

ALPACAS AND LLAMAS (AND OTHER CAMELIDS)

STANDARD OPERATING PROCEDURE

Approved 27 August 2014

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

Schools have legal obligations under the *Animal Care and Protection Act 2001* (Qld), the *Animal Care and Protection Regulation 2012* (Qld), and the *Australian code for the care and use of animals for scientific purposes* (Cwlth) 8th Edition 2013, 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 300 PENALTY UNITS. (PENALTY UNIT VALUE IS NOTIFIED IN THE *PENALTIES AND SENTENCES REGULATION 2005*).

DUTY OF CARE FOR ANIMALS

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.

PEDAGOGICAL JUSTIFICATION FOR THE USE OF ANIMALS IN EDUCATION

It is the teacher's responsibility to provide a pedagogical 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 should clearly identify how the use of animals is essential to achieving the learning objectives. The justification should consider the impact on the animal/s involved and must balance whether the potential effects on the wellbeing of the animals are justified by the potential benefits.

The QSAEC, when undertaking a site visit at the school, may request to see documentation detailing the pedagogical 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.

Activities outside the scope of this SOP **must be considered by QSAEC before approval can be granted**. To seek approval to conduct activities additional to those approved under this SOP or to modify an activity approved in this SOP, you will need to submit a Modification, SOP Variation or Amendment form in conjunction with the 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 for scientific purposes in Queensland schools*.

ANIMAL HEALTH AND WELFARE

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 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 lead 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).

The QSAEC should be notified within 7 days of the event, using an [Unexpected Adverse Event Form](#).

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 Agriculture and Fisheries \(DAF\) website](#).

STUDENT AND STAFF HEALTH

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 [Handling Live Animals in a School Setting](#), [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 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 [Health and Safety Incident Recording, Notification and Management](#).

SECTION 2 | QUALIFICATIONS, SKILLS AND EXPERIENCE

Any teacher conducting scientific animal activity must have:

- 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), and
- competency in the particular procedure.

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, and
- 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, and
- considered the maturity and suitability of the student/s involved in the activity.

Teachers should ensure that animal users, including students and visitors, 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 | ANIMAL INFORMATION

PHYSICAL ATTRIBUTES OF ALPACAS AND LLAMAS

	Alpacas	Llamas
Size	78-104cm at the withers	1.7 -1.8 m
Weight	47-80kg	130 – 200kg
Age at adult size	2-3 years	3 years
Average life span	15-20 years	20-30 years
Life expectancy	20-25 years	
Gestation period	11½ months, range 11-12 months	11 ½ months
Weight at birth	6-8kg	9-14kg
Number of offspring	1 (twinning is extremely rare)	1 (twinning is extremely rare)
Weaning	6-8 months	5-6 months
Healthy characteristics	Body temperature:36.4°C-37.8°C Heart rate: 60-100 beats/minute Respiration rate: 20-30 breaths/minute.	Body temperature: 38.1°C - 39.9°C Heart rate: 60-90 beats/min Respiration rate: 20-30 breaths/min
Range of breeding ages	Females: 12-14 months Males: 1½ –2 years	

ENVIRONMENT

Reference: *Model Code of Practice for the Welfare of Animals – The camel*, 2nd Edition, PISC Report 86, 2006;

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.

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. 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 Alpacas and llamas prefer shelters that allow them to see their external surroundings.

TEMPERATURE Alpacas and llamas can survive harsh conditions but are susceptible to heat stress. They should be provided with access to shade, feed/water and sprinklers in very hot weather. Alpacas should be shorn each year around September or October. They rarely seek shelter from rain but usually lie down with their legs tucked underneath them. Crias and freshly shorn alpacas and llamas need protection from the cold. A simple three sided shelter is often all that is needed for protection.

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.

BEDDING 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.

FOOD AND WATER REQUIREMENTS

It is very important not to change the diet of an alpaca and llama quickly as this can lead to death. The diet needs to be changed gradually. Often farmer's animals are mostly grazing whereas schools' animals are fed using processed feed and long stemmed hay.

Although slightly heavier than sheep, alpacas and llamas are more efficient feed converters, so require a similar amount of feed. 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. It is not advisable to feed grain to alpacas. Seek advice from the DAF for correct feeding, pasture quality and supplementation. Alpacas and llamas must have access to fresh, clean drinking water at all times.

NORMAL BEHAVIOUR

Alpacas and llamas are herd animals and need the company of others. A minimum of two animals should be kept. Intact males should be kept with a companion separate to female alpacas.

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. 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 in creeks, dams or even water troughs to cool down. Alpacas and llamas can swim.

SUPERVISION AND MONITORING

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

HANDLING

Alpacas and llamas need to be handled calmly and with care to prevent distress and injury to the animals and their handlers. When working with these animals, quiet and slow behaviour makes them easy to handle and they usually herd easily. Alpacas and llamas learn quickly and will learn to come up to a feeding pen when called.

MOVEMENT

All landholders that have livestock including camelids on their property are required to register that property with Biosecurity Queensland.

There are a number of restrictions relating to the movement of camelids. For information about waybills and livestock identification, please refer to DAF's Camels, alpaca and llama website or contact DAF directly.

TRANSPORT

The Animal Care and Protection Regulation 2012 includes a compulsory code of practice for the transport of livestock at Schedule 3.

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 DAF 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

DISEASE PREVENTION

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian or DAF officer. All actions should be documented in the appropriate records.

SIGNS OF ILLNESS

Alpacas' and llamas' health should be monitored daily or even more often. 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:

- skin conditions, such as hair loss, patchy coat, lesions or abnormal growths
- stiff gait or abnormal posture
- cushing (i.e. sitting in an upright resting position with all legs tucked under) more often, easily approached
- excessive scratching or rubbing
- swollen joints or lameness
- watery eyes, holding eyes shut.

A failure to thrive or grow is another sign of illness.

If unable to identify and correct the cause of ill health, assistance from a veterinarian familiar with alpacas/llamas should be sought. Any signs of illness or injury, and treatments given, must be documented in the appropriate records.

Q FEVER

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, e.g. 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 below.

ANIMAL EMERGENCY ARRANGEMENTS

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:

- monitoring of animals, including on weekends and school holidays
 - a first aid kit for animals
 - at least one local veterinarian on call
 - a list of who is competent to euthanase animals if necessary (this is likely to be the local veterinarian but may also be an Agricultural Science HOD/TIC or Agricultural Assistant who has experience with the breed)
 - a schedule of persons authorised to respond to emergencies and engage veterinary assistance.
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EUTHANASIA

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.

Deaths and other unexpected adverse events must be advised to QSAEC as soon as practicable after the incident's occurrence, using the Unexpected Adverse Event Report. The signed hardcopy should be held in the school's animal activity register.

DISPOSAL – FATE PLANNING

Alpacas and llamas can be sold privately or at auction. 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 Materials Safety Data Sheet information and manufacturer's instructions.

1. ADMINISTRATION OF TREATMENTS

Category 3 – moderate impact				
Activity	Objective	Alternatives	Ratios	References
Administration of oral drench and subcutaneous injections	To instruct students in the procedures for the administration oral and subcutaneous treatments	Use of videos and role plays is encouraged	Instructors : Students 1:30 instructing 1:1 supervising Students : Animals 30:1 observing 2:1 performing	<i>S.9, Camel PISC Code</i>

ORAL – DRENCH

Most school alpacas and llamas 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. As there are no approved drenches for alpacas, seek advice from the local vet to determine appropriate products.

INJECTION – SUBCUTANEOUS

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. 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 pastures should be rotated in conjunction with the drench program. These activities need to be documented in the appropriate records.

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

- read labels carefully
- determine correct dosage/ rate
- store chemicals/medications/bandaging being used appropriately
- use protective clothing when required.

2. HANDLING AND TAMING

Category 3 – moderate impact				
Activity	Objective	Alternatives	Ratios	References
Handling and taming	To instruct students in methods of training for human handling in yard facilities; to lead, halter and tame	Video presentation and learning guides can assist and are encouraged.	Instructors : Students 1:30 instructing 1:1 supervising Students : Animals 30:1 observing 2:1 performing	Animal Care and Protection Regulation 2012

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 respond to calm and gentle handling and usually prefer not to be touched on the head.

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

Category 2 - low impact				
Activity	Objective	Alternatives	Ratios	References
Collection of faeces and urine samples	To demonstrate the process of collection of faeces and urine samples	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing 1:1 supervising Students : Animals 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. Staff and students should wear gloves and follow proper hygiene procedures.

Collection of urine would rarely need to be carried out. If it is deemed necessary, a bucket placed over the dung pile or container on 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. EAR TAGGING

Category 3 – moderate impact				
Activity	Objective	Alternatives	Ratios	References
Ear tagging	To demonstrate ear identification used to identify individual animals in a herd situation	Video, learning guides or booklets and role plays using cardboard or similar material is encouraged	Instructors : Students 1:30 instructing 1:1 supervising Students : Animals 30:1 observing 1:1 performing	Camel PISC Code

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. The animal should be carefully restrained while the ear is cleaned. Applicators and tags should be smooth, sharp and thoroughly cleaned. Ensure that the tag does not puncture the veins. National Livestock Register Identification Scheme tags will be introduced at a future date and must be applied according to instructions from DAF.

5. LOADING

Category 2 – low impact				
Activity	Objective	Alternatives	Ratios	References
Loading	To demonstrate the loading of sheep and/or goats in a safe and humane manner	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing 1:16 supervising Students : Animals 30:1 observing 2:1 performing	Code of practice for transport of livestock (Schedule 3 of the Animal Care and Protection Regulation 2012)

The handling and loading of livestock is regulated by the Code of practice for transport of livestock.

6. GROWTH MEASUREMENT

Category 2 - low impact				
Activity	Objective	Alternatives	Ratios	References
Growth measurement	To instruct in methods of measuring growth, including wool growth	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing 1:2 supervising Students : Animals 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.

7. MEASUREMENT OF BODY WEIGHT

Category 2 - low impact				
Activity	Objective	Alternatives	Ratios	References
Measurement of body weight	To instruct students in the measurement of body weight	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing 1:1 supervising Students : Animals 30:1 observing 2:1 performing	

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

8. MEASUREMENT OF BODY TEMPERATURE

Category 3 - moderate impact				
Activity	Objective	Alternatives	Ratios	References
Measurement of body temperature	To instruct students in the measurement of the body temperature	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing 1:1 supervising Students : Animals 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.

9. MEASUREMENT OF RESPIRATION AND PULSE RATE

Category 2 – low impact				
Activity	Objective	Alternatives	Ratios	References
Measurement of respiration and pulse rate	To instruct students in the measurement of respiration and pulse rate	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing 1:1 supervising Students : Animals 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.

10. MILK COLLECTION

Category 2 – low impact				
Activity	Objective	Alternatives	Ratios	References
Milking	To demonstrate to students the procedure of collecting milk, if a newborn cria requires hand feeding	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing Students : Animals 30:1 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.

11. PREGNANCY DETECTION

Category 2 - low impact				
Activity	Objective	Alternatives	Ratios	References
Pregnancy detection	To demonstrate ultrasonography to students to confirm pregnancy	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing Students : Animals 30:1 observing	

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.

12. CAPTURE, RESTRAINT AND HANDLING

Category 3 - moderate impact				
Activity	Objective	Alternatives	Ratios	References
Capture, restraint and handling	To instruct students in methods of capturing for human handling in yard facilities; to lead, tie up and stand in show setting.	Video presentation and learning guides can assist and are encouraged.	Instructors : Students 1:30 instructing 1:1 supervising Students : Animals 30:1 observing 2:1 performing	Animal Care and Protection Regulation 2012

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.

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.

Capture is easiest with the handler's arm high up around the animal's neck. Most alpacas and llamas 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.

Haltering can be dangerous for alpacas and llamas; if fitted incorrectly or ill-sized, the halter could collapse the nasal passage and prevent the animal from breathing. Properly sized halters should be used and should be fitted such that

they cannot slide down onto the cartilage of the nose and compress the nasal passage. Halters should not be left on the animal when not in use.

Alpacas and llamas can be restrained by holding the animal's head and neck firmly to the handler's chest while the other hand rests over the animal's withers. If necessary, another person may be used to pin the back end of the animal firmly to the side of a pen. Take care that the animal is not able to get its legs caught in fencing.

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.

13. TRAINING AND GROOMING FOR SHOWING

Category 2 - low impact				
Activity	Objective	Alternatives	Ratios	References
Alpaca grooming	To instruct in methods of preparation of alpaca showing, including grooming, washing, combing, clipping and halter training	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing 1:10 supervising Students : Animals 30:1 observing 2:1 performing	

All school alpacas and llamas should be halter trained. 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.

If animals are to be shown, they need to become used to grooming. 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.

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

14. TRANSPORT

Category 3 - moderate impact				
Activity	Objective	Alternatives	Ratios	References
Transport	To demonstrate to students the appropriate procedures for transporting alpacas, llamas or other camelids	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing Students : Animals 30:1 observing	Code of practice for transport of livestock (Schedule 3 of the Animal Care and Protection Regulation 2012)

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. The alpaca must have sufficient space in the vehicle 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.

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

15. SHEARING, HOOF PARING AND NAIL CLIPPING

Category 3 - moderate impact				
Activity	Objective	Alternatives	Ratios	References
Shearing, hoof paring or nail clipping	To demonstrate to students the procedure for shearing, hoof paring or nail clipping	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing Students : Animals 30:1 observing	Camel PISC Code

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 and students can pick off debris and blow out dust. 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.

Alpacas' and llamas' nails will need regular checking and must be clipped if required. This can be done by an experienced person using standard hoof paring or footrot shears. Refer [Trimming Toenails](#) by the Australian Alpaca Association for further information.

Male alpacas should have their fighting teeth checked and trimmed by an experienced handler or vet if necessary using diamond wire or dremel to avoid injury to other animals and handlers.

16. COLLECTION OF WOOL (NON-INVASIVE)

Category 3 - moderate impact				
Activity	Objective	Alternatives	Ratios	References
Collection of wool samples	To instruct students in the procedures for the collection of wool samples	Video, learning guides or booklets are encouraged	Instructors : Students 1:30 instructing 1:30 supervising Students : Animals 30:1 observing 30:1 performing	

If a small sample is required, scissors can be used to cut a sample as close to the skin as is safely possible. Ensure that the animal is restrained securely.

SECTION 5 | GLOSSARY

Alternatives to animal use	Replacement of animals with other methods/activities for educative purposes must be sought and used whenever possible
Camel PISC code	<i>Model Code of Practice for the Welfare of Animals – The camel</i> , 2 nd Edition, PISC Report 86, 2006
DAF	Queensland Department of Agriculture and Fisheries
QSAEC	Queensland Schools Animal Ethics Committee
Ratios	Instructor/student and student/animal ratios stated in this document are minimum requirements.
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	<i>Australian code for the care and use of animals for scientific purposes</i> , 8 th Edition, 2013
Transport code	Code of practice for transport of livestock, <i>Animal Care and Protection Regulation 2012</i> , Schedule 3.

ALPACAS AND LLAMAS STANDARD OPERATING PROCEDURE

ACTIVITY NOTIFICATION FORM

SCHOOL NAME			
ACTIVITY LEADER'S NAME			
PHONE		EMAIL	
SCHOOLING SECTOR/ SCIENTIFIC USER REGISTRATION NUMBER (ISSUED BY DAF)			
<input type="checkbox"/> STATE SCHOOL 102		<input type="checkbox"/> QCEC	<input type="checkbox"/> ISQ
ACTIVITY TITLE			
SUBJECT AREA/S			
YEAR LEVEL/S			
SPECIES OF ANIMAL/S			
NUMBER OF ANIMALS			
DECLARATION BY THE ACTIVITY LEADER			
<p>I acknowledge that I am the teacher appointed/authorised teacher representative who will conduct this animal use activity. In that capacity I agree that:</p> <ul style="list-style-type: none"> • I and all others involved are familiar, and will comply, with the <u><i>Animal Care and Protection Act 2001 (Qld)</i></u>, the <u><i>Animal Care and Protection Regulation 2012 (Qld)</i></u> and the <u><i>Australian code for the care and use of animals for scientific purposes, 8th edition 2013.</i></u> • I have read and understood <u>Responsibilities of School Personnel under the Code.</u> • No animal will be used in this activity except as described in this SOP and Activity Notification form. • Adequate resources will be available to undertake the project. • Health risks and infection controls have been considered and assessed. • All staff members and students involved in animal use activities are competent to perform the necessary tasks with care and knowledge of their ethical and legal responsibilities and the conditions imposed by the SOP. <p>I agree that I have considered the 3Rs of animal welfare:</p> <ul style="list-style-type: none"> • replacement of animals with other methods (alternatives) • reduction in numbers of animals used • refinement of techniques used, in order to reduce adverse impacts on animals. 			
ACTIVITY LEADER'S SIGNATURE			
PRINCIPAL'S NAME			
PRINCIPAL'S SIGNATURE		<input type="checkbox"/> I have read and approved this application. <input type="checkbox"/> A hard copy of this application will be held for 7 years for audit purposes.	
DATE			

All fields must be complete before lodging this Activity Nomination Form.
 Email this **signed page only** to Animal.Ethics@dete.qld.gov.au or fax it to (07) 3513 5989.

Ensure that you keep the signed hardcopy of this notification on file in your school's animal register for auditing purposes.