WOOL AND MEAT SHEEP WELFARE

GUIDELINES FOR ETHICAL SHEEP PRODUCTION IN URUGUAY

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www.inia.uy

www.sul.org.uy

www.wool.com.uy

www.camaramercantil.com.uy

www.fagro.edu.uy

www.crilu.org.uy

Cover picture: INIA.

Preface

These guidelines arise within the Plan Estratégico Nacional del Rubro Ovino (PENRO)[1]. PENRO is a programme in which private and public organizations, together with companies of the sheep agroindustrial chain (meat and wool), work jointly to address the major challenges of the wool and sheep industry. Concerned about the highest standards of animal welfare within Uruguay, the group requested the development of these guidelines that aim at presenting the ethical and natural conditions in which animals live throughout their life. They hope to provide basic guidance for the people responsible for sheep and also for future implementation of legislation across the country.

Objectives and Scope of this Document

The purpose of this document is to provide the basis for the best possible welfare of sheep in Uruguay, and to encourage farmers to continuously work on improving it. It includes standards and recommendations for achieving them, together with developing and maintaining a productive flock.

The recommendations included in this document consider international and local scientific knowledge, international and national society concerns, other countries and organizations welfare standards and guidelines, as well as practices based on knowledge and experience from the Uruguayan sheep husbandry.

These guidelines applies to sheep farmed for their wool, offspring, milk or meat and it should inform all sheep farmers and the stock people in charge of the animals. It will be updated as new scientific information, legislation and best practices arise.

Development Process

This document has been undertaken by a writing group made up of a representative from the *Instituto Nacional de Investigación Agropecuaria (*National Institute of Agricultural Research, INIA Uruguay), one from the *Secretariado Uruguayo de la Lana* (Uruguayan Wool Secretariat, SUL) and one from the *Cámara Mercantil de Productos del País* (CMPP). Based on their representative´s knowledge and the institutional collaborative experience, they led a consultative process involving appropriate representation from the private sector, the industry, government and non-government organizations and the academy.

Disclaimer

The Institutions and authors of the present guidelines cannot be held responsible for any loss or damage which may occur as a result of a different application or interpretation of the information contained in this document.

[1]PENRO is integrated by Secretariado Uruguayo de la Lana (SUL), Instituto Nacional de Carnes (INAC), Ministerio de Ganadería Agricultura y Pesca (MGAP), Instituto Nacional de Investigación Agropecuaria (INIA), Frigorífico San Jacinto (Nirea S.A.), Central Lanera Uruguaya (CLU), Engraw Export & Import CO., Lanas Trinidad S.A., Tops Fray Marcos S.A., Rantex S.A., Thomas Morton S.A. y Montelan S.A.

INTRODUCTION

a. The concept of Animal Welfare

Animal welfare means how an animal is coping with the conditions in which it lives. It is based on a multidimensional concept, defined as a state of mental and physical health where the animal is in harmony with its environment.

Animal welfare refers to the state of the animal. The treatment that it receives is covered by other terms**,** such as animal husbandry or handling.

The Animal welfare guidelines for Uruguay are based on the compliance of the five freedoms established by the FAWC (1992):

1. Freedom from hunger and thirst for extended periods. Animals should have access to good quality water and an appropriate diet for a correct level of nutrition throughout the year.

2. Freedom from discomfort, through provision of a comfortable environment depending on the season (e.g., extreme weather conditions in winter, at lambing or shearing season, heat stress in summer).

3. Freedom to express normal behavior through the provision of enough space, suitable facilities and company of the animal's own kind

4. Freedom from pain, injury and disease by avoiding them or improving methods for unavoidable painful procedures, and by prevention or rapid diagnosis and treatment in case of disease.

5. Freedom from fear and distress by ensuring an appropriate environment, facilities and human handling which avoid mental suffering.

b. Fundamental principles for sheep in Uruguay

1. NUTRITION

Sheep should be provided with access to food and water in accordance with their physiological state, thus allowing them to maintain health and vigor, and avoiding prolonged periods of hunger, malnutrition and thirst.

2. ENVIRONMENT

Sheep should be kept in an environment that provides the conditions and facilities needed for health, comfort and normal behavior including movement, rest and socialization. This is usually best achieved in conditions that closely resemble the natural environment, with appropriate shade, shelter and reasonable predation prevention.

3. HEALTH and PAIN

A positive, proactive, preventive approach to the planning of health care should be considered. Where possible, sheep should be selected, bred and managed to maintain health and physical fitness, avoiding situations of pain, injury and disease and treated promptly when they occur.

4. HANDLING

Sheep should be managed avoiding fearful situations and distress, by the appropriate design of facilities, careful treatment during handling and transport (where transport is necessary) and use of humane methods for slaughter and on-farm euthanasia.

Picture: Ana Tafernaberry - SCMAU

c. An overview of the country and the production systems

Uruguay Natural - The country brand[2]

Uruguay is a country that respects nature and takes care of it. Taking advantage of its resources, it raises a rigorous balance between development and the environment.

The *Uruguay Natural* Brand promotes the concept of "Natural Country" through the action of multiple agencies and companies in the agricultural sector, from an economic, cultural and social perspective of sustainable development. Associated with it, the sector brand "Uruguay Wools[3]" seeks to promote the Uruguayan people bond with wool, highlighting the quality of the fibre along with the passion and professionalism all along the sheep chain.

Uruguayan climate and production systems

The climate in Uruguay is mild, with warm summers and homogeneous rainfall throughout the year (1100-1500 mm)**,** and with low occurrence of extreme weather events.

Because of its latitude, it has four clearly distinct seasons based on temperature, with average values of about 15°C (59°F) in the coolest month (June) and 25°C (77° F) in the warmest one (January). There are between 120 to 180 sunny days a year and it doesn´t snow.

The topography is undulating, with no major variations in landforms.

Livestock is the basis of the economy. Meat and wool production systems are extensive and outdoor systems all around the year, mainly based on native pastures, with sheep and cattle grazing together.

In 2019, Uruguay had 6,419 million sheep, 11,116 million cattle and 3,4 million people.There are a total of 47.771 livestock farms, with only 1400 engaged exclusively in sheep production and approximately 19.765 mixed ones, running both British breeds of beef cattle (Hereford, Angus and their crossbreeds) and sheep, interacting with other species like horses. However, in most of those mixed livestock production systems, the income from sheep is only a minor proportion of the total income.

The average size of those mixed farms in Uruguay is around 535 ha, with flocks of approximately 400 sheep. In general, the paddock size is between 60 and 90ha, enabling the monitoring of all animals several times per week.

The most popular sheep breeds are Corriedale, Merino and Polwarth. These breeds can be defined as dual-purpose breeds, generating incomes from the sale of wool and sheep meat (fat lambs, surplus offspring and flock culling). The sheep breeds determine the diameter of the Uruguayan wool. The majority is defined as mid-micron wool (24 to 30 microns), while the remaining 45% corresponds to wool below 24 microns. A generalized interest in the production of fine and superfine Merino wool (of less than 20 microns), has been observed during the last years.

That is why Uruguayan wool has a wide range of uses (clothing: flat knitting and knitting; upholstery).

[2] http://marcapaisuruguay.gub.uy/en/

[3] https://uruguaywools.com.uy

The pillars of Uruguay

The smart agriculture production is based on the following fundamental pillars: safe and natural food, health, adaptation to climate change, ethics, and conservation of natural resources, rural development policies, strong institutions and international integration.

Uruguay has been able to combine tradition and technology. The Uruguayan agricultural production, combined with the industrial sector based on the transformation of agricultural products, accounts for more than half of the country´s exports.

The Government, through the Ministry of Livestock, Agriculture and Fisheries (MGAP) is the competent authority responsible for stock raising and breeding, control of animal diseases and welfare, as well as the improvement of existing grassland and arable resources (Law 18.564, Decree 405/008). The manufacturing process is also under strict government control, ensuring the origin, quality and safety of the final product, and fulfilling the highest international requirements like those from United States of America and the European Union.

Since 2006, Uruguay has had an agro-intelligent production and cutting-edge traceability system, being the only country in the world today that guarantees 100% traceability of cattle in order to inform consumers about product origin and certify food quality and safety. This system has been mandatory since 2006 (Law 17.997)[4] and it has placed Uruguay in a globally prestigious position as regards the guarantees it offers as a food exporting country.

Group traceability already exists in sheep: each farmer that raises sheep has an individual identification number (DICOSE) and an exclusive earmark that identifies the ownership of the flock. As a consequence, traceability or chain of custody of the wool and meat produced can be guaranteed if demanded.

Every 5 years, Uruguay develops the National Quality Audits, a research cooperative project involving INIA, the National Meat Institute (INAC) and Colorado State University, to identify the main problems for the sheep and beef industry and how these affect the value of live cattle, carcasses or by-products. The audit´s findings are systematically used to implement new research lines and training practices for all the stakeholders of the meat/wool chain, mainly those related with animal handling practices.

Wool and meat are produced under the best available animal husbandry practices. For Uruguay, as an ethical exporter country, it is compulsory not only to provide good intrinsic quality and safe products, but also to build capacities regarding animal welfare and to project a welfare friendly and responsible image to the world. That is why different aspects of animal welfare have been included in regulations and practices along the whole meat and wool chain, as well as in research and educational activities.

Uruguay is a country that seeks balance and harmony. Uruguay is the South American country with the highest percentage on renewable energy sources in its energy matrix. More than 90% comes from renewable energy sources (hydroelectricity, wind power, biomass and solar power). By 2016, it will be the country with the highest percentage of wind energy in its energy supply. The use of nuclear energy sources is forbidden by Law (Law 16.832)[5]and coal burning is not an option to generate electricity.

Uruguayan Wools *are environmentally friendly, renewable, sustainable and natural.* Uruguay exports worsted wool in the form of tops, washed wool and greasy wool. There is a real commitment to the care of the environment in wool production, not only on the farm but also in the early processing

[4] https://legislativo.parlamento.gub.uy/temporales/leytemp6035964.htm

[5] https://www.impo.com.uy/bases/leyes/16832-1997/1

stages. Wool-comber companies are at the forefront in the use of clean and renewable energy sources (such as wind, biogas and wood), as well as the management of effluents.

Strong institutions working together. In Uruguay, this is possible due to a policy of public-private coordination and the use of scientific information and communication platforms.

Social responsibility is guaranteed along the whole meat and wool supply chain with respectable labour laws for workers (ILO).

Uruguay is connected. Uruguay is a member of the World Trade Organization (WTO), the World Organization for Animal Health (OIE), the Food and Agriculture Organization (FAO), the International Labor Organization (ILO), Organization for Economic Co-operation and Development (OCDE), the International Wool Textile Organization (IWTO) and the International Meat Secretariat (IMS), among other organizations.

Picture: SUL

STANDARDS AND GUIDELINES

1. NUTRITION

Water and food

Standard

All the sheep on a farm should have appropriate access to food and water according to their age and needs.

Recommendations

- ✓ Animals should have daily access to safe clean drinking water (drinkers or natural water sources) and to appropriate food, in terms of quantity and quality, to meet their feeding requirements.
- ✓ A forage budgeting plan should be built, and the stocking rates should be established, based on pasture and water resource availability.
- ✓ Sheep should be weighed, or body condition scored on a regular basis (e.g. around breeding, at shearing, around parturition and at weaning).
- ✓ Adult sheep body condition score should not be lower than 2.5 at any time, using a 0 to 5 scale.
- ✓ Access to toxic plants should be avoided.
- ✓ In case of dietary changes, they should be introduced gradually.
- ✓ In case of supplementary feeding, food should be stored in suitable places and in a proper manner.
- ✓ There should be an emergency plan for feeding and watering sheep, in the event of exceptional conditions such as pasture shortage, drought or excessive hot weather.
- ✓ Special care should be taken with sensitive categories like late pregnancy, early lactating ewes or growing animals (regarding both food and water availability).
- ✓ Mating time should be planned in order to match nutritional requirements with pasture availability, as most sheep are reared on native pastures. Autumn mating is preferred so as to have spring-lambing.
- ✓ Single ewes in good body condition and at adequate stocking rates, can be managed in native pasture, but particularly in ewes with multiple gestations and / or of lower body condition, it is recommended to adjust the antepartum nutrition according to the requirements, incorporating supplements and / or improved pastures in order to prevent / reduce lamb mortality and increase their survival, especially in cases of extreme weather conditions.
- ✓ Special attention should be paid to feeding during periods of excessive cold weather (after shearing and to newborn animals). Whenever possible, shelter should also be provided.
- ✓ There should also be a plan to sell or relocate animals, in case there is not enough food and water to provide for them.
- ✓ Sick animals, animals in a poor body conditions core and ewes in late pregnancy or early lactation should not be deprived of food and water even for short periods of time.
- ✓ Other animals should not be deprived of food and water for more than 24 hours, and this should be acceptable only under unavoidable circumstances.

2. ENVIRONMENT

Extreme weather conditions, cold and heat stress, predators and natural behavior.

Standards

2.1. Extreme weather, cold and heat stress. All sheep on a farm should be protected from extreme weather conditions (heavy and un-seasonal rainfall, winter storms), flooding and droughts, cold and heat stress.

2.2. Predators. All sheep should be protected from predators. Farmers should be aware of predations risks and take measures to prevent sheep from being harmed or killed.

2.3. Natural behavior. All sheep should be allowed to behave naturally.

Recommendations

2.1. Extreme weather –Shelter– Shade

- ✓ Sheep should have access to shade and shelter or at least to a natural or artificial protected environment in order to minimize thermal stress, especially during extreme weather conditions.
- ✓ Natural or artificial shade should be provided in order to minimize heat stress exposure in summer.
- ✓ Sheep giving birth should be located, or at least have access to a shelter or a protected environment (e.g. trees or shade provided by vegetation, bushes, windbreaks or other natural protection) to prevent lamb mortality or to enhance survival of the newborn, especially during cold weather or during expected extreme weather conditions. Cold stress is exacerbated by wind and rain and young and newborn animals are particularly susceptible.
- ✓ Ultrasound scanning is recommended for pregnancy detection and for estimating lambing dates and differentially care for mothers to ensure the quality of delivery and to improve chances of the newborn survival.

- ✓ Sick animals or those in a poor body condition should be located near the farmhouse, and exposure to extreme weather conditions, cold and heat stress, should be avoided.
- ✓ A contingency plan should be available during cold weather and extreme weather conditions (storms and rain season) for those animals that are more prone to hypothermia, like newborn lambs, ill or recently shorn sheep. Recently shorn animals should not be exposed to cold or heat stress.
- ✓ The farmer or the person responsible for the animals should monitor the weather forecast in order to apply the contingency plan for the more vulnerable animals.
- ✓ It is recommended to use the inter-institutional application[6] especially created to be prepared for emergencies and adverse events and to maximize the survival of vulnerable animals (lambs and recently shorn animals).
- ✓ Further information on forecast conditions for preparing for emergencies and adverse events may be obtained by referring to the GRAS link at INIA site http://www.inia.uy/gras/Clima/Pronostico-meteorologico, to the Uruguayan Institute of Meteorology (INUMET www.meteorologia.com.uy), among others.
- ✓ A contingency plan should exist in case of flooding and droughts, including decisions such as destocking at an early date, urgent re-location of animals, availability of stocked feed and good quality of water supply (e.g. from dams, or from sources from outside the farm).

2.2. Predators[7]

- ✓ In case of predation risk, a control plan should be available in a well-coordinated approach, by using a combination of best practices. This plan should include the use electric fences and the use of other species for protecting sheep: trained dogs, donkeys, camelids and others. Further information could be obtained or requested through. More information can be obtained or requested through the web pages of the participating institutions of this guide.

2.3. Natural behavior

- ✓ Animals should have enough space and opportunity to perform normal and natural behavior such as walking, exploring, resting, ruminating and feeding in synchrony with other animals in the social group.
- ✓ Pregnant ewes should have the opportunity to isolate themselves from others when giving birth.
- ✓ Sheep should be maintained in reasonably stable social groups.
- ✓ Sheep should not be housed in single pens for any longer than necessary. When unavoidable, they must be in visual contact with other sheep. Sheep are particularly very social animals requiring the presence or maintenance of a visual link with others.
- ✓ Isolation could be acceptable only for unavoidable circumstances, but it should be minimized.

3. HEALTH and PAINFUL or STRESSFUL MANAGEMENT PRACTICES

Disease, painful procedures and breeding

6 Chill Index: The meteorological information is predicted and is related to the probability of survival of lambs in the first 72 hours of life and post-shearing sheep.

7 Sheep predators in Uruguay could be native: foxes (*Psudalopexgymnocercus*, *Cerdocyonthous*) and bird of prey (*Caracara Plancus*) or exotic or introduced: wild boar (*Susscrofa*) or dogs (*canis lupus*).

Standards

3.1. Disease. Each sheep on a farm should be protected from sickness and disease and, it should receive suitable treatment as soon as the disease is diagnosed

3.2. Painful procedures. Painful routine procedures should be performed only if they are necessary (preventing future welfare problems). If so, the least painful strategy (method and age) should be applied.

3.3. Artificial breeding procedures should be performed by competent and trained people, minimizing pain and suffering.

Recommendations

3.1. Diseases

- ✓ A complete written health management plan is recommended and it should be supervised by a veterinarian.
- ✓ Internal and external parasite prevention and control should be also included, monitored and inspected when necessary, using authorized drugs and rotating active substances with the aim of avoiding parasite resistance to drugs.
- ✓ Grazing management is recommended for prevention of internal parasitosis.
- ✓ Measures for preventing myasis should be included in the health plan.
- ✓ Frequent inspection of sheep should be included in the health plan for early detection of disease and myasis, as well as to identify any irregular situation that could negatively affect animal welfare. Daily inspection is recommended and if is not possible, it should be carried out at least three times per week.
- ✓ Lameness incidence should be prevented and regularly monitored.
- ✓ Affected sheep (by disease or myasis) must receive appropriate treatment at the earliest opportunity.
- ✓ Animals with serious health problems should be treated as soon as possible. If treatment is not feasible, recovery or improvement is unlikely and/or the animal is experiencing severe pain, it should be euthanized (Section 4.4.1).
- ✓ All the procedures and treatments when performed should be registered in a sanitary notebook.
- ✓ Withholding periods must be respected for each drug used in animals to be milked or slaughtered.
- ✓ Mortality records should be kept and also the possible cause of death, in each case.

3.2. Painful procedures

- ✓ Tail docking and castration should be performed only when necessary, but in extensive conditions, they could be positive husbandry practices, for the benefit of long-term sheep health, hygiene, welfare and management reasons (e.g. for example preventing urine and faecal soiling or dag formation). Only competent and well-trained individuals should perform painful procedures.

3.2.1 Tail docking

- ✓ Tail docking should be performed only when necessary. Tail docking should not be done for cosmetic reasons.
- ✓ When tail docking is performed for any reason (e.g. gender distinction or avoiding dag accumulation), the tail shall be docked no shorter than the third palpable joint in both males and females (long enough to cover the vulva in females and similar length in males).
- ✓ The procedure should be carried out as early as possible between the ages of minimum 24 hours (after the ewe/lamb bond is established) and 8 weeks. The younger the animal is

treated within this period, the less pain and distress it will experience, since less sensitive tissue is interfered with, resulting in a smaller wound and therefore better healing. The age should be based on the average across the lambs in the flock.When the procedure is performed after 8 weeks of age for any reason (e.g. in autumn, due to late lambing because of myasis risks), pain shall be avoided. For this, technical assistance from a veterinarian should be requested.

- ✓ Lambs should be tail docked by rubber ring or the hot knife (thermo cautery) methods in preference to the sharp knife or other cutting methods.
- ✓ Immediately after the procedure, lambs should be turned back to pasture or a cleaned (dry) pen, with their mothers.
- ✓ Infection should be minimized by vaccination of ewes and lambs and by avoiding working in muddy or dusty yards, or during wet or humid weather.
- ✓ Precautions should be taken to prevent and reduce the risk of screw-worm fly incidence (*Cochliomyia hominivorax*).
- ✓ Animals affected by the screw-worm should be treated upon diagnosis.
- ✓ The facilities, the operator's hands and the equipment or tools should be clean when performing tail docking.
- ✓ Disinfectant should be used and changed frequently.
- ✓ The people in charge of the animals should monitor post procedure complications and take appropriate actions in order to solve them.
- ✓ Alternatives methods for tail docking should be discussed with a veterinarian and reviewed regularly.

3.2.2 Castration

- ✓ Castration of males should be performed only when necessary and using the least painful methods that are applicable to the production system.
- ✓ Castration can be avoided in intensive grazing systems where forage availability allows for the sale of lambs for slaughter at an early age (before 6 months).
- ✓ The procedure should be carried out as early as possible between the ages of minimum 24 hours (after the ewe/lamb bond is established) and 8 weeks. The younger the animal is treated within this period, the less pain and distress it will experience since less sensitive tissue is interfered with, resulting in a smaller wound and therefore better healing. The age should be based on the average across the lambs in the flock.
- ✓ When the procedure is performed after 8 weeks of age, pain shall be avoided. For this, technical assistance from a veterinarian should be requested.
- ✓ Lambs should be castrated by rubber ring application or cryptorchid methods, in preference to the traditional sharp knife or other cutting methods.
- ✓ Immediately after the procedure, lambs should be turned back to pasture or a cleaned (dry) pen, with their mothers.
- ✓ Infection should be minimized by vaccination of ewes and lambs and by avoiding working in muddy or dusty yards, and during wet or humid weather.
- ✓ Precautions should be taken to prevent and reduce the risk of screw-worm fly incidence.
- ✓ Animals affected by the screw-worm should be treated upon diagnosis.
- ✓ The facilities, the operator's hands and the equipment or tools should be clean when performing castration.
- ✓ Disinfectant should be used and replaced frequently.
- ✓ Castration in adult animals should be performed by a veterinarian and with the use of pain relief. Rubber rings should never be used when castrating adult animals.
- ✓ People taking care of the animals should monitor post-procedures complications and take appropriate actions to mitigate and solve them.
- ✓ Castration alternatives should be discussed with a veterinarian and reviewed regularly.

3.2.3. Other potential stressful or painful procedures

- ✓ Manufacturer's instructions should be followed for husbandry procedures for sheep, such as applying clips and ear tags.
- ✓ Ear tags should be of a suitable size for use in sheep.
- ✓ Earmarking, tattooing, tagging and vaccination should be done in a way that minimizes the risk of infection and with instruments that are sharp, clean and disinfected.
- ✓ Horn trimming should not be done for cosmetic reasons.
- ✓ Horn removal should only be done for preventing future welfare problems. In that case, it should be performed by a competent well-trained individual with the use of pain relief.

3.2.4. Mulesing

- ✓ Mulesing (Mules operation) is not carried out in Uruguay. Therefore, wool and meat produced in Uruguay is mulesing-free.

3.3. Breeding procedures

- ✓ Pregnancy diagnosis and cervical artificial insemination should be performed by competent and trained operators.
- ✓ Pregnancy diagnosis (by ultrasound scanning) is strongly recommended to identify pregnant ewes, especially those carrying more than one lamb, or those giving birth earlier in the season, and to separate them for preferential feeding strategy (e.g. extra feeding in late gestation).
- ✓ Electro-ejaculation, laparoscopic artificial insemination and embryo transfer should be performed by veterinarians or competent trained technicians supervised by a veterinarian, with the use of appropriate pain relief, sedatives or anesthesia.
- ✓ Less invasive procedures should be used in preference to more invasive ones (e.g. semen collection using an artificial vagina instead of semen collection by electro-ejaculation).
- ✓ The Farm general Health Plan should include a specific section for rams.

Workers should recognize lambing difficulties and they should know how to proceed in case that any assistance is needed. It is suggested to monitor the ewes during calving, to be trained to detect lambs with difficulties early and to have a plan to maximize their survival (use shelters, artificial feeding, use of capes, heaters, catheters, etc.).

Picture: Pedro Otegui

4. HANDLING

Handling, shearing, facilities, transport, euthanasia and slaughter

Standards

4.1. Animal handling. Sheep must be handled in such a way as to minimize the risk of pain, injury or distress, by a sufficient number of competent personnel. Violence must be completely eradicated from handling procedures.

4.2. Shearing. Sheep should be shorn once a year before summer, causing the minimum stress to the animal.

4.3. Farm facilities.Facilities and equipment should be designed and maintained in order to minimise pain, injury or distress.

4.4. Handling during loading procedures and transport. Sheep must be handled in such a way as to minimize the risk of pain, injury or distress during transport.

4.5. Euthanasia and slaughter. Sheep must be handled, restrained and killed in such a manner as to minimize unnecessary pain and distress prior to death.

Recommendations

4.1. Handling

4.1.1. Animal handling in general

- ✓ Stock people should have the ability, knowledge and competence needed to maintain the welfare of animals in accordance to these Guidelines.
- ✓ Handling procedures should be carried out humanely, slowly and calmly, with stock handlers speaking softly in a low tone of voice. Mistreatment of animals is unacceptable.
- ✓ People handling sheep should have knowledge of the animal's needs and normal (and abnormal) behavior.
- ✓ Sheep should be handled to take advantage of their natural flocking behavior when mustering, yarding and handling.
- ✓ People handling sheep should have an understanding of the flight zone (the animal**'s** personal space) and the point of balance (the line through the animal's shoulders which determines whether the animal will move forwards or backwards in the presence of a handler). This will help with moving animals and in reducing fear.
- ✓ Time spent in the yards should be kept as short as possible. Sheep should be restrained and isolated for the minimum time necessary and they should be returned to feed and water as soon as possible after being handled.
- ✓ Animals in pens or yards should not be overcrowded. Animals should be able to move away from handlers or other sheep.
- ✓ Precautions should be taken to prevent smothering, especially for lambs.
- ✓ Sheep should be allowed to calm down for some minutes after gathering or mustering, to ensure proper handling through minimizing agitation and fear.
- ✓ Care should be taken to avoid sudden fear or panic in animals in confined spaces such as pens, corners and gateways, in order to avoid the risk of injury.
- ✓ The more restraint the animal is (unable to move away or perform a defensive behavioral response), the slower the stockperson's movements should be and the higher the quality of the handling, in order to avoid panic and unnecessary stress.
- ✓ When encouraging animals to move, visual measures should be preferred (e.g. flags or plastic bags) rather than devices relying on physical contact (e.g. sticks) or sound (e.g. whistles, rattles or yelling). Visual devices should not be from contaminating material to wool.

- ✓ In case it is necessary to move a single animal by physical contact (for a short distance within the facility), one arm should be placed under or surrounding the animal's neck (in order to direct the movement) and the other from behind and surrounding the rear of the sheep, in order to push it forward.
- ✓ Sheep should not be dragged or lifted by the wool or horns.
- ✓ Sheep must not be dragged or lifted off the ground by only one leg, or by the head, ears, horns, neck, tail or wool.
- ✓ Sheep must not be stricken, punched or kicked.
- ✓ Electric goads should not be used to drive or to move sheep.
- ✓ Sheep must not be thrown or dropped.
- ✓ Particularly in extensive conditions, animals should be allowed to get used to human contact.
- ✓ When dogs are used, they should be trained and under control of their handler at all times.
- ✓ A dog that bites sheep must never be allowed to work with them. Exceptions should be acceptable if the dog is muzzled while working with the sheep.
- ✓ All external worker involved in sheep works, should be aware of the farm policy regarding animal welfare.

4.1.2. Mustering and Driving

- ✓ Mustering or driving in hot conditions must be avoided.
- ✓ Animals with disease or injury must not be mustered or driven.
- ✓ Sheep being moved on foot must not be forced to proceed at a pace that will cause exhaustion, heat stress or injury.
- ✓ In case sheep are driven long distances, they must have adequate opportunity for feeding, watering and resting.
- ✓ The pace of mustering or driving is that of the slowest animals in the group, with particular attention given to lambs or other vulnerable animals.
- ✓ Sheep should be rested or allowed to slow down when showing indications of being moved too quickly, like labored breathing or panting (with the mouth open).

4.2. Shearing

- ✓ Shearing should be performed at least once a year.
- ✓ Shearers should be experienced, competent and adequately trained. Most shearing and crutching are done by green label accredited contractors or shearing crews, trained by SUL.
- ✓ The Tally Hi method is strongly recommended to get the whole fleece to be skirted, avoiding sheep stress, pain and suffering. Tally Hi is performed with the animal untied and is the most common used method for shearing in Uruguay. SUL is the institution that provides training regarding this topic.
- ✓ If some tasks such as crutching or wigging (face/eyes cleaning) are performed by personnel from the farm, they should be trained following the SUL instructions in this regard.
- ✓ Pre-shearing crutching is recommended in order to prevent dark fiber contamination.
- ✓ Shearing and pre shearing crutching should be carried out skillfully and carefully to prevent shearing cuts, especially those to the teats, vulva and prepuce.
- ✓ In case of injuries or cuts, the animal must be treated immediately.
- ✓ Recently shorn sheep should not be kept in dusty areas for long periods of time in order to avoid shearing cuts infection.
- ✓ In winter and in areas where there is minimal natural shelter, or where shearing is undertaken prior to lambing, sheep should be shorn using winter, snow or cover combs to ensure a minimum insulating layer of wool on the sheep.
- ✓ Recently shorn animals should be especially protected from cold and heat stress at least for a month, as was mentioned in 2.1.
- ✓ Sheep should not be shorn if the forecast anticipates cold wet weather conditions, unless the animals are to be given additional feed after shearing and/or provided with suitable shelter to minimize the risk of exposure/hypothermia.
- ✓ The farmer or the person responsible for the animals should monitor the weather forecast to apply the contingency plan for recently shorn animals.

- ✓ It is recommended to use the inter-institutional application[8] especially created to be prepared for emergencies and adverse events and to maximize the survival of vulnerable animals (lambs and recently shorn animals).
- ✓ Further information on forecast conditions for preparing for emergencies and adverse events may be obtained by referring to the GRAS link at INIA site http://www.inia.uy/gras/Clima/Pronostico-meteorologico, to the Uruguayan Institute of Meteorology (INUMET www.meteorologia.com.uy), among others.
- ✓ Sheep must have access to food and water as soon as possible after shearing
- ✓ When coats of non-contaminating materials are used, sheep should be inspected regularly in order to avoid any tangle.
- ✓ Shearers and contractors should disinfect their equipment between farms to minimize the risk of spreading diseases.


Picture: SUL

8 Chill Index: The meteorological information is predicted and is related to the probability of survival of lambs in the first 72 hours of life and post-shearing sheep.

4.3. Farm Facilities

- ✓ Yards, races, crushes, loading ramps and head bails need to be adapted to suit the animals and the husbandry system.
- ✓ The yard´s design and construction should consider natural sheep behavior.
- ✓ The yard´s design and construction should consider topography (location and drainage).
- ✓ The yard´s size should be consistent with the size of the flocks that are usually handled.
- ✓ Facilities should be free from sharp protrusions or any obstacles that may cause injury, and they should be regularly inspected and maintained.
- ✓ Floor surfaces should be nonslip and free-draining.
- ✓ Shade should be provided during hot weather.
- ✓ All fencing should be in a good state, inspected and maintained regularly.

4.4. Transport

- ✓ Animal Welfare is especially considered in livestock transport in Uruguay, being regulated by Law since 1983 (Decree 369/983).
  http://www.ecolex.org/details/legislation/decreto-no-369983-reglamento-oficial-de-inspeccion-veterinaria-de-productos-de-origen-animal-mgap-lex-faoc143968/
  When the farmer is responsible for transport, the requirements in the cited Decree should be met (regarding infrastructure, truck design and state, loading density, handling, quality of driving, others).

4.5. Euthanasia and Slaughter

4.5.1. Euthanasia recommended procedure

- ✓ Animals should be euthanized by a quick method causing minimal stress and pain when it has to be done on the farm.
- ✓ Animals should be properly stunned prior to death whenever possible, using captive bolt guns of a suitable design and caliber (penetrating and non-penetrating).
- ✓ The sheep rendered insensible by any reversible method, should be bled out immediately to ensure death occurs before its recovery from stunning.

- ✓ Devices for stunning and killing sheep should be appropriate for the animal and should be in a good condition to be used.
- ✓ A firearm could be used for stunning or killing sheep, if there are not other methods available. Whenever a firearm is used at the farm, the operator must be legally allowed to do it, must be competent to use the gun and must be responsible to ensure its safety and that of others.
- ✓ Sheep should be bled away from the view of other animals.

4.5.2. Slaughter at the farm

- ✓ Animals for human consumption should be slaughtered by a quick method causing minimal stress and pain, when necessary to do so at the farm.
- ✓ Animals should be properly stunned prior to death whenever possible, using captive bolt guns of a suitable design and caliber (penetrating and non-penetrating).
- ✓ The sheep rendered insensible by any reversible method, should be bled out immediately to ensure death occurs before its recovery from stunning.
- ✓ Devices for stunning and killing sheep should be appropriate for the animal and should be in a good condition to be used.
- ✓ A firearm could be used for stunning or killing sheep, if there are not other methods available. Whenever a firearm is used at the farm, the operator must be legally allowed to do it, must be competent to use the gun and must be responsible to ensure its safety and that of others.
- ✓ Sheep should be slaughtered away from the view of other animals.

4.5.3. Slaughter at the slaughterhouse

- ✓ Animal welfare is especially considered previous and during slaughter in Uruguay, being regulated by Law since 1983 (Decree 369/983) and continuously updated. http://www.ecolex.org/details/legislation/decreto-no-369983-reglamento-oficial-de-inspeccion-veterinaria-de-productos-de-origen-animal-mgap-lex-faoc143968/
  Most of the commercial slaughterhouses are enabled to export to many countries around the world, fulfilling the highest international animal welfare standards and requirements (e.g. European Union; NAFTA: United States of America, Mexico and Canada).

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Picture: SUL

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Writing Group

INIA - Marcia del Campo
SUL - Ignacio Abella
CMPP - Pedro Otegui (Lanas Trinidad S.A.)

Consulting Group

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ACRONYMS

CMPP – Cámara Mercantil de Productos del País, Uruguay

CRILU – Consorcio Regional de Innovación de Lanas Ultrafinas del Uruguay

DICOSE – Livestock Control Office, Uruguay

FAO – Food and Agriculture Organization

FAWC – Farm Animal Welfare Council

INAC – *Instituto Nacional de Carnes*, National Meat Institute, Uruguay

INIA – *Instituto Nacional de Investigación Agropecuaria*, National Institute of Agricultural Research, Uruguay

ILO – International Labor Organization

IMS – International Meat Secretariat

IPA – *Instituto Plan Agropecuario*, Agricultural Plan Institute, Uruguay

IWTO – International Wool Textile Organization

MGAP – Ministerio de Ganadería Agricultura y Pesca

NIREA – San Jacinto Slaughterhouse, Uruguay

OCDE – Organization for Economic Co-operation and Development

OIE – World Organization for Animal Health

PENRO – *Plan Estratégico Nacional para el Rubro Ovino*, National Strategic Plan for Sheep, Uruguay

SUL – Secretariado Uruguayo de la Lana

UDELAR – Universidad de la República, Uruguay

WTO – World Trade Organization

Picture: INIA