

Selecting alpaca and minimising the mistakes

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Introduction

The ownership of alpacas is a fabulous experience as well as having the potential to be financially rewarding if you protect yourself from initial mistakes when you take your first steps in this exciting industry. If well on the way, you may need to recognise some mistakes and go about correcting them.

There are a few very important areas of knowledge to safeguard your investment and this paper should help you in your first or future selection.

Important rules before selecting:

- 1 Learn as much as you can about alpaca conformation, fibre and price structure before you select.
- 2 Realise that the duty of a breeder or an agent is to sell you stock. Do not blame them for your lack of knowledge or your mistakes but they should do it honestly.
- 3 If you are not confident, employ someone reputable to select for you.
- 4 Select with 90% brain and 10% heart.
- 5 You, or a selector, are not veterinarians. If something about an animal bothers you, ask a vet to check it. The amount of money it might cost you is minute compared to the risk of making a mistake that might damage your future breeding program and maybe others.

Before we look at what may be wrong with alpaca offered for sale, let me reassure you that over the last 18 years and seeing countless alpaca, bad genetic faults are very rare and many mentioned in this paper I have never seen. So when selecting you need to be able to look at a total package that will suit your breeding program. In other words a particular quality may overrule a fault and at the end you will need to decide if the fault can be rectified through proper breeding practices and most can.

How to select.

- 1 Breeding
- 2 Conformation
- 3 Fibre
- 4 Price

To help me select I have designed an "Evaluation Sheet" (see back page) that covers the most important aspects of screening. It works on a point scoring system and has helped me in being consistent in my selection, and most importantly has made me sure that I did not forget anything.

Breeding

Very simply if correct breeding practice has been followed by the stud you intend to purchase from, you will not need to worry so much about points 2 & 3.

When selecting it will be very important to ask details of that animal's breeding history.

- 1 Who was the sire, the dam, and as much information about the lineage.
- 2 Ask to see the sire and the dam of the animal.
- 3 Ask to see any other progeny from that sire and dam if available.
- 4 Do some homework on the past performances of the sire and the dam through your herd books, Herd Disk and past show results.

There is one important rule to follow:

- 5 Select animals sired by, or pregnant to, males of the highest reputation, proven performers with as many show winning progenies as possible.

Conformation

This is an area often neglected because of lack of knowledge.

I personally regard conformation as the most important criteria in my selection. Faulty conformation is much harder to breed out than improving fineness. We are hopefully establishing the base to a new sustainable industry. For this to succeed the base will need to be strong to carry this industry over the future years.

The same can be said of the alpaca, you need a strong base to establish a strong breeding line. My goal is to breed alpacas that will one day carry 9 Kg of good quality fleece, probably not in my lifetime, but one day. For this I will need animals of strong frame and sound health.

When selecting, you will often be shown animals in a small pen, most conformation faults can be checked there, but the animal will not be relaxed and might give you the wrong impression about its conformation. It is important to see the animal in its paddock so you can see it move freely. Whilst in the paddock check for balance proportion, posture and legs. To develop the eye will take time. If you have had experience breeding other animals it will come easier.

- 1 The length of legs should be, more or less, the same as the depth of the body (fig. F1). Check for a) Long legged (fig. F2) b) Short legged (fig. F3).
- 2 The neck should be, more or less, 2/3 of the length of the back and same as the fore legs. (fig. F1). Check for a) Short neck (fig. F35) b) Long neck (fig. F36).
- 3 The top line straight and slightly higher at rear than over withers. Check for a) Sway back (fig. F37) b) Humped back (fig. F37) c) Crouching (rear quarters lower than withers).
- 4 The area described by bottom line of body, the fore and hind limbs and the ground should be a rectangle. (fig. F1)
- 5 Rounded rump, not angled. (a fault often going unnoticed) (fig. F38).

BALANCE, PROPORTION AND POSTURE

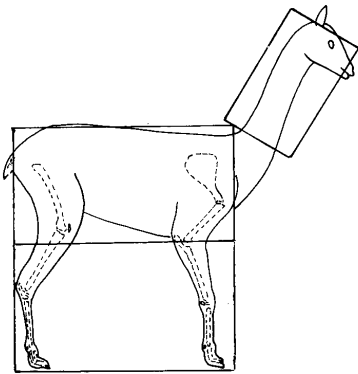


Figure F1 – Correct proportion

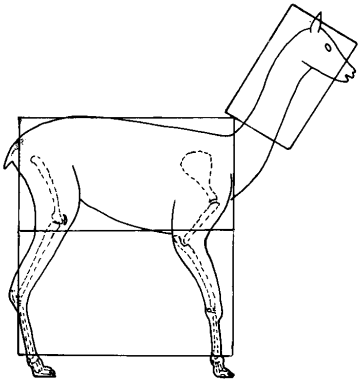


Figure F2 – Long legged

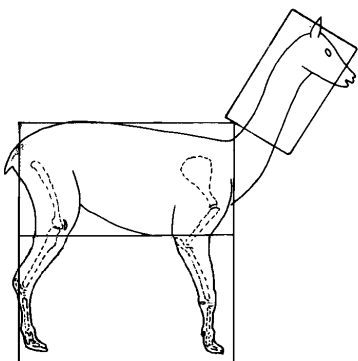


Figure F3 – Short legged

POSTURE

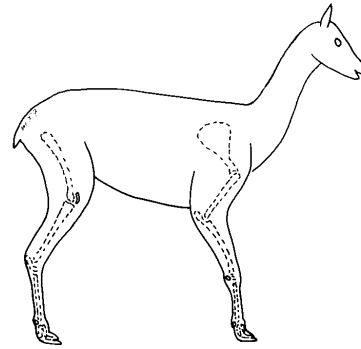


Figure F35 – Short neck

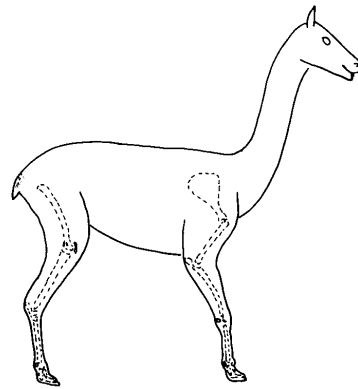


Figure F36 – Long neck

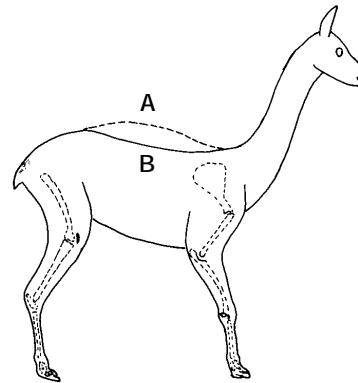


Figure F37 – Hump back A, sway back B

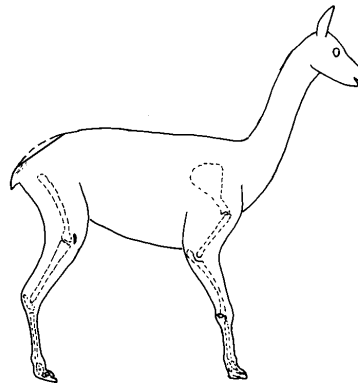
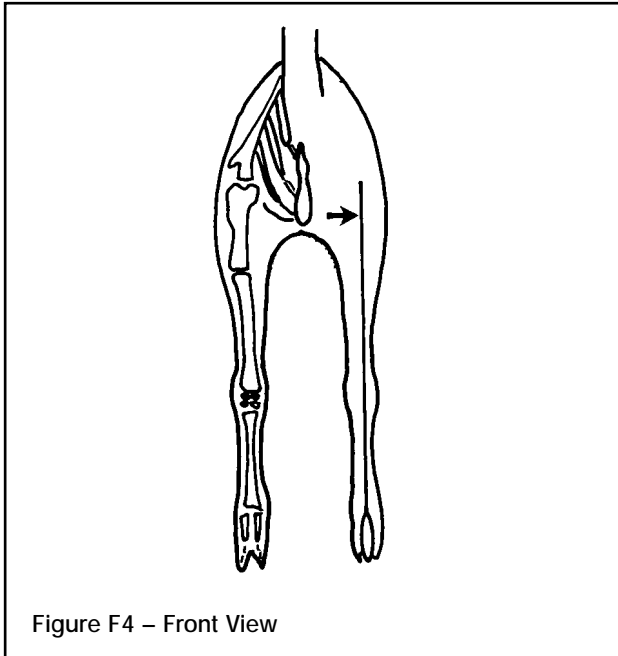


Figure F38 – Angled rump

FRONT VIEW: (FIG. F4)

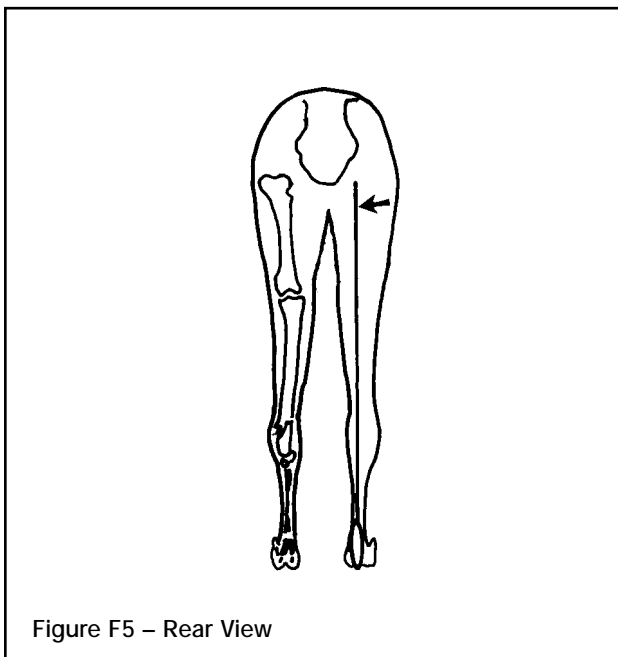
A plumb line held at the point of the shoulder should bisect each bone and joint from the knee down and the plumb line should end between the toes.



BACK VIEW: (FIG. F5)

A plumb line held at the pin bone should bisect each bone and joint and end between the two pads of the rear foot.

Once satisfied we can move the animal to a pen. Here we need to handle the animal and I would strongly recommend that only two people move into the pen. One to hold the animal and the other to screen. Move slowly to keep the animal as calm as possible.



D = DISQUALIFYING FAULTS FOR IMPORTS BY AAA SCREENING STANDARDS

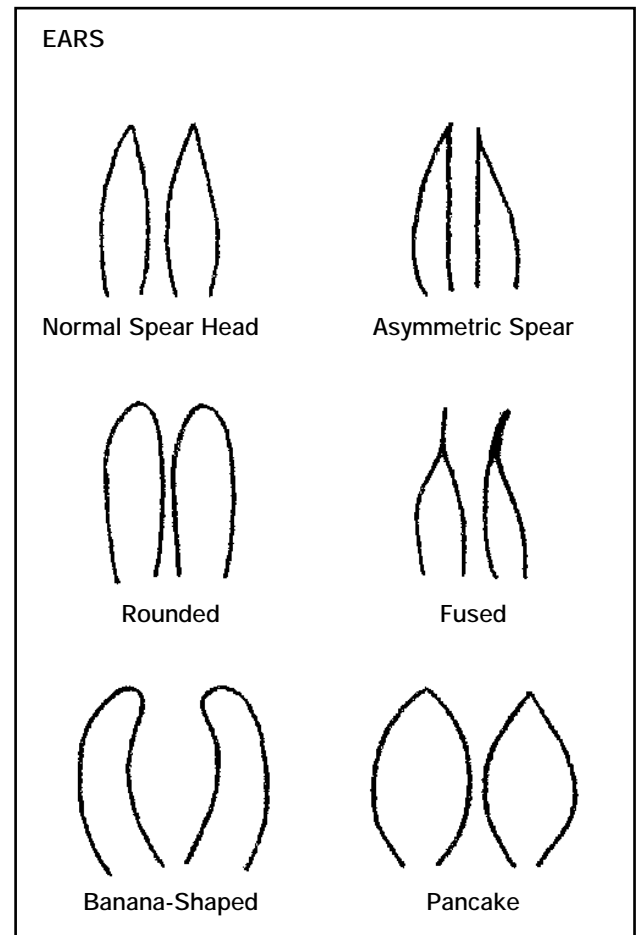
The head:

Shape of the ears, head and muzzle

- a) Ear: Normal = spear shaped (see drawings)
 1. Asymmetric spear
 2. Rounded
 3. Banana shaped D
 4. Pancake D
 5. Fused D
- b) Head and muzzle:
 1. Llama like D
 2. Moderately long
 3. Fragile (thin)
 4. Wry (twisted) face D
 5. Roman nose D

*** Suri must also have spear shaped ears but the tip can be slightly rounded. As to true to type Suri traits, I am not qualified to confirm or deny but I have seen very good Suri with that characteristic. The Suri nose should be slightly Roman.

The body of a Suri will be narrower and leaner in appearance when looking at the front and back view. That doesn't mean "Base Narrow".



The eyes:

1. Entropion (eyelid turning inwards). D
2. Ectropion (eyelid turning outwards). D
3. Tearing (blocked tear ducts). D
4. Cataracts. D
5. Evidence of blindness. D
6. Persistent pupillary membrane (needs to be checked by a vet, as you need strong light to detect. Membrane from cornea over the iris.). D

Teeth: (FIG. F6)

- 1 Inferior brachygnathism: (Overshot) Dental pad protruding more than by 0.5 cm beyond the lower incisors, measured from the outside of the teeth.
- 2 Superior brachygnathism: (Undershot) Central incisors protruding more than 0.3 cm beyond the dental pad, measured from the outside of the teeth. D

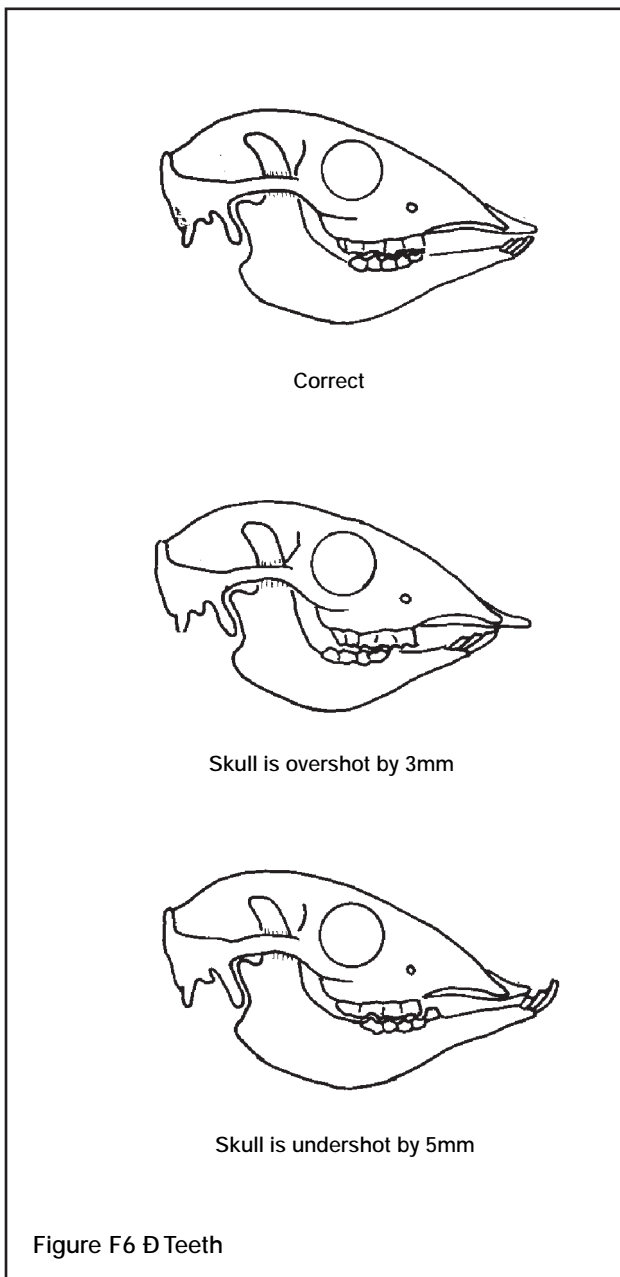


Figure F6 ♂ Teeth

Neck:

The neck is an area that should be checked by a vet as well as the thoracic and lumbar spine. But you can check the neck for growth/tumors and a neck too vertical or neck hanging abnormally low.

Body scoring: (FIG. F7)

- 1 Excessive thinness D
- 2 Thin
- 3 Normal
- 4 Overweight
- 5 Obese

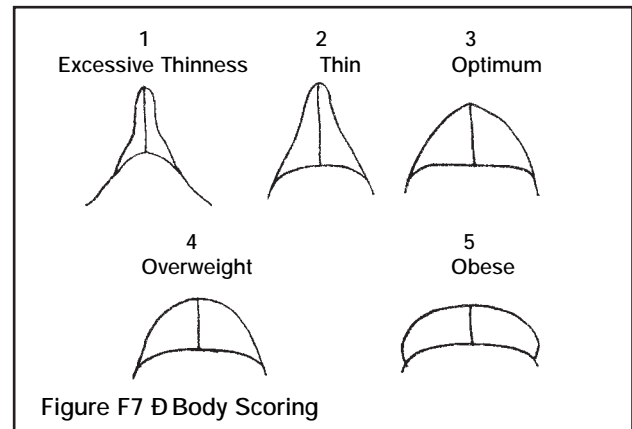


Figure F7 ♂ Body Scoring

Tail:

- 1 Twisted tail D
- 2 No tail D
- 3 Short D (must cover vulva or scrotum)
- 4 Bent tail
- 5 Hooked tail
- 6 Set high

Undercarriage:

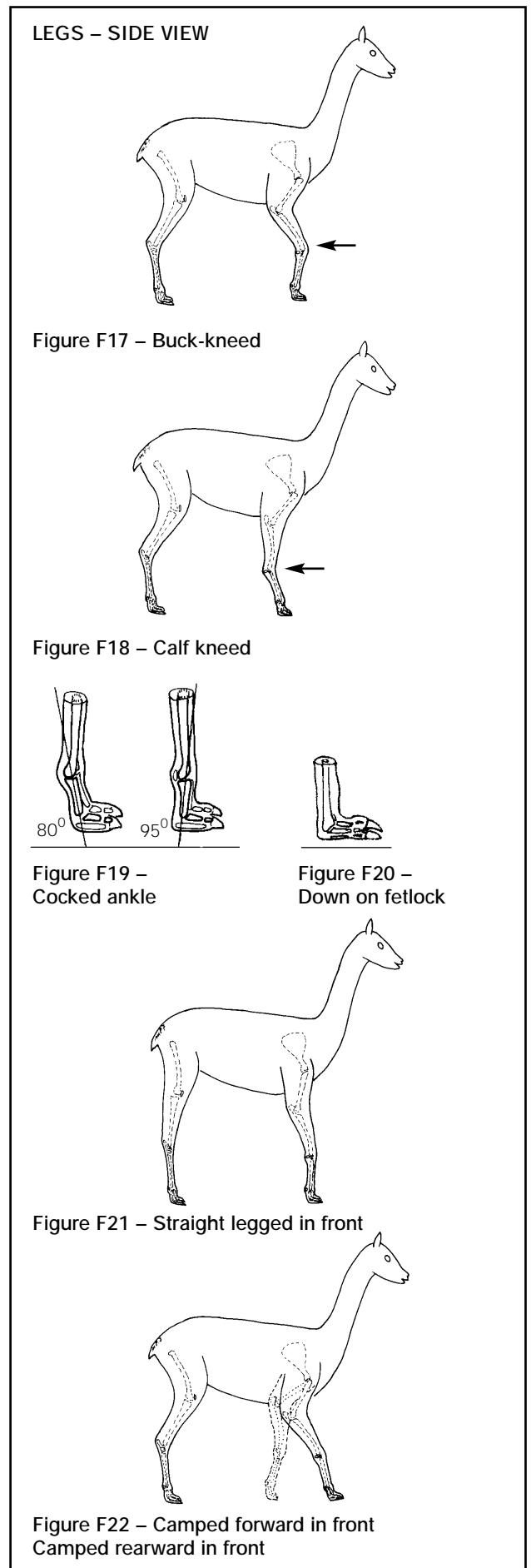
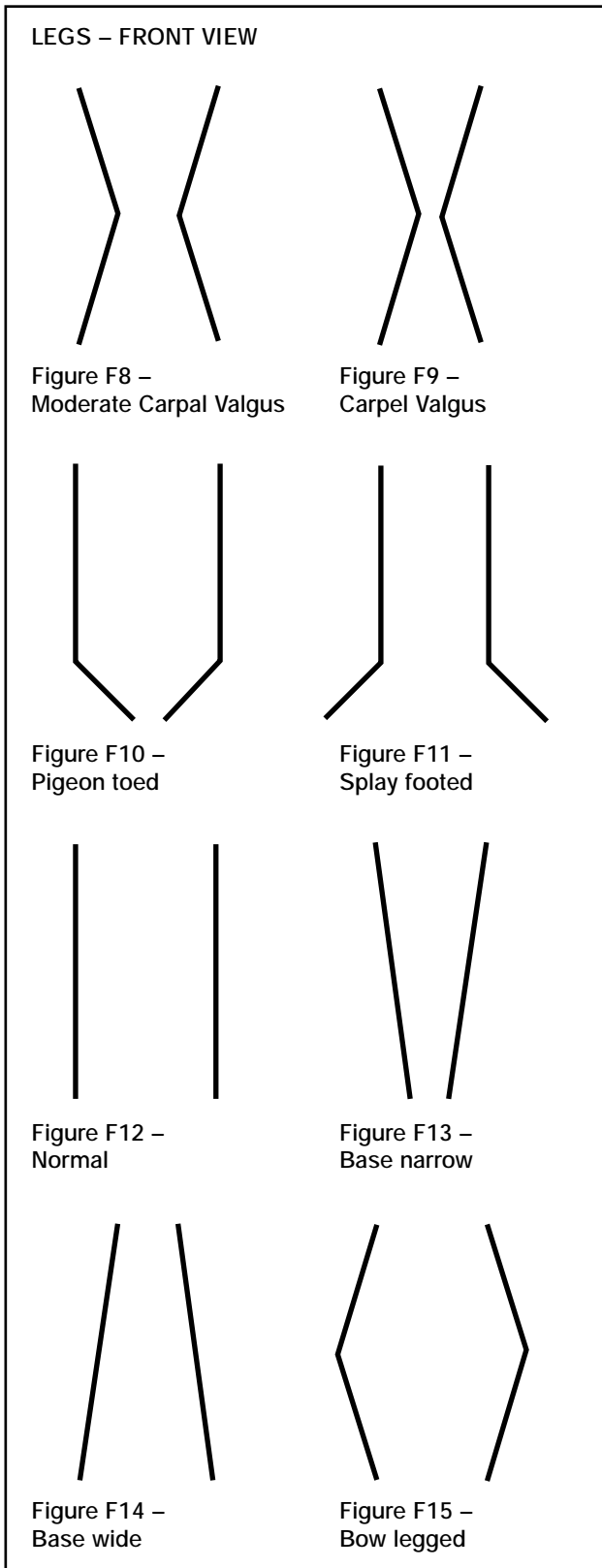
- 1 Teats: Less than 4 (more than 4, not for AAA) D
- 2 Hernia: at more than 2 years old D (under two, check with vet)
- 3 Urinary tract misplacement D
- a) Female: Abnormal vulva D
- b) Male: Two testes not in scrotum at 18 months D
Length less than 2.5 cm at 12 – 18 months D
Length less than 3 cm at over 18 months D
Abnormal consistency D

Limbs – front:

(Should have been checked in paddock)

Front view: (fig. F8 to F16)

- 1 Severe carpal valgus > 15 degree (Knocked-kneed)
- 2 Pigeon toed (D if severe)
- 3 Splay footed, (toe out, D if severe)
- 4 Base narrow
- 5 Base wide
- 6 Bow legged D
- 7 Syndactyly: (fused toes) D
- 8 Polydactyl: (more than two toes) D



Side view: (FIG. F17 to F22)

- 1 Bucked kneed (D if severe)
- 2 Calf kneed (D if severe < 165 degree)
- 3 Cocked ankle (D id severe > 90 degree)
- 4 Down on the fetlock (D if severe < 30 degree)
- 5 Straight legged in front
- 6 Camped forward or camped rearward

Limbs – Rear:

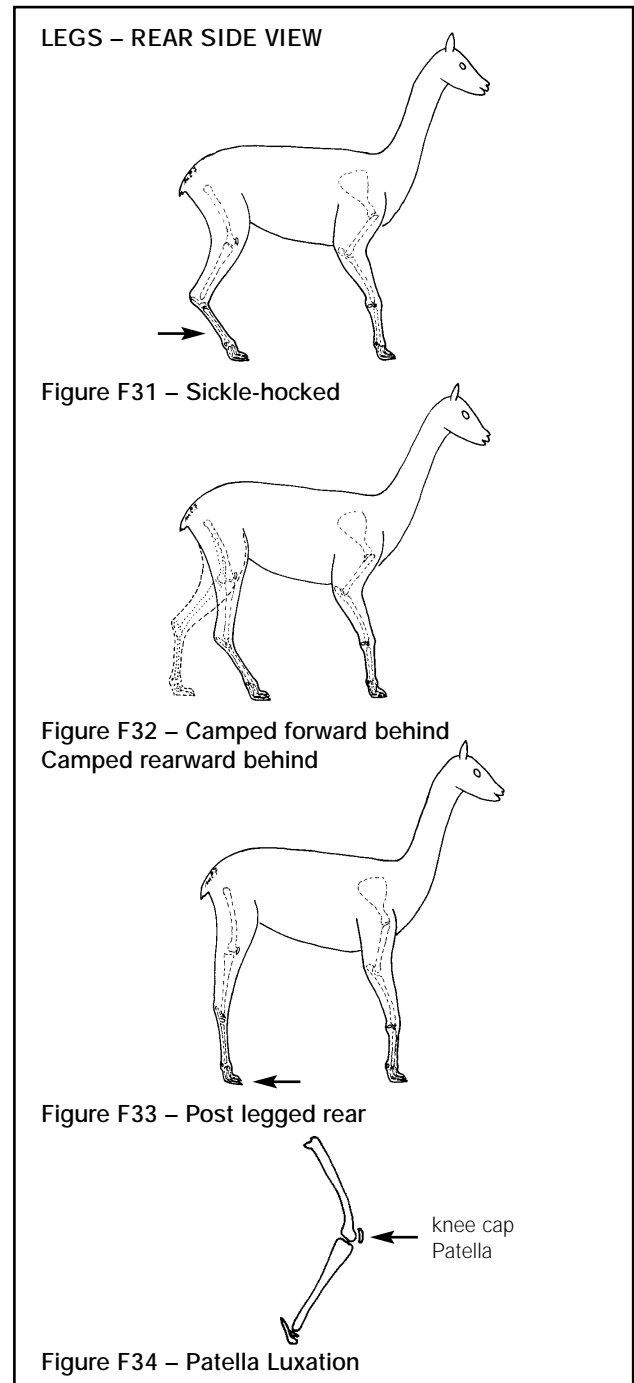
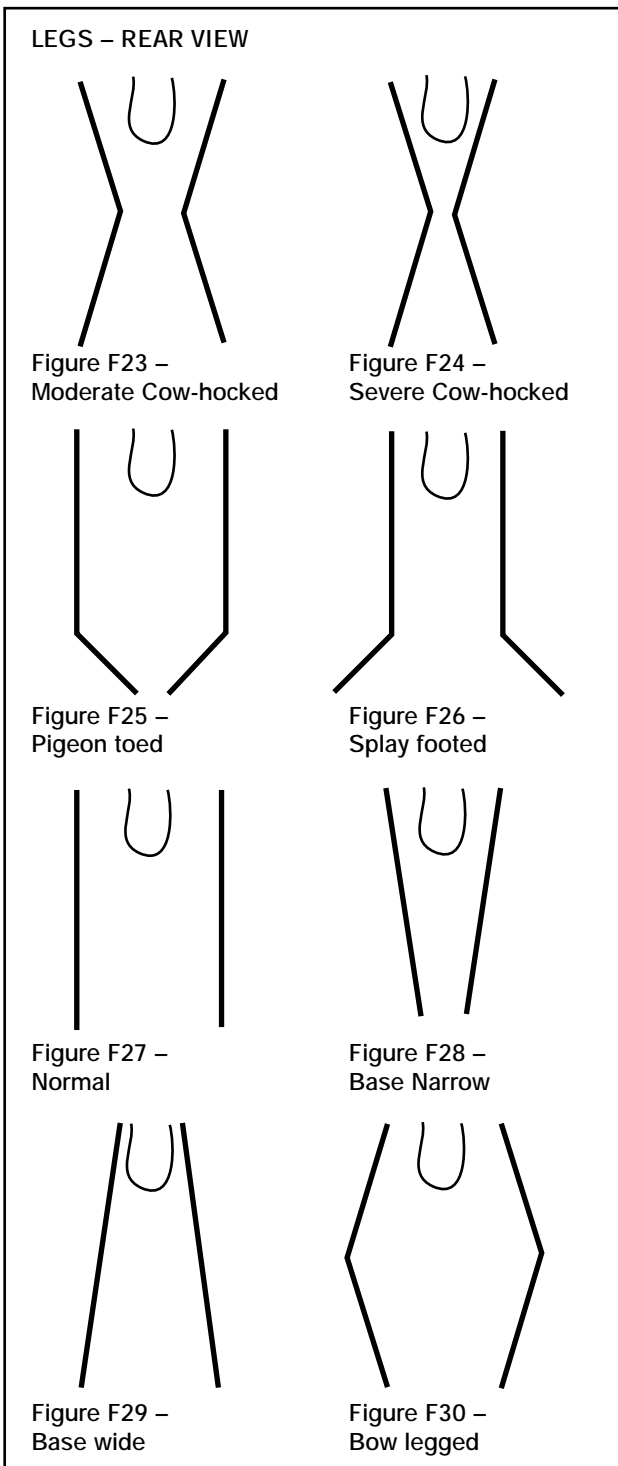
Rear view (FIG. F23 to F30)

- 1 Moderate cow-hocked
- 2 Severe cow-hocked D (>10 degree)
- 3 Pigeon toed (D if severe)
- 4 Splay footed (D if severe)
- 5 Base narrow
- 6 Base wide
- 7 Bow legged
- 8 Syndactyl D
- 9 Polydactyl D

Side view (FIG. F31 to F34)

- 1 Sickie hocked (D if severe < 125 degree)
- 2 Cocked ankle (D > 90 degree)
- 3 Down on fetlock (D < 30 degree)
- 4 Camped forward behind
- 5 Camped rearward behind
- 6 Post legged
- 7 Patella luxation D Patella = knee cap luxation = dislocation needs to be palpated. Ask vet to check as part of health check when buying working male. Often animal will drag leg and cria will be crouching badly.

You should have enough knowledge to be aware of faults, but should always get a second opinion from a qualified veterinarian.



Fibre

Obviously fibre quality is of great importance so much so that in the show ring fibre is given 60% of the points with conformation 35% and 5% for presentation.

At this stage of the industry I would rather see a more equitable share between fibre and conformation, closer to a 50/50 percentage for a solid breeding base.

Always ask for the latest histogram, previous histograms and fleece weight. **Only use the histogram as a tool for selection do not buy an animal on its histogram alone.**

Record the changes with age. Ask for the latest histogram of the Sire and Dam but do not worry too much if not available as you are purchasing the progeny and that progeny will become the base for your breeding.

Now you will need to handle the fleece. It is primordial that you learn as much as possible about the fibre as you can before you buy.

It might be safer to employ someone to do it for you. Make sure they are aware of your breeding program or criteria.

Check the fleece for the following characteristics.

- 1 Handle
- 2 Density
- 3 Lustre
- 4 Uniformity of micron
- 5 Uniformity of length
- 6 Character (crimp and staple/lock formation),
- 7 Lack of medulation,
- 8 Uniformity of colour,
- 9 Coverage.

Handle: Huacaya and Suri

Handle and fineness go hand in hand. You will need to learn how to estimate handle and fineness and the best way is to feel as many fleeces as you can and compare to the histogram. I have developed a way to judge handle and fineness, which works well for me. You take a staple between your thumb and index finger and slowly with slight pressure rub them together until you get down to single fibres. Depending on how long it takes you to go through the staple and how soft/silky it felt will give you an indication of handle and fineness. If you went through it quickly and each single fibre felt thick and rough you will have a strong fleece, should it take you a long time and it felt silky as if you were never going to get to the single fibres, it is obviously fine and has good handle. It is also indicative of staple density. Using this method the last eighteen years, I have been able to pick down to a difference of half a micron, but on the next fleece I was off by three microns. You will need to practice to define your own tactile limitations and don't believe anyone telling you they can guess the micron by handling the fibre. You can get close and sometimes you might guess it right but it is well worth the practice.

It is also a good idea to do as some judges, take a sample of fibre that you know to be 20 micron or 21 with you to compare with the fibre on the animal you are selecting. If an animal is shorn you can judge handle and fineness by lightly

passing your hand on the saddle area. It should feel soft and silky if fine. The nose and ears of an animal are also a good area to check. Rubbing the nose with your thumb very gently will give you a good indication of fineness, especially with young animals.

*** One interesting point in regard to blacks. I am a strong believer that blacks have more often than not a better handle than their micron test would indicate. They feel soft but test strong. I can't explain why, unless when tested using a laser, the light throws a shadow on the black fibre, which gives a higher reading than it should, but this is only hypothetical.

Density:

Density is apparent with two methods of detection

- 1 Density of fleece, which I measure by handling the full fleece on the animal including along the neck. I also open the fleece to the skin and look at how much skin I can detect. A dense animal will not show too much skin at the root of the fibre.
- 2 Density of staple, as mentioned in the "handle" paragraph, by rubbing a staple between two fingers you will soon feel if there is density (thickness) in the staple or not. Try to go through a ball of cotton wool and see how long it takes you to get through to the single fibres, that is density.

*** Animals under 12 months will still feel as if they lack density; their fleece characteristic changes enormously after the first shearing. I recommend you look at the sire and dam to help you establish future density in weanlings.

Lustre: Huacaya and Suri

Lustre is easy to determine with the huacaya, you will detect it on an unshorn animal by the glassy appearance of the fleece: if shorn it will be easier as the fleece looks shiny and healthy. Suri **must** have lustre. You can see it as they walk and on a closer inspection of the fleece, it should dazzle you. A rich lustrous fleece is developed from good nutritional practices

Uniformity of micron: Huacaya and Suri

Here again it takes practice, by handling the fibres all over the body it should be even in its handle and fineness. Here you can use a histogram to help you and look at the CV if it's a low CV your micron across the fleece will be uniform.

Uniformity of length: Huacaya and Suri

I do not worry too much about it. This is more important in the show ring, except maybe as an indication of health, poor feeding or sunburn. It is more important to look at the general health of the fleece, a healthy fleece will look bright, and an unhealthy fleece will look dull and maybe slightly mangy. Now is the time to check for "Tenderness".

If you are suspicious of a health problem, get a vet check.

Character

- 1 Huacaya (crimp and staple formation)
Staples should be found in a well defined formation, the size of each staple is a question of personal taste. It might also be dictated by a trend. I prefer a 1cm wide staple

with a 1mm gap between staples, others like bundles of 0.5cm staples; this depends on personal preference. You make up your own mind. What is important is the evenness of the formation. You want the staples to be consistent all over the body, keeping in mind that the structure will change in the neck and legs.

Crimp: A fleece with well defined lustrous crimp is beautiful to look at. Many will argue about the importance of crimp, it gives stretch etc... Talk to English and Italian mills and they will tell you crimp has no importance to them in processing. However I believe that the crimp helps in holding the fleece tighter together and stops the dirt getting into the fleece. That, in turn, will help in stopping a fleece to cross fibre. Should you want to take your selected animal to the show you will certainly need the crimp and you won't need to worry so much about cleaning the animal before the show as dense fleece with good crimp will stay clean inside and when opened will bloom.

2 Suri (lock formation)

Just in case you do not know, a Suri should not have crimp. Their lock formation is of great importance in your selection criteria. The lock should have a tight twist starting from the back bone to the end of the lock. It should move together when the suri is in motion; this is why a suri looks better with two years of fleece, although the weight of the fleece will flatten the lock on its back.

The lock formation down the neck of the suri is also important and a suri that displays good tight lock formation all over will better display its lustre.

Lack of medulation: Huacaya and Suri

I prefer to call it lack of guard hair. The perfect alpaca would have no guard hair, but it will take many many years of breeding to get rid of it, if ever. When selecting you will need to look for as little guard hair as possible on the saddle area. When testing ask to have a histogram showing medulation. It will be shown as a darker area on your histogram.

On some animals you will see guard hair by just going through the fleece, it's a much thicker, straighter hair and it's ugly. With finer animals it is much harder to detect and one of the best ways to see it is to pluck a small amount of fibre from the animal and place it on a darker piece of cloth, the difference in thickness of fibre will be more obvious due to the contrast. The other way is to pull the tip of a staple and you should be holding on to mainly guard hair.

You can also look at your histogram and check the % > 30 micron. If high the animal will have a higher % of guard hair.

Uniformity of colours: Huacaya and Suri

Check for foreign colour even small spots; colour ridges on backs and coloured fibres through fleece. E.g. Black in white; Fawn in white, white in black etc. Many white Peruvian have small fawn spots smaller than a five cents piece, do not over concern yourself unless you do not want to breed fawn animals. They will breed solid if you are careful in your male selection.

Some blacks often develop white or grey spot where the skin has been damaged through fighting or injections.

Fleece coverage: Huacaya and Suri

To have a complete, quality alpaca, it needs to be well covered, from head to toe.

1 Huacaya

A good bonnet, clean face and good coverage on the jaws (mutton chops), young animals may have fibre in front of the eyes; it will disappear as they grow older, too much fibre on the face for an over 12 months to 2 years old is not recommended as it can cause wool blindness. Legs should be covered down to the toes.

2 Suri

The same as the huacaya, but a true to type suri will have locks parting on either side of the muzzle, a bonnet might be indicative of huacaya traits in the background. The locks down the legs should go to the toes.

Price

There is now a sale magazine that will give you a fair indication for price structures, but unless you know how to screen and you have kept in touch with the market, it will be difficult for you to place a true value on stock.

LIST OF WHAT YOU SHOULD ASK

WHEN PURCHASING:

A contract or agreement giving you satisfaction of the following:

- 1 IAR number, name and DOB of the animal.
- 2 Guarantee of fertility within 24 months for a weaning female and 36 months for a weaning male.
- 3 Guarantee of pregnancy if alpaca is sold pregnant with a "Live birth" guarantee.
- 4 The purchaser's choice of money back guarantee or exchange for an alpaca of the same quality if the alpaca is proven infertile by a veterinarian in line with points 2 & 3.

And a copy of the following:

- 5 Registration certificate
- 6 Health certificate
- 7 Pregnancy certificate
- 8 A4 certificate if animal is pregnant.

In the end we all want our industry to provide us with a market for our animals, our fibre and financial security.

Selection is the first step, the second will be your breeding program.

To complete the picture it will need to be supported by smart marketing.

Reference:

- 1 ERIC HOFFMAN AND MURRAY E. FOWLER, DVM: "The Alpaca Book". Drawings in Chapter 4, Conformation, Form, Function and Gaits of Alpacas.

Evaluation Sheet

Date:	Client:	
Alpaca Type:	Alpaca Name:	
IAR: Tag:		
DOB:	Colour:	Gender:
Copy of registration papers:	Farm:	

Breeding:

Sire:	Colour of Sire:	Type:
Dam:	Colour of Dam:	Type:
Pregnancy status: LMD.	Working male:	
Comments:		

Conformation:

Head:	Ears:	Eyes:
Mouth:	Neck:	
Body:	Tail:	Teats:
Front Legs:		Balance:
Back Legs:		Proportion:
Body Score: 1 2 3 4 5		

Reproductive:	Male Testicles:	Female: Vulva
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Miscellaneous:

Hernia:	Scars:	Others:
Comments:		

Fibre: (out of 5)

Handle:	Density:	Lustre:
Uniformity of micron:	Crimp:	Staple:
Lock:	Density of staple:	Coverage:
Evenness of colour:	Medulation:	
Micron:	SD	CV
Spinning Fineness:	% > 30	
Date taken:	Fleece weight:	
Price:	Estimated value:	
Comments:		

Gordon

Date : 01Mar00 Mean = 23.04 u
 Sample ID : Brujeria 23076 Medulation SD = 4.77 u
 Description : STAPLE CV = 20.7 %
 Lot/Client : Coricancha Sample size = 4000
 Operator : BMS Spin fineness= 22.4 u
 9.3 % of fibres are >= 30 u. 5% of fibres 9.8 u above mean.
 Num med= 627(15.7%)inc 55flat,400obj/10K Mean opacity= 62.9[14.9] %
 Mean med diam= 29.7[5.2] u % med by vol= 25.7%, by wt= 16.3%
 Curve= 44.8[28] deg/mm Curve number= 1207
 OFDA014:2.11 Cal: D=4.8315*WH -1.09, DkFlash= 48.2

