

# HARVEST CODE OF PRACTICE

## Best Practices

Shearing is one of the most important days of the year for an Alpaca owner. It is Harvest Time! You have invested time and money in growing this soft luxurious fibre for a year. An efficient harvest has a direct influence on profitability. The Harvesting Code of Practice describes techniques and tips to use on shearing day. These are important keys to best prepare your fibre for processing into those value-added items destined to the general public. Following Best Practices, will not only ensure you the best possible results therefore maximizing your revenue, but it sets a standard for the alpaca industry, thereby contributing toward the success of the alpaca industry in Canada.



## Preparation for Harvest Day -

*“The more prepared I am, the luckier I seem to be.”*

It goes without saying that good preparation is not luck. It takes time and effort, but pays a huge dividend. There are many factors and many players that contribute to a smooth, stress-free Harvest on the farm. It is up to the Alpaca owner to select the members of the harvesting team and decide how the clip will proceed, in consultation with the shearer and the sorter.

## The key players on Harvest Day are -

- The producer
- The shearer
- The skirter
- The medic (optional)
- The fibre sorter/classer (may perform duties after Harvest Day)

## Producer’s Responsibilities –

### Pre-shearing:

- Farm set-up— Provide a clean environment for alpacas for a minimum of 3 weeks;
- Clean all major vegetation out of cria fleece;
- Clean and organize shearing shed - see Shearing Day Checklist (Appendix 1);
- Consider animal flow for greatest efficiency;
- Prepare shearing equipment – including shearing area, cleaning equipment for alpacas (livestock blower, or shop vac,...), table for shearer’s equipment, such as clippers, blades and cutters, etc...
- Be aware of your chosen shearer’s needs and style - does he shear on a table or mats? What equipment does he provide? i.e. shearing table, Tooth-o-matic, etc...
- Lay mats underfoot in strategic areas to alleviate fatigue.
- Organize fleece handling/skirting area – see Shearing Day Checklist (Appendix 1); prepare - skirting tables, a quantity of large transparent bags, tags for each alpaca’s bag, record keeping materials, etc.
- Prepare for temperature control for cold or hot days according to climate and time of year in your location.
- Supply good lighting for work areas.
- Prepare a table for medical supplies and record keeping.

(For more detailed information see Appendices 3 and 4.)

**Assemble team:**

- Organize preparations for team's comfort throughout the shearing time/process: i.e. food, beverages, etc.;
- Assign tasks to team members, review methods and safety concerns for all - alpacas and humans;
- Tasks include:
  - shearer,
  - alpaca cleaner/handler,
  - head handler,
  - assistant at shearing table/may also do toenails,
  - medic – for shots, teeth, etc., may also be record keeper (optional),
  - fleece handler,
  - skirter/sorter,
  - skirter/sorter's assistant;

**Research Fibre Preparation and Best Practices**

- Be aware of essential sorting/classing practices and minimum skirting standards;
- Research mills before shearing day to have an idea of what different mills produce and their requirements, as these can vary from mill to mill and will affect preparation.
- Learn what fibre characteristics are important to processing and why.
  - ⇒ **For this essential information, please refer to Appendix 2.**

## The Big Day Arrives -

It's **Harvest Day**, the most important time of year for any farmer. The planning and preparation are in place. The shearing shed is set up and the animals are dry. The cria have been cleaned and will just need some final touch-ups. The food is in the fridge and coffee is ready. This is a day to enjoy the camaraderie of friends and fellow alpaca enthusiasts and relish the anticipation of the harvest.

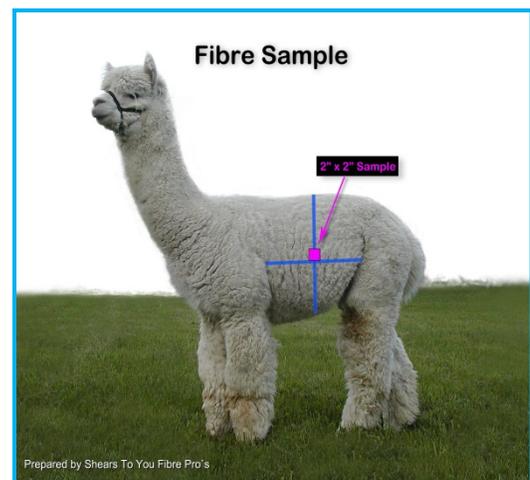
Most of all .... keep a good sense of humour and ... smile!

## The Team is Assembled -

### Shearer's Responsibilities –

- Work collaboratively with the team;
- Consult with producer and skirter/sorter – what is kept, what gets thrown out;
- Prepare shearing equipment in advance;
- Be aware of Best Practices and shear accordingly:
  - ⇒ Shear in sections;
  - ⇒ Shear to obtain best harvest and fewest second cuts;
  - ⇒ Shear from light to dark and/or dark to light to avoid colour contamination\*;
  - ⇒ Obtain samples on mid-side if requested by producer;
- Guide team on efficient and safe handling of the animal – i.e. getting on and off the table safely, etc.;
- Be aware of show animals and shearing techniques for show fleeces;
- Finish the alpaca with appropriate cuts: top knot, legs, jowls, etc. according to producer's wishes.

\* *Animals are shorn in colour groupings to avoid contamination, i.e. dark fibres in white fleeces and white fibres in dark fleeces. Many shearers prefer to begin with dark animals and progress to the whites, as darks are harder to see and the eyes are more rested in the morning.*



## Sorter's Responsibilities –

A sorter is one who skirts the fleece by removing course fibre, stains, second cuts and vegetation and bags the fleece by body area and fibre consistency.

- Confer with producer and shearer;
- Organize skirting/sorting team;
- Organize harvesting area of shearing shed;
- Have a quantity of large transparent bags and organize according to needs;
- Prepare collection containers i.e. leaf bag holders for plastic bags, laundry baskets, etc.
- Be aware of Best Practices for proper skirting techniques including removing all vegetation, contamination and guard hair and separating fibre into 3 or 4 bags;
- Be aware of Fibre characteristics related to processing—See Appendix 2
- Record fibre length (minimum and maximum) and yield;
- Assemble all bags into one for each animal;
- Prepare tags for each alpaca's bag with: alpaca ID, date of shearing, staple length, and place tag into bag;
- Prevent fibre contamination during skirting;
- Collect fibre samples and identify each with alpaca ID, date of shearing or delegate this task to the records keeper.



## Jelly Roll Storage

If a sorter is not available or the situation

prevents the possibility of efficient sorting, the producer may lay the fleece on a skirting table as it is taken off the alpaca, gently remove second cuts, vegetation or other contaminants, as well as all fleece with urine or feces and roll the fleece for skirting at a future date.

*(Please note: Leaving second cuts will only cause frustration in the future, as once these are stored in the fleece, they become embedded and will no longer shake out with ease. Second cuts can cause noils (bumps) to form in the yarn during processing. Contaminants such as urine will cause the fibre to break down and rot prematurely.)*

Jelly Roll Instructions:

The fleece handler collects the alpaca's blanket fleece, after removal of second cuts and contaminants; the fleece is spread out on a sheet of plastic. Each side of the plastic sheet is folded toward the centre; then one side is folded over toward the other edge. The fleece is then rolled, jelly roll fashion and secured with an elastic or a tie. To prevent mildewing, the fleece must be dry if being stored long term.

### **Preparation and shearing of the show fleece -**

- When shearing an alpaca for a fleece to be shown in a fleece competition, it is IMPERATIVE that you communicate with other members of the shearing team, particularly the cleaner/handler, the shearer and the skirter/sorter. The show fleeces are handled very differently and require special care.

### **Cleaning the show fleece -**

- Start by having the alpaca as clean as possible before shearing. Hand pick debris, dung, straw, etc while the fleece is still attached, as this is much easier.
  - N.B. Do not use a vacuum cleaner to clean a show fleece. Even the use of a wand or flicker could adversely affect the lock structure.

### **Shearing the show fleece -**

- The shearer should remove the fleece in as large a piece as possible. Include the fleece from the hip to the neck. Not all of it will be in the show blanket, but it is the skirter/sorter's job to remove the unwanted portions while maintaining as large a fleece as possible. Do not include any obvious guard hair areas, areas that are significantly shorter than the blanket, or any second cuts (the short pieces that occur when the shearer makes a second pass over the same area to tidy it up).
- Move the blanket to the skirting table, carefully, and lay it out so the top line is along one side of the table.

### **Skirting and preparing the show fleece -**

- Select a midside sample. This is your standard. All the rest of the fleece must match it in length, fineness, colour (unless you are working on a fleece for a multi), and crimp. Everything else is to be removed.
- Start skirting at one end. Compare the fleece there with the standard sample from the midside. If they match, leave it. If they do not match, remove it. Work from the outside edge toward the centre and from one end, around the perimeter, to the other. Try not to disrupt the lock structure as the inconsistencies and debris are removed. When finished, all that should be left on the table is the portion of the fleece that is as consistent as possible.

### **Bagging and storing the show fleece -**

- Prepare an unidentified transparent plastic bag for the fleece. This will then be placed into your identified bag.
- Preparation for storage: Allow fleece to dry completely before storing (it always seems to rain or be very hot resulting in sweaty alpacas when shearing happens).
- Some prefer to roll the finished fleece with either, heavy paper or plastic sheeting, jelly roll fashion, in a bag until just before the show, so it can be easily rolled out and inspected one more time. *(Most competitions will require that all tissue, plastic sheets or other, be removed before shipping. This facilitates weighing the fleeces for the competition.)*
- Others will gather and bag it just once and ship it at the appropriate time. Whichever method is used, keep the structure and integrity of the fleece as intact as possible.
- Place the unidentified bag within another bag which is properly identified with the animal's name, shearing date, etc...

### **Shipping the fleece -**

- Refer to the directions prescribed by the competition organizers.

You have done what you can, now sit back and relax!

## Medic – (optional)

The producer may choose to have certain medical procedures performed on each alpaca while they are secured. These may involve various injections, toe nail trimming, teeth trimming or/and a general examination.

- Confer with the producer to decide which procedures will be administered;
- Keep records;
- Weigh animals pre-shearing for accurate measurements of injections. Weigh scale should be placed within a frame to allow easy access and flow of animals.
- Administer injections such as vaccines, dewormers, etc.
- Check teeth and cut according to needs;
- Be prepared for unexpected accidents or injuries for both humans and animals – See Checklist for First Aid (Appendix 1).



Checking teeth is an integral part of shearing



This animal has a perfect bite.

## After the Harvest -

### Storing Bags of Fleece -

- After shearing, plastic storage bags should be left open for airing until the fleece is completely dry.  
Squeeze the air out of the bags. These should then be tied in a slip knot for easy opening at a later date.
- Store in a dry area with low humidity – elevated off the floor and protected from rodents, moths and other pests.
- Bags must not have holes.
- Keep out of direct sunlight.
- To repel moths a dryer sheet, or a cheesecloth dampened with essential oils of eucalyptus, lavender or rosemary, may be placed in an open plastic sandwich bag within the larger bag of fleece.



Fibre airing



Squeeze air out



Tie a slip knot



Slip knot completed

## Fibre Sorter/Classer Responsibilities –

A sorter or classer batches the fleeces according to colour, length and fineness and prepares it for processing, making suggestions for appropriate end product.

If a qualified fibre sorter or classer is not available for Harvest Day, or if time does not allow, the tasks of sorting and batching the fleece in preparation for processing may be completed at a future date.

### Sorter/classer must...

- sort and batch fibre according to standardised Best Practices always taking into consideration fibre characteristics as they relate to processing; (See Fibre Characteristics—Appendix 2)
- be very familiar with classing chart and adept at identifying various grades of fibre;
- be very familiar with best end products for different classes and lengths, always encouraging quality alpaca products in the marketplace;
- research mills and products ahead of time; be aware of various mill requirements and capabilities;
- be cognizant of different uses of huacaya as compared to suri and best uses for each;
- confer with producer to find out what end products are desired;
- keep detailed records – weight, micron, minimum and maximum staple length, for each animal, as well as certain characteristics as they pertain to processing and breeding;
- batch fleece according to grades, length, colour and suggested uses;
- guide the producer according to best end products; the final decision belongs to the producer;
- provide the producer with copies of all records.

Grades of Alpaca Fibre		
Measured in microns		
Grade 1	< 20 microns	Ultra fine
Grade 2	20.0 – 22.9	SuperFine
Grade 3	23.0 – 25.9	Fine
Grade 4	26.0 – 28.9	Medium
Grade 5	29.0 – 31.9	Intermediate
Grade 6	32.0 – 35.0	Robust

Prepared by Denise Martel of Meadowview Alpaca Farm

The following guideline is used by many farms and mills.	
Grades 1 & 2:	Shawls and scarves etc.
Grade 3 :	Hats, mitts, scarves, etc.
Grades 4 & 5:	Socks
Grade 6:	Insoles, batts, rug yarns, felt

## **Fibre Samples -**

The producer may choose to send selected fibre samples to a lab for testing. Testing offers an objective and precise measurement of various fleece characteristics. The information is returned in the form of a histogram which is entered into each animal's records. The histogram provides important information which can contribute to the producer's decisions for both—breeding selections and—processing fibre into end products. All alpaca breeders and fibre producers are encouraged to become familiar with breeding practices that will enhance the fibre harvest, thus increase profitability.

(See **Appendix 5** for North American fibre testing laboratories that can provide detailed information and histograms for your alpacas.)

## **Alpaca Fibre—a Profitable Industry in Canada**

Alpacas are wonderful animals - intelligent, mild tempered, and easy to train. Many alpaca breeders particularly enjoy the challenge of working with genetic principles to improve the breed - making the fleece more uniform, finer, denser, and more. This leads to the principle reason for raising alpacas - the fibre. But, as we all know, not all alpaca fibre is created equal. Making your fibre harvest profitable necessitates attention to Best Practices on shearing day. Uniformity is the key! When skirted and sorted to separate guard hairs and variances in grades and lengths, the fibre results in a high quality, consistent and repeatable end product. After all, the goal is to develop the market and increase our sales at a profitable margin. It is necessary for the customer to understand that the high price of alpaca garments is justifiable by its softness, warmth and durability and to know that every time he buys his Canadian alpaca socks, he knows he is buying quality.

The alpaca producer who follows the appropriate steps during his/her fibre harvest will greatly improve the profitability of the fibre and also contribute to the growth of the alpaca fibre industry in Canada.

## Shearing Day Check List

- Clear plastic bags – for storing fibre
  - 2 identification labels for each alpaca – 1 for the blanket bag and 1 for the sample bag
- Supplies for record keeping
- Leaf bag holders
- Flat cardboard pieces to collect fibre and remove to skirting table (Pop can flats work well.)
- Broom or leaf rake and dust pan
- Garbage pail
- Hand broom as well as Windex and paper towels for cleaning the shearing table between animals
- Halters and lead ropes
- Equipment for cleaning the alpacas before shearing – flickers, Circuiteer Livestock Blower is ideal, Shop vac is acceptable, wire brush (for surface vegetation).
- Holding area
- Toe nail cutters
- Teeth cutting equipment: Tooth-a-matic, OB wire and handles (and wire cutters); also safety glasses and 10" to 12" piece of hose or large soft rope to insert in the alpaca's mouth and finally, fresh water and/or 60cc syringe or paper towels to hydrate the alpaca's mouth after grinding or trimming the teeth.
- Paper towels, towels
- Hand wipes
- Wonder Dust – to stop bleeding of any knicks in the skin
- First Aid Kit with the following:
  - Clean gauze and scissors
  - Polysporin
  - Betadine solution
  - Alcohol
  - Vet wrap
  - Antibiotics, needle and syringe
  - Latex gloves
  - Bandages and disinfectant for the human patients

### Record Keeping:

Record information for each alpaca. This gives a comparison from year to year and allows the producer to track improvements in the herd and to make breeding decisions accordingly.

The fibre should be collected in 3 or 4 clear bags:

- Largest bag for the blanket
- Large bag for the upper legs
- Smaller bag for the apron (kitchen size)
- Smaller bag for the neck (kitchen size)
- Sandwich bag to collect samples
- Assemble smaller bags into large blanket bag for storage. If fleeces are damp, leave bags open for a couple of days, then close tightly tying with a slip knot. Always be aware of the danger of moths in openly stored fleeces.

Alpacas must be dry and should be cleaned before shearing – blow out dust and remove vegetation. The most effective machine for this is a livestock blower such as a Circuiteer. It is much easier to remove vegetation and dust while the fleece is still attached.

Teeth are the most challenging husbandry activity, best performed at shearing, if time allows.

GOOD LUCK AND  
DON'T FORGET TO



### FIBRE CHARACTERISTICS IMPORTANT TO PROCESSING ALPACA FIBRE

The objective of raising alpacas is to produce that beautiful high end fibre that will eventually become a value-added product to be sold to the general public. In order to maintain the value of alpaca fleece from raw product to valuable retail item, there are many steps. Harvest day is the first. Appropriate handling of the fleece on shearing day, in preparation for processing, is key to the revenues generated for the value-added retail items.

Fibre characteristics are essential to consider when making processing decisions. The importance of these characteristics is reflected in the show system. Judges take all of these into consideration when determining the quality of the fleece of competing alpacas. Breeding decisions intended to continually improve our ability to generate revenues from alpaca fleece are based on these characteristics.

In the following descriptions, the important fleece characteristics are identified, described and their importance to the processing of value-added products is explained. In addition, a chart enumerates influences on these characteristics indicating what changes the breeder may implement in order to positively influence his clip. The discriminating producer will put this information to good use, thereby continually improving his/her harvest and increasing revenues.

**Uniformity:** Uniformity is *consistency* in staple length, diameter of fibre and colour. It is desirable to have as much uniformity as possible across the animal's fleece.

Ideally, when preparing or skirting a fleece the variance in microns should be no more than 3 microns, while the variance in length should be no more than 2 inches. The fleece should contain minimal guard hair. A uniform fleece feels finer than its micron, therefore demonstrating a higher comfort factor and better handle. This provides better quality end-products that do not have a prickle factor.

**Fineness/handle:** Fineness relates to the diameter of a single alpaca hair measured in microns. Handle refers to the overall comfort factor - "how it feels to the touch". Uniformity of micron across the blanket will improve handle.

Fineness/handle determine the end uses of alpaca fleeces. Finer fleeces with the best handle will be used to make end products that can be worn close to sensitive skin areas, whereas coarser fleeces will be used for end products where softness is less critical.

**Colour:** Uniformity of colour is desirable for the processing of most end products.

Producers should be aware that two coloured or multi coloured animals usually sport differences in micron and staple length between the colours. Spots may be removed, but colour contamination may still occur throughout the whole fleece. This must be considered when batching.

**Staple length:** It is the measurement of the length of individual fibres in the fleece. Length is considered when assessing uniformity of fleece, as it affects uniformity and handle.

There must be less than a 2 inch variance from minimum to maximum length within each batch for most consistent end product. Length is an important consideration in selecting end products for processing: i.e. longer fibres will form stronger, longer lasting yarns, whereas shorter fibres will develop a prickle factor and have less tensile strength; fibres less than three inches in socks will eventually cause socks to form balls under the foot with wear. Fibre less than 2 inches has few uses.

The producer must consult with the mill for lengths required according to the equipment used. Different mills have different capabilities.

**Tensile strength:** The ability of fibres to resist breakage.

Tensile strength adds durability to end products.

**Lack of guard hair:** Guard hairs are stiff medullated (hollow) fibres that are not pliable and are usually coarser than the secondary fibres. Guard hair will adversely affect handle and consistency and increase the prickle factor.

It is most desirable to have as few and as fine guard hairs as possible across a fleece. It is inappropriate for many end products: i.e. guard hair tends not to felt and is not suitable for insoles or other felted products. Specific areas of the alpaca fleece contain a majority of guard hair – apron, belly and lower leg - and are usually not suitable for processing.

**Crimp:** It is the natural wave or crinkle of the fibre as it grows from the follicle. The more crimps per inch, the more elastic the yarn will be.

Elasticity makes fibres easier to process and helps the end product retain its shape.

**Brightness and lustre:** It is the ability of the fibre to reflect light.

The brighter a fleece is, the more uniform the fibres in the fleece will be. Light reflects off uniform fibres creating the brightness or lustre in the fleece, while light is diffused by less uniform fibres giving their fleece a dull look.

**Yield:** Yield refers to the measure of weight of usable fibre.

Density is an important factor in end weight. The more usable fibre produced by one animal, the more potential for profit.

### How can the producer improve his annual clip?

INFLUENCING FACTORS					
FIBRE CHARACTERISTICS	GENETICS/B REEDING	NUTRITION	ENVIRONMENT	HEALTH	SHEARING INTERVAL
Uniformity	X	X			
Fineness/handle	X	X		X	
Colour	X				
Staple length	X	X	X		X
Tensile strength		X	X	X	
Lack of guard hair	X				
Crimp	X				
Brightness/lustre	X	X			
Yield	X	X	X	X	X

#### Processing Suri Fibre

Suri fibre, while possessing slightly different characteristics, is removed from the alpaca in the same manner as for the huacaya alpaca. Suris used for fibre production are shorn clean, just like their huacaya cousins.

If shearing a suri alpaca that will be going back into the show ring, some producers prefer a layered, shingle cut. Using hand shears, the fleece is clipped leaving about 1 to 2 inches of fibre over the entire alpaca. This is a more difficult way to shear the alpaca. By leaving this length, the fleece returns to its suri look quicker than if the alpaca were shorn clean.

Alternately, some producers prefer to shear only the blanket area, leaving the neck, apron, withers, rump and all legs in full fleece. This showcases the full lock length and structure but also reduces the overall yield of fibre.

### Shearing Shed Set-up -

As Harvest Day approaches, some consideration and time need to be focused on the organization of the shearing shed. A well prepared site contributes to the efficiency and flow of animals throughout the day - less stress for all members of the team.

Some points to consider:

- Clean and prepare the area well ahead of time. Think of floor space where team members would benefit from padding to relieve strain on the legs.
- Plan meals, coffee breaks and snacks well ahead of time to keep your team members happy and comfortable.
- Depending on the time of year and your location, do you need to consider heating the shearing shed in the eventuality of a cold spell?
- What is the most efficient flow of animals through the space?
- Where will the animals be housed while waiting their turn? How long will they be there? Do they need water and hay? Are they sheltered from inclement weather?
- Where will the alpaca handler/cleaner perform his/her duties? Lay out necessary equipment: blower, brush, flicker, etc.
- Where will the alpaca shearing area be placed?
- Are tools and equipment set up nearby?
- Is the skirting area and fleece handling area organized in close proximity to allow for easy transition of the fleece from shearing table to skirting table?
- Using the Shearing Day Checklist, has the area been prepared and all tools and equipment laid out?

Thoughtful planning and consideration of all these points will result in efficient use of time and energy for all.

### Preparation of the Alpacas

Space, equipment and team members have been the subject of careful planning, but we must not forget to plan for the stars of the show. After all, the harvest is all about the alpaca's fibre. Careful attention must be paid to their coats for the most efficient and therefore the most profitable harvest.

- As soon as the spring weather permits, place the animals on pasture or in a location chosen to allow their coats to be cleaned in natural ways. Rolling on clean pastures and wind will remove some of the hay accumulated on their backs during a long winter in the barn and barnyard.
- Begin removal of deeply embedded vegetation in cria coats. These are much more likely to require some time and effort than the adult coats and shearing day may not permit enough time to complete this task.

It is much easier to remove vegetation and clean or trim fleece ends while the coat is still attached. Your sorter will thank you for not leaving this task to her/him.

- Plan for show fleeces. Examine your prize alpacas and decide ahead of time whose fleeces will be prepared for show. These must not be brushed or blown, as it will affect the judge's marking. Clean them by hand and prior to shearing day. Be prepared for some surprises. There may be a hidden gem among your alpacas that you have overlooked.
- Watch weather conditions in the days leading up to shearing day. The animals must be kept dry or they cannot be shorn. If wet weather is predicted, keep your alpacas indoors.
- They are clean. They are dry and they are full fleeced. They're ready!