:1 performing	

Temperature is measured rectally using a clinical thermometer. Ensure that the animal is carefully restrained and use a plastic digital thermometer dipped in lubricant to prevent injury from a broken glass thermometer. Ensure students wear gloves and follow appropriate hygiene procedures.

#### 4.10. MEASUREMENT OF RESPIRATION AND PULSE RATE

Category 2 – low impact				
Activity	Objective	3R activities	Ratios	References
Measurement of respiration and pulse rate	To instruct students in the measurement of respiration and pulse rate	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing 1:1 supervising <b>Students:Animals</b> 30:1 observing 2:1 performing	

Respiration can easily be measured by holding a hand close, without touching, to the animal's nostrils to feel the breath.

The pulse can be recorded by feeling the animal's carotid artery at the base of the jaw. With a little practice, students should be able to hear the pulse rate using a stethoscope. It is best if students practise using a stethoscope on each other prior to performing this procedure.

#### 4.11. COLLECTION OF WOOL (NON-INVASIVE)

Category 3 – moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Collection of wool samples	To instruct students in the procedures for collecting wool samples	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing 1:3 supervising <b>Students:Animals</b> 30:1 observing 3:1 performing	

If a small sample is required, scissors can be used to cut a sample as close to the skin, from the mid-side point of the saddle as is safely possible. Ensure that the animal is restrained securely.

#### 4.12. SHEARING

Category 3 – moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Shearing	To demonstrate to students the procedure for shearing	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing Students:Animals 30:1 observing	<a href="#">Code of Welfare for Alpacas and Llamas 2016;</a> <a href="#">Alpaca husbandry activities - shearing</a>

Alpacas should be held off feed and water for at least 3 hours prior to shearing.

These procedures are best carried out by an experienced shearer or handler. Alpacas and llamas are restrained by being stretched out on the floor or shearing table and having their legs tied to wooden spacers. A handler holds the head of the animal. When one side of the animal has been shorn, the animal is flipped over and the other side is done.

It is important to have the fleece as clean as possible before shearing. In the 24 hours leading up to shearing try to avoid feeding chaff or loose hay to avoid fleece contamination. Before shearing, it may be necessary for students to pick off debris and blow out dust. Cleaning can also be done with a piece of wooden dowel, specially made wire wand (for huacaya), or a way-edged wire wand or horse grooming mitt (for suri). Place a large tarpaulin on the ground to lay the animal on during shearing. Students can class and separate the fleece after shearing and maintain the shearing area.

NB. Blowing dust out of fleece is a high risk activity for staff and students who are not immune to Q fever.

#### 4.13. NAIL CLIPPING

Category 3 – moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Nail clipping	To demonstrate the procedures for nail clipping	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing  <b>Students:Animals</b> 30:1 observing	<a href="#">Australian Alpaca Association – alpaca care;</a> <a href="#">Alpaca husbandry activities - hoof paring</a>

Camelids' nails will need regular checking and trimming to prevent them becoming long and uncomfortable for the camelid. This can be done by an experienced person using standard hoof paring or footrot shears. Refer to [basic husbandry requirements](#) by the Australian Alpaca Association for further information. This activity should not be conducted in conjunction with shearing as it may cause contamination of fleeces.

#### 4.14. TEETH TRIMMING

Category 3 – moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Teeth trimming	To demonstrate the procedures for teeth trimming	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing <b>Students:Animals</b> 30:1 observing	<a href="#">Australian Alpaca Association – alpaca care</a>

Male and castrated camelids grow 'fighting teeth' which can be used to inflict severe injury to other camelids. Animals with a very high fibre diet with access to branches and tougher grass species will need less frequent teeth trimming than those fed primarily on concentrates and chaff. Fighting teeth should be removed pre-emptively or checked and trimmed by an experienced handler using diamond wire or dremel. Incisor teeth must not be ground down. Recommended best practice is that blunting of fighting teeth should be performed under the supervision of a veterinarian using pain relief if indicated. If a camelid is likely to become distressed during blunting of the fighting teeth, a veterinarian may choose to sedate the animal.

#### 4.15. PREGNANCY DETECTION

Category 2 - low impact				
Activity	Objective	3R activities	Ratios	References
Pregnancy detection	To demonstrate ultrasonography to students to confirm pregnancy	Video, learning guides or booklets are encouraged	<b>Instructors:Students</b> 1:30 instructing <b>Students:Animals</b> 30:1 observing	<a href="#">Code of Welfare for Alpacas and Llamas 2016</a>

Initial diagnosis of pregnancy is made by parading the female in front of a potent male. If she 'spits him off' (spits in his direction), it indicates a lack of interest and refusal to breed, which may indicate pregnancy. Pregnancy can be confirmed after 15 days by ultrasonography (commonly referred to as ultrasound). Due to a high rate of early embryonic mortality (i.e. 30-35% in the first 40 days), it is best to delay ultrasonography until after 40 days. Repeat the spit offs and ultrasonography at 120 days.

#### 4.16. MILK COLLECTION

Category 2 – low impact				
Activity	Objective	3R activities	Ratios	References
Milking	To demonstrate to students the procedure of collecting milk, if a newborn cria requires hand feeding	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing <b>Students:Animals</b> 5:1 observing	

This procedure should only be carried out if a weak, newborn cria needs hand feeding. To obtain the milk, cut the end of a 20mL disposable syringe and remove the plunger. Insert the plunger through the cut-off end as far as it will go. Using a little milk to create a good seal, place the un-cut end of the syringe over the teat and, very slowly, pull the inside plunger downwards. It is important to maintain strict hygiene procedures throughout.

Follow the manufacturer's instructions carefully for the bottle feeding method to avoid aspiration.



## 4.17. CASTRATION

Category 3 – moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Castration	To instruct students in the procedures for castration	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing <b>Students:Animals</b> 5:1 observing	<a href="#">Australian Alpaca Association – alpaca care</a>

Camelids need to be allowed to mature sufficiently prior to castration to optimise development of the musculoskeletal system, unlike other animals where castration is performed when the animal is as young as possible. In general, llamas are slower to reach developmental maturity than are alpacas. Pain and distress in performing this procedure needs to be minimised.

Recommended best practice is castration is performed by a veterinarian with the use of pain relief. Elastrator® or other rubber rings must never be used to castrate camelids as their scrotal anatomy is unsuitable.

## 4.18. LOADING

Category 3 – moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Loading	To instruct students to load camelids for transport	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing 1:15 supervising <b>Students:Animals</b> 30:1 observing 2:1 performing	<a href="#">Code of practice for transport of livestock (Schedule 5 of the Animal Care and Protection Regulation 2023)</a>

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.

Camelids must be examined prior to transport to ensure they are fit and healthy for transportation.

Before transport, animals should be held off green feed for a minimum of 4 hours, but for no more than 12 hours.

The handling and loading of livestock is regulated by the [Code of practice for transport of livestock](#).

## 4.19. TRANSPORT

Category 3 – moderate to high impact				
Activity	Objective	3R activities	Ratios	References
Transport	To demonstrate to students the appropriate procedures for transporting alpacas, llamas or other camelids	Step-by-step guides, modelling, videos, simulations	<b>Instructors:Students</b> 1:30 instructing <b>Students:Animals</b> 30:1 observing	3.9 Transport; <a href="#">Code of practice for transport of livestock (Schedule 5 of the Animal Care and Protection Regulation 2023)</a>

Prodders must not be used when transporting alpacas. Alpaca maximum journey times, maximum time off water and minimum spell duration are specified in the livestock transport code. Camelids must have sufficient space in the vehicle to sit down or lie on their sternums and sufficient cover must be provided to protect camelids of less than 12 months of age or less than 10 days off shears.

Camelids generally travel in the kush position and vehicles should have solid flooring. On long journeys, cushioning should be provided in the form of rubber matting, carpet, straw or similar. Females with cria less than 10 days old should not be transported.

All persons involved in the transport of livestock must ensure that they are aware of and comply with their obligations under the transport code.

## SECTION 5 | GLOSSARY

3R activities	Animals used for teaching and training are not being used to discover, prove or develop new ideas and techniques but to communicate scientific concepts and to develop manual skills and expertise in specific techniques. 3R activities provide alternatives to communicate and develop these concepts and skills, using animals only when necessary and minimising the impact on the animals used.
Alternatives to animal use	Replacement of animals with other methods/activities for educative purposes must be sought and used whenever possible
Chuckering	A restraint procedure used in alpacas where a rope is loosely tied around the caudal abdomen of the animal, then the hind feet are looped into the rope, which is then tightened to keep the animal recumbent.
Cria	Camelid offspring
DPI	Queensland Department of Primary Industries
Fighting teeth	Entire adult male camelids develop three pairs of caniniform fighting teeth, (upper and lower canines, upper modified lateral incisor). In the female, the fighting teeth are usually rudimentary.
Flight zone	The flight zone is the area around the animal, that if penetrated, the animal will attempt to move away. Each individual animal's flight zone will influence how the animal can be handled and how they will react to a handler and groups of students.
Kush	The natural resting position of camelids with all four legs under the body.
QSAEC	Queensland Schools Animal Ethics Committee
Supervision	Supervision in all instances means supervision by a suitably qualified person familiar with the procedures as well as normal and abnormal animal responses.
The Code	<a href="#"><i>Australian code for the care and use of animals for scientific purposes</i></a> , 8 <sup>th</sup> edition 2013 (updated 2021)
The Regulation	<a href="#">Animal Care and Protection Regulation 2023 (Qld)</a>
Transport code	Code of practice for transport of livestock, Animal Care and Protection Regulation 2023 (Qld), Schedule 5

## SECTION 6 | REFERENCES

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- Australian Alpaca Association - Alpaca care  
<https://alpaca.asn.au/alpaca-resources/alpaca-care/>
- Australian Alpaca Veterinarians - Code of Welfare for Alpacas and Llamas, Australia, 2016  
<https://www.ava.com.au/siteassets/policy-and-advocacy/policies/2016-aav-camelid-welfare-code-190916.pdf>
- Department of Primary Industries – moving camels, alpacas and llamas  
<https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/animal/move/guidelines/Camel>
- Department of Primary Industries – John's disease  
<https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/biosecurity/animals/diseases/guide/johnes-disease>
- Model Code of Practice for the Welfare of Animals – The Camel, 2<sup>nd</sup> Edition, PISC Report 86, 2006  
<http://www.publish.csiro.au/book/5204>
- NSW Department of Education – Alpacas  
<https://education.nsw.gov.au/teaching-and-learning/animals-in-schools/animals-in-schools-species/alpacas>

## SECTION 7 | APPLICATION/ACTIVITY NOTIFICATION FORM

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To seek QSAEC approval for animal use activities covered by this SOP, please complete the online [Activity notification form](#) (ANF) prior to the activities commencing.

Before completing the ANF, please ensure the following documents (if applicable) are available to upload to the online application:

**Privately-owned animal use template agreement:**

- If you are using privately-owned animals a **template agreement** with the details and duration of the owner's responsibility must be attached to your QSAEC application. Note the owner's personal details and signature are not required to be included for the QSAEC, however schools must ensure the agreement is completed by the owner and stored on their school-based animal activity register for 7 years for audit purposes. If there are any changes to the agreement once signed by the owner then a copy of the updated template agreement must be provided to the QSAEC prior to the animal use activities commencing.

***Ensure all required fields are completed in the ANF and submit as per the outlined instructions.***