



Introduction to the Responsible Alpaca Standard

4 May 2020

Agenda

- An introduction to the development process
- Fiber characteristics
- Supply chain
- Geography
- Animal welfare
- Next steps

Responsible Animal Fiber Standard

The Responsible Wool Standard and the Responsible Mohair Standard are voluntary global standards that address the welfare of sheep and angora goats and the land that they graze on.

The Responsible Alpaca Standard is being developed to align with the RWS and RMS.



Responsible Wool
Standard 2.0

RAF-1015-V2.0-2020.03.17



Responsible Mohair
Standard 1.0

RAF-1015-V1.0-2020.03.17



Standard scope



Responsible Animal Fiber (RAF)

Responsible Alpaca Standard (RAS)

- RAF Modules:
 - Animal Welfare
 - Nutrition
 - Living Environment
 - Animal Management
 - Handling and Transport
 - Management, Plan, and Procedures
 - Land Management
 - Social Welfare
 - Farm Group Certification
 - Transport Guidance
 - Optional Slaughter Module

High-Level process overview

Review and mapping of existing tools, research etc.

Stakeholder engagement

Draft requirements aligned with the Animal Welfare Framework (and RWS & RWS)

Pilot draft standard

Revise based on pilot findings

Stakeholder consultation

Certification body training

Revise, finalize and release

Estimated Timeline

Milestone	Responsible	Timing
Review and mapping of existing tools, research etc,	Textile Exchange	April & May
Stakeholder engagement	Textile Exchange	May - Ongoing
Draft requirements aligned with the AWF	Textile Exchange, IWG	May & June
Pilot draft standard	Textile Exchange	TBD
Revise based on pilot findings	Textile Exchange, IWG	TBD
Stakeholder consultation	Public	TBD
Certification body training	Textile Exchange	TBD
Revise, finalize, release	Textile Exchange, IWG	TBD

Fiber Characteristics

Fiber Characteristics

- Classified as fiber, hair, or fleece. Sometimes referred to as wool.
- Two breeds: Suri (5%) and Huacaya (95%)
- Suri fibers are finer and softer, comparable to cashmere or silk
- Huacaya fleece is very dense and crimped
- Huacaya is the main breed for textile application



Huacaya

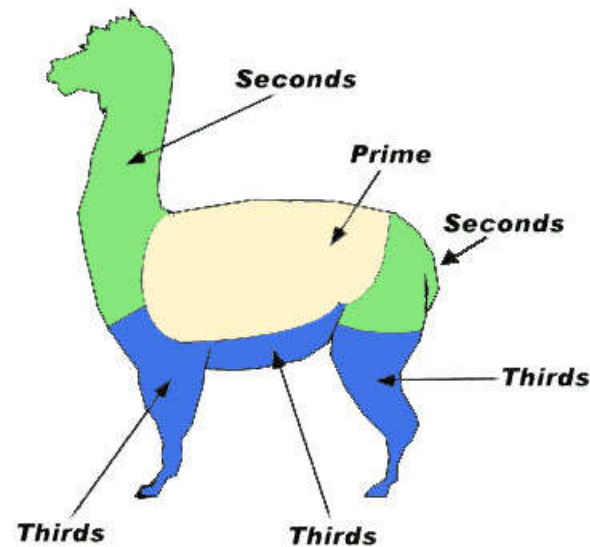


Suri



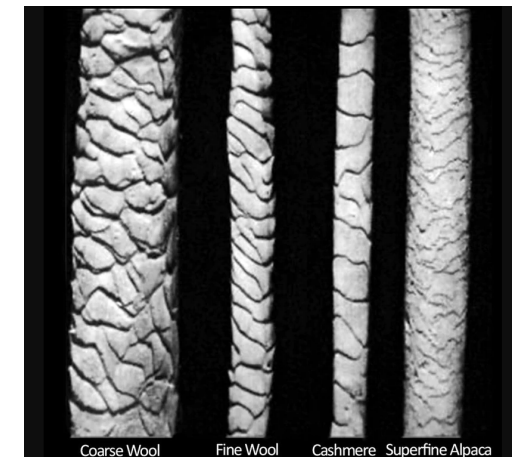
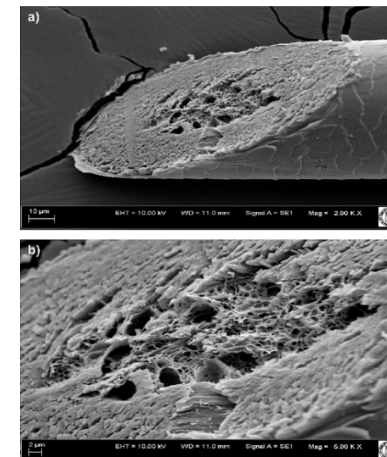
Fiber Characteristics

- Bred in 22 natural shades
- One fleece contains multiple diameters of fiber
- Graded as:
 - Royal (<18 microns)
 - Baby/Superfine (<19 microns)
 - Fine (<25 microns)
 - Medium (<30 microns)
 - Strong (30+ microns)
 - Mixed (32+ microns)
- Fiber diameter increases slightly each time the alpaca is sheared



Fiber Characteristics

- Higher level of fiber core hollowness as compared to wool.
 - Additional space creates greater thermal capacity
- Average tensile strength = 50 N/ktex;
 - 40% > than wool
 - single fiber staple strength 7% > than wool.
- Hydrophobic fiber, making it naturally water resistant and moisture wicking.
 - Water retention rate of 8% versus wool of 16-20%
- Small fiber scales, making it less itchy and less prone to pilling compared to other animal fibers
- Lanolin free (hypoallergenic) - does not require harsh chemical baths in the scouring phase of processing. This often leads to a higher yield of end-product by weight.
- Alpaca can be processed in both worsted and woolen methods. It can be woven, knitted, and felted.



Supply Chain

Supply Chain - Process

1. Farm – sheering 1x per year
2. Fiber Categorization – hand classified into the micron categories and color categories
3. Fiber Opening – removes, sand, plant matter, and guard fibers
4. Scouring – washed in a series of gentle detergent and rinsing baths
5. Drying & Lubrication



Supply Chain Process

6a. Carding + Roving – gentle carding to detangle the scoured fibers

6b. Combing + Top Finishing – the fibers run through a brush-like machine to be made parallel

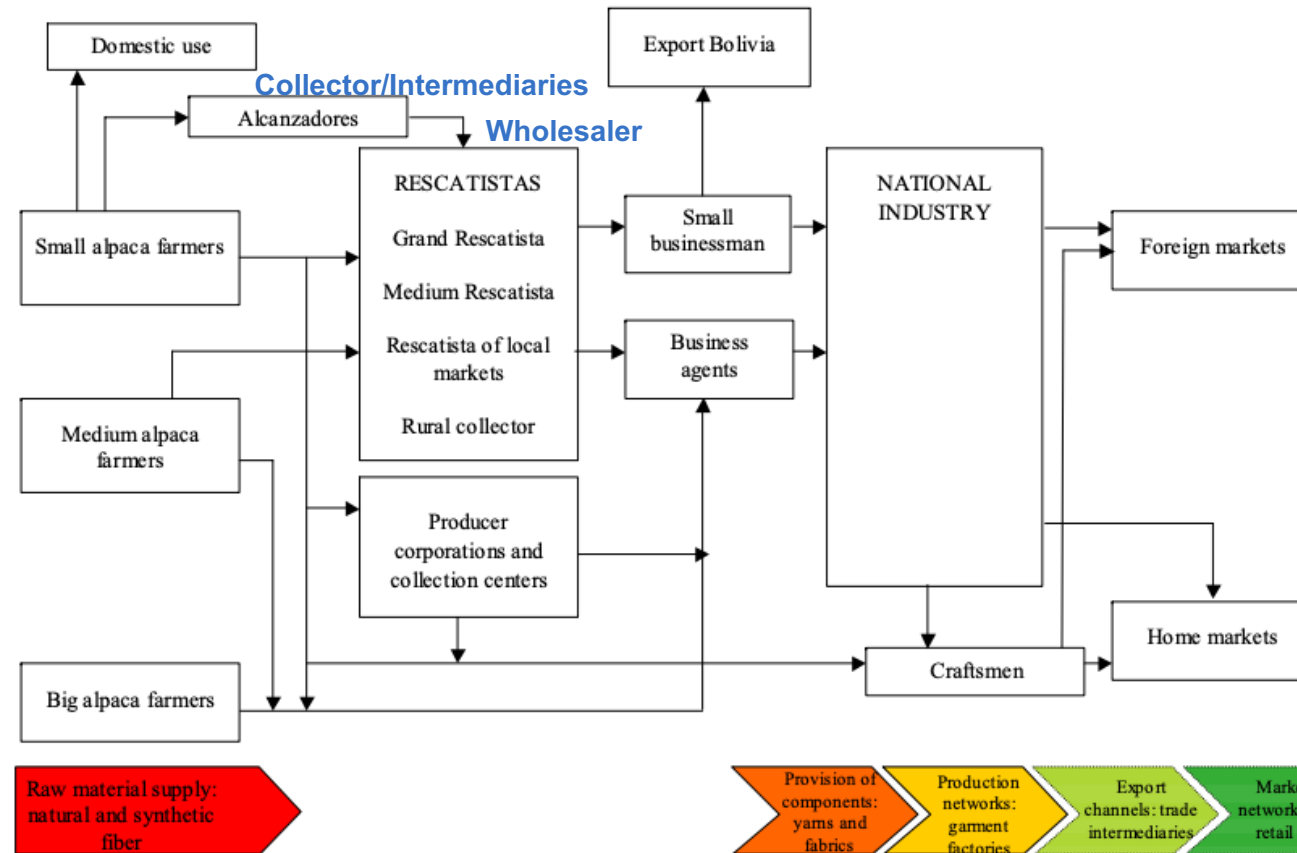
7. Spinning/Blending

8. Knitting/Weaving/Dyeing



Supply Chain – Relationships

Illustration 6-1 Actors of the value chain of alpaca fiber



Supply Chain – Industry trends

- 2018 exports = \$180 million USD FOB
 - 23.7% increase compared to 2017
 - annual increase of 10% during the last 7 years.
- Export product breakdown:
 - 41.3% carded and combed fiber
 - 30.6% yarns
 - 16.8% finished clothing
 - 5.9% finished blankets and bedspreads
 - 1.5% raw fiber
 - 1.4% textiles
 - 1.3% carpets
 - 1.3% low quality fiber.
- Countries of import were:
 - China (24.1%)
 - Italy (18.9%)
 - United States (15.6%),
 - Norway (8.8%),
 - United Kingdom (3.6%)
 - Germany (3.5%)
 - South Korea (3.2%)
 - Japan (3.1%)
 - Australia (1.8%).

Production of Alpaca Fiber (Tons) per year by Region

Tabla N°5
PERÚ: PRODUCCIÓN DE FIBRA DE ALPACA POR MES SEGÚN REGIÓN. AÑO 2012-2018.
(Toneladas)

Región	Años						
	2012	2013	2014	2015	2016	2017	2018
Puno	2 805	2 707	2 764	2 732	2 733	2 642	2 644
Cusco	727	583	598	605	621	569	694
Arequipa	385	370	415	296	277	209	186
Ayacucho	157	173	139	133	164	154	180
Pasco	108	130	124	149	178	162	177
Junín	120	102	139	118	125	141	188
Apurímac	156	154	147	138	122	91	81
Huancavelica	168	100	69	94	117	152	164
Moquegua	98	49	41	76	55	78	83
Tacna	47	31	26	71	60	63	119
Lima	8	4	4	5	33	31	35
La Libertad	15	17	17	17	18	18	17
Huánuco	1	0	1	2	5	6	6
Ancash	3	0	0	0	0	0	0
Total	4 797	4 420	4 485	4 438	4 508	4 314	4 574

Fuente: SIEA.

Elaboración: MINAGRI-DGPA-DEEIA.

Geography

Geography - Overview

- 6+ million alpacas in the world *
 - Peru 71.7%
 - Bolivia 8.6%
 - Australia 8.2%
 - USA 5.8%
 - EU 2.5%
- Australia announced that they will produce a national population of 1 million alpacas by 2021
- China, after a 10-year government-funded research project, have declared that they will create their own national audience of 6 million alpacas
- Similarly the United Kingdom, Germany, New Zealand, South Africa, have also announced plans to grow their populations

WORLD. SPACE DISTRIBUTION OF THE ALPACA ACCORDING TO

COUNTRY. YEAR 2018.

(Units) Table N °

country	Alpacas	%
Peru	4,350,000	71.7
Bolivia	520,000	8.6
Australia	500,000	8.2
United States	350,000	5.8
European countries	150,000	2.5
Canada	55,000	0.9
New Zealand	45,000	0.7
Chile	38,000	0.6
China	12,000	0.2
South Africa	10,000	0.2
Ecuador	6,000	0.1
Israel	5,000	0.1
Other countries	25,000	0.4
Total	6 066 000	100.0

Elaboration: MINAGRI-DGPA-DEEIA.

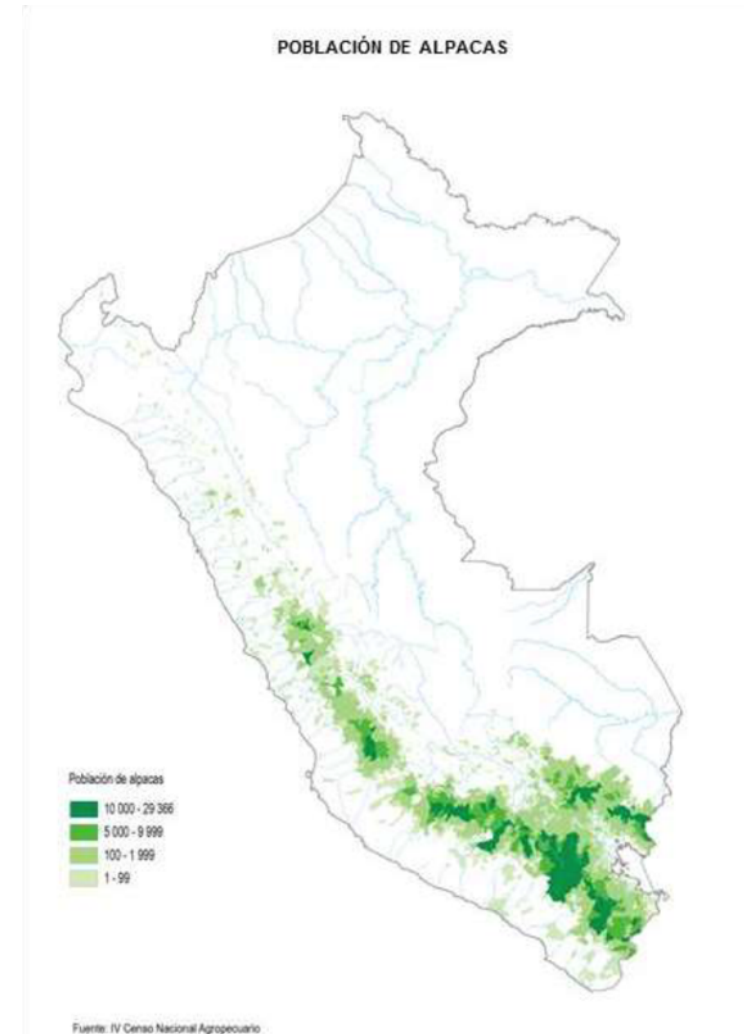
Geography - Peru

- The alpaca species declared a 'Genetic Resource of Peru' with Law 28350
- 'National Alpaca Day' is August 1st - promotes alpacas as a part of Peruvian cultural identity
- Alpaca production is concentrated in regions 3,800 meters (~12,500 feet) above sea level. Also known as the highlands or *Altiplano*.
- 58% of Peru's agricultural land is in the highlands



Geography - Peru

- The main areas of alpaca production are:
 - Puno 39.6%
 - Cusco 14.7%
 - Arequipa 12.7%
 - Huancavelica 8.3%
- Most farmers are smallholder - owning on average 46 alpacas
- Property lines in the highlands are not marked and herds tend to share land and space



Source: IV Censo Nacional Agropecuarios

Geography – Climate Conditions

- Alpacas live between 3,000 meters (9,000 ft) to 4,500 meters (15,750 ft) above sea level
- 3 seasons: rainy season, frost season, and dry season
- Alpacas can naturally withstand temperatures ranging from -20°C (-4°F) to 30°C (86°F) in a single day
- At this altitude, there is not a wide variety of flora and fauna. Alpaca eat a low protein diet of mostly grass, about 2lbs, or 1.5% of their body weight, per day



Geography – Land Overview

- Alpacas are light grazers and do well with native grasses high in fiber and low in protein
- Alpacas eat by cutting grass with their teeth, as opposed to tearing out blades and root systems
- Alpacas have soft, padded legs as opposed to hooves which do not cut into topsoil
- The static load of an alpaca is 39 kpa compared to sheep (82kpa)



Animal Welfare

Anna Heaton – Animal Welfare Consultant

The Five Provisions

Provisions

1. *Good nutrition:* Provide ready access to fresh water and a diet to maintain full health and vigour

2. *Good environment:* Provide shade/ shelter or suitable housing, good air quality and comfortable resting areas

3. *Good health:* Prevent or rapidly diagnose and treat disease and injury, and foster good muscle tone, posture and cardiorespiratory function

4. *Appropriate behaviour:* Provide sufficient space, proper facilities, congenial company and appropriately varied conditions

5. *Positive mental experiences:* Provide safe, congenial and species-appropriate opportunities to have pleasureable experiences

Animal Welfare Aims

Minimise thirst and hunger and enable eating to be a pleasurable experience

Minimise discomfort and exposure and promote thermal, physical and other comforts

Minimise breathlessness, nausea, pain and other aversive experiences and promote the pleasures of robustness, vigour, strength and well co-ordinated physical activity.

Minimise threats, and unpleasant restrictions on behaviour and promote engagement in rewarding activities

Promote various forms of comfort, pleasure, interest, confidence and a sense of control.

Animal Welfare Framework: Desired Outcomes

Nutrition: Access to sufficient feed and water suited to the animals' age and needs to maintain normal health and to prevent prolonged hunger, thirst, malnutrition or dehydration.

Living Environment: Animals are kept in an environment that provides the conditions and facilities needed for health, safety, comfort and normal behavior.

Animal Management: Animals are managed in a way that promotes good health and prevents disease. Sick or injured animals are treated. Husbandry operations are carried in a way that minimises pain and distress.

Handling and Transport: Good human-animal relationships are in place and animals are handled and transported around the farm and off the farm in a way that protects welfare.

Management, Plans and Procedures: Farmers have a clear strategy and set of protocols to safeguard the welfare of their animals, and to demonstrate compliance to the relevant TE standard.

Animal Welfare Framework example

	Animal Management	Desired outcome: Animals are managed in a way that promotes good health and prevents disease. Sick or injured animals are treated. Husbandry operations carried out in a way that minimises pain and distress			
AW3	Inspection	Inspection	Animals are checked with a frequency that ensures their welfare is protected	<p>AW4.2 The farm shall conduct routine welfare inspections and monitor for signs of disease or production disorders.</p> <p>AW4.2.1 The frequency of inspections shall be increased as required during, for example, extreme weather events, lambing times, flystrike etc.</p>	<p>AWx.x The farm shall conduct routine welfare inspections and monitor for signs of disease or production disorders.</p> <p>Awx.x.1 The frequency of inspections shall be increased as required during, for example, extreme weather events, birthing times etc.</p>
AW3	Preventative Management	Health planning	Animals are managed to prevent health problems (not just treated when they become sick or injured)	<p>AW4.1 The producer shall have a management plan for flock health and animal welfare.</p> <p>AW4.1.1 The plan shall be reviewed at least annually.</p> <p>AW4.1.2 The farm shall keep sufficient records to allow assessment against the management plan.</p> <p>AW4.4.1 Advice shall be sought as needed from a veterinarian or specialist advisor on prevention, treatment, and strategies to avoid the development of resistant parasites</p>	<p>AW4.1 The producer shall have a management plan for flock health and animal welfare.</p> <p>AW4.1.1 The plan shall be reviewed at least annually.</p> <p>AW4.1.2 The farm shall keep sufficient records to allow assessment against the management plan.</p> <p>AW4.4.1 Advice shall be sought as needed from a veterinarian or specialist advisor on prevention, treatment, and strategies to avoid the development of resistant parasites</p>

Nutrition

Desired outcome: Access to sufficient feed and water suited to the animals' age and needs to maintain normal health and to prevent prolonged hunger, thirst, malnutrition or dehydration.

Categories:

- Food, water, deprivation periods, emergency measures

Subcategories:

- Provision of feed, time to adapt to new feed, water, reasons for and limits on feed/water deprivation, emergency measures

Five Provisions:

1. Good nutrition: Provide ready access to fresh water and a diet to maintain full health and vigour

Animal Welfare Aims: Minimise thirst and hunger and enable eating to be a pleasurable experience



Nutrition

- Alpacas generally graze at high altitude.
- Conditions can be harsh, and a lot of the plants are small and low growing.
- Alpacas are adapted to the conditions and the vegetation types, but the numbers of alpacas on a farm and how their grazing is managed will impact their ability to get sufficient protein and energy from grazing.
- Nationally in Peru there is a low figure for pregnancy retention in females (45-50%). The main issue is nutrition



Living environment

Desired outcome: Animals are kept in an environment that provides the conditions and facilities needed for health, safety, comfort and normal behaviour.

Categories: Indoor environment, outdoor environment

Subcategories: Infrastructure - construction and maintenance, cleanliness and air quality, thermal comfort, flooring, space allowances, prohibition on close confinement, lighting, enrichment, noise, access to outdoors (pasture), shade / shelter, fencing, stocking density, protection from predators.

Five Provisions:

2. Good environment: Provide shade/ shelter or suitable housing, good air quality and comfortable resting areas
Animal Welfare Aim: Minimise discomfort and exposure and promote thermal, physical and other comforts

4. Appropriate behaviour: Provide sufficient space, proper facilities, congenial company and appropriately varied conditions
Animal Welfare Aim: Minimise threats, and unpleasant restrictions on behaviour and promote engagement in rewarding activities

5. Positive mental experiences: Provide safe, congenial and species-appropriate opportunities to have pleasurable experiences
Animal Welfare Aim: Promote various forms of comfort, pleasure, interest, confidence and a sense of control.



Living environment

- As noted previously, alpacas are adapted to live at high altitudes.
- The weather can be severe, during the winter there will be snow storms.
- Alpaca farmers all have areas where they can hold their alpacas off pasture – like the walled pens in the photo opposite – but many will not have buildings/roofed shelters
- Note also that some animals in the photo have been provided with “coats” to protect them



Animal management

Desired outcome: Animals are managed in a way that promotes good health and prevents disease. Sick or injured animals are treated. Husbandry operations are carried in a way that minimizes pain and distress.

Categories: Inspection, preventative management, treatment, painful procedures, identification, foot health, fibre removal, breeding and birthing, artificial rearing and weaning, euthanasia and on-farm slaughter

Subcategories: Inspection, health planning, treatment of health issues, controlling parasites, justification for painful procedures, competency and equipment to carry out painful procedures, castration ~~and spaying~~, ~~tail docking~~, ~~mulesing~~, ~~disbudding~~, ~~dehorning~~, ~~horn trimming~~, ~~bill trimming and debeaking~~, identification, lameness, fibre removal, breeding, pregnancy and birthing, artificial rearing and fostering, weaning, isolation, group management, euthanasia

Five Provisions:

3. Good health: Prevent or rapidly diagnose and treat disease and injury, and foster good muscle tone, posture and cardiorespiratory function

Animal Welfare Aim: Minimise breathlessness, nausea, pain and other aversive experiences and promote the pleasures of robustness, vigour, strength and well co-ordinated physical activity.

4. Appropriate behaviour: Provide sufficient space, proper facilities, congenial company and appropriately varied conditions

Animal Welfare Aim: Minimise threats, and unpleasant restrictions on behaviour and promote engagement in rewarding activities

5. Positive mental experiences: Provide safe, congenial and species-appropriate opportunities to have pleasurable experiences

Animal Welfare Aim: Promote various forms of comfort, pleasure, interest, confidence and a sense of control.



Animal Management general

- Fiber removal/shearing: Alpacas are a larger animal than sheep or goats so different challenges to handle and restrain. Still some use of hand shearing, though larger companies have teams of trained shearers complete with generators to power the clippers that will travel out to the farms.
 - Research has shown raised cortisol levels (an indicator of stress) regardless of shearing position.
 - Restraint in the standing position (without shearing) was the least stressful, but researchers noted that for shearing this only makes sense and is only possible if the alpacas remain calm. If they resist from the beginning, the risk of injury to themselves or to one of the handlers is too great to recommend this method
 - Shearing often carried out during the last period of pregnancy (similar to some sheep systems). Careful handling essential.
- Castration – as with many other fiber production systems, castrated males are retained in the herd.
- Euthanasia: currently most commonly carried out by exsanguination.



Animal Management - Health

- Internal parasites can be an issue – mainly at lower altitudes e.g. fluke. Coccidiosis may also be found. A lot of use of natural/traditional remedies alongside veterinary medicine when necessary.
- Pneumonia – there are some reports of the Suri alpaca (with the less dense fiber) suffering from pneumonia if kept at the higher altitudes. A function of “right animal for the right place” and management
- External parasites - the mange mite can be transferred between alpacas and wild vicuna
- Toe nail trimming: Like sheep, ongoing foot checks and foot care is needed. Toenails may not wear evenly or can twist round and need trimming.
- Teeth checks: long front teeth can be a problem.



Handling and transport

Desired outcome: Good human-animal relationships are in place and animals are handled and transported around the farm and off the farm in a way that protects welfare.

Categories: Handling, working animals, transport

Subcategories: Handling, movement on foot, herding animals, livestock guardian animals, loading / unloading, transport conditions, transport space allowances, transport times, vehicle condition, fitness for transport

Five Provisions

4. *Appropriate behaviour:* Provide sufficient space, proper facilities, congenial company and appropriately varied conditions

Animal Welfare Aim: Minimise threats, and unpleasant restrictions on behaviour and promote engagement in rewarding activities

5. *Positive mental experiences:* Provide safe, congenial and species-appropriate opportunities to have pleasurable experiences

Animal Welfare Aim: Promote various forms of comfort, pleasure, interest, confidence and a sense of control.



Handling and transport

- Individual handling: Use of rope halters
- A lot of movement on foot – out to pasture for example
- Transport vehicles to move animals off farm may not be well designed



Management, Plans and Procedures



Desired outcome: Farmers have a clear strategy and set of protocols to safeguard the welfare of their animals, and to demonstrate compliance to the relevant TE standard.

Categories:

Legal compliance, scope of certification, access to the certified site, records and plans, qualifications and training

Subcategories:

Legal compliance, parallel/ dual production, other domestic animals, access, records, health and welfare plan, mortality records, emergency plans, biosecurity and disease prevention, qualifications and training.

Alpaca - Animal welfare summary

Systems with high animal welfare potential are those that:

- Husbandry systems that can meet the animals' needs
- Provide for behavioral freedoms
- No compromise on animal health

Alpaca farming has high animal welfare potential:

- Husbandry systems based on extensive grazing and free ranging
- Animals adapted to their environment

The Responsible Alpaca Standards will ensure that the high welfare potential is realized

- Audited standards to ensure best practice from the farmers and to deliver good welfare for the alpacas.



Next Steps

Interested in joining the stakeholder group?

Email ResponsibleWool@TextileExchange.org

Thank you



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