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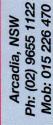


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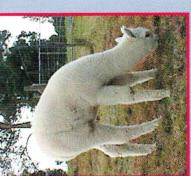


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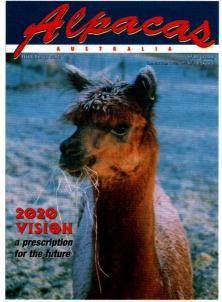








Lorraine Cooper & Roger Porter



Cover photo courtesy R & M Grubits, Intrepid Alpacas

Alpacas

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CONTENTS

- 2 A MESSAGE FROM THE PRESIDENT
- 3 A VISITOR BRINGS NEWS OF ALPACAS IN BRITAIN UK breeder, Philippa Wills talks with Jane Szigethy-Gyula
- 5 ELITE FIBRE: NEW MANAGER BRINGS NEW DIRECTION Avtar Singh settles into a new land and a new job Stephanie Pope reports
- **9 2020 VISION**Nick Veltjens focuses on the future
- 13 BLACK OUT! A SHINING SUCCESS
 The first show and sale of black alpacas
- **15 AAA TO LAUNCH ANNUAL INDUSTRY NEWSPAPER** Exciting, new, consumer-oriented venture for the industry
- 16 AAA CONFERENCE: SPEAKERS AND TOPICS
 A superb line-up of speakers and topics
- 18 NEW ZEALAND MOVES INTO SHOW MODE Carolyn Jinks reports on a 'mock' show and the real thing
- **20 AN UPDATE OF ALPACA FLEECE COLOURS**'...the results to date indicate that coloured fleece types dominate over white...'
- 24 SELECTION OF ELITE SIRES: AN INTEGRATED EVALUATION MODEL

More on selection of sires based on the performance of the individual and progeny

- **32 ALPACA BREED STANDARD**The official alpaca breed standard of the Australian Alpaca Association Inc.
- 36 CANADIAN ALPACA BREEDERS ASSOCIATION FLEECE SHOW Why not show Australian fleeces in Canada!
- 39 ALPACA DUNG... TO RAKE AND SHOVEL OR NOT? How Joyce and Jeffery Hill put an end to back-ache!
- **40 BUSINESS DIRECTORY**
- 41 THE INTERNATIONAL ALPACA INDUSTRY

 The current trend to globalisation can only maximise our opportunities
- 43 TWINS! DOUBLE TROUBLE? OR TWICE THE VALUE?

 New twins welcomed and 'old' twins revisited
- 49 ADVERTISING RATES AND DEADLINES
 New arrangements apply from next issue
- **50 PACA PICS**
- **52 ORDER FORM AAA MERCHANDISE**

ADVERTISERS index

Alpaca Magic & Llama Magic	4
Alpacandes Alpacas	
Amity Green/Bonnie Doon Alpacas	
Australian Alpaca Association (Conference)	10
Australian Alpaca Associationinside back co	
Benleigh Alpaca Stud	
Blue Grass Alpacas	20
Bungalook Alpaca Farm	39
Coolaroo Alpaca Stud	5

Hunter Alpaca Stud	15
Lifestyle Alpacas/Gorge Alpacas inside	front cover
Manna-Gum Farm Alpacas	38
Merrandale Alpacas	
Pucara Alpaca Stud	
Shanbrooke Alpaca Stud	7
Swan Valley Alpaca Stud	
Wesfarmers-Dalgety	46
Windsong Valley Alpacas	29, 31



A message from the President

uch has been made of the deliberate vertical integration of the alpaca fibre industry. Many believe it is primarily responsible for the orderly and sustained growth of the animal component of the industry and a demonstration of the viability for the future.

The establishment and operation of the Alpaca Co-operative and, more recently, Elite Fibre is something that every promoter of alpaca uses to advantage. The fact that only Australian Alpaca Association members can belong to the Co-op strengthens the concept of industry ownership, which is extended by the Co-op stake-holding in Elite Fibre.

A strong bond between the Co-op and the Association exists in many areas, not the least of which is the 550 odd members who belong to both organisations.

But there is a weakness.

The Co-op has shouldered the burden of the commercial development of alpaca product for the benefit of the vast majority of Association members. This comment does not take away from the contribution of individual members who have championed product development in their own right – it merely highlights that about a quarter of our membership is providing a very real advantage to the rest.

Like our own Association, the Co-op has had a rough and sometimes perilous row to hoe. It attacks its problems with the vigour and commitment that propelled its establishment, probably before its time. It has suffered from negative perceptions – some of which may have been real – but many of which were politically motivated, coloured and driven by personalities. It has suffered in its growth and development as has our own organisation.

The point is that we, as alpaca breeders and growers, owe more to the Co-op than it owes to us.

I firmly believe that the past must be firmly buried once and for all. We must look to a future that is more inclusive, more consultative and certainly more jointly participative.

We must acknowledge that each of us needs to work together for both our own and for our joint futures – not to mention for the success of the Australian alpaca industry.

We need to ensure that we will have a value-added market for a large percentage of our estimated 2 million kilogram crop of alpaca fibre in 2010.

Just as alpaca animal production is a long lead time industry, so too is the development and establishment of sustainable, long term product markets. As an example, to develop a range of alpaca socks that can be marketed around the world can take months and months of costly research. To get those socks into the trade and then into the shops takes time and money. The whole exercise could take upwards of a year or more. Such are the demands of product research and development in a global market – and it is a global market that we will be trading in!

The Co-operative needs more than 550 members and their fibre to help handle the production of up to 2 million kilograms of fibre from over 2500 growers in the future.

The Australian alpaca industry needs more than the near heroic efforts of both individuals and Co-op members to develop value added product to sustain our animal and fibre industries of the future.

The Australian alpaca industry has a commitment to the development of a profitable and sustainable alpaca primary industry. It has considerable resources which it devotes to the development and production of animals and fibre.

It contributes nothing to value adding to the national alpaca fibre clip.

Is now the right time for us to join forces with those who are adding value to our clip to further enhance and develop their contribution?

Is it now time for us to contribute to our future with money, resources and in-kind support to not only safeguard but to ensure our future prosperity?

Is now the time for us to mature, bury the past and approach the future with hope, confidence and mutual support?

I believe so.

Ian Watt

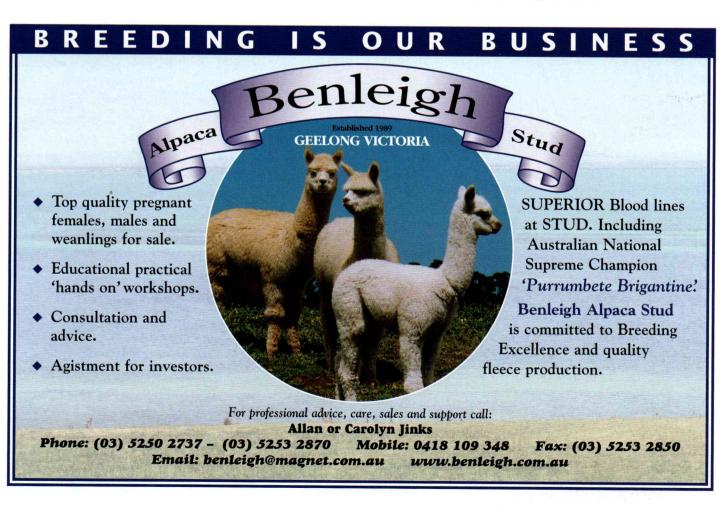
A visitor brings news of alpacas in Britain

by Jane Szigethy-Gyula, Mountain Alpacas

ne of the great pleasures of being part of the alpaca world is just that – alpacas are becoming a global industry and, as such, offers an added dimension and entrée card when travelling overseas or receiving overseas visitors. Recently, Nick and Philippa Wills from the UK visited me at Mountain Alpacas and we decided to submit an article on each other for our respective national magazines.

Philippa and Nick dedicated part of their recent Australian trip to having a look at the alpaca scene and here with a bit of emphasis on black alpacas. They had visited a number of studs in the West before making it to Mount Macedon in Victoria. Long into the night, Philippa filled me in on the world of alpacas in the UK, which I now relate here.

At home in Great Milton, near Oxford, Philippa has a herd of 23 animals, thirteen of which are to give birth soon. Enchanted by her first contact with alpacas, she was like a child in a sweet shop, choosing one of every colour in her first purchase in 1994. Of these, one presented her with Benedict, a grey male which Maggie Krieger judged third National Junior Male (all colours) in 1999. She was less successful with some of the others and said with wry humour that, 'one was barren, one ancient, one a runt, one with a displaced testicle and one rather nice'. The 'ancient' was born at Twicross Zoo and, at 17 years old, gave birth after twelve-and-a-half months' gestation. The 'ancient's' age can be substantiated from zoo records. According to United States vet, David





Very much at home - Philippa and Nick's herd at Great Milton near Oxford, UK.

Anderson, there is no record of an animal over 14 years old giving birth, so Philippa's 'ancient' may have made world history, at least in a documented sense.

Philippa's current herd is living in gracious surroundings on 17 acres with splendid ancient trees, cold weather housing and fine, well-drained pastures. Despite the UK's rain, no wool rot has been detected but, paradoxically, she did have fly strike one hot summer's day with maggots spreading rapidly over a day-old cria.

Her original shearer shore in the time-honoured way, rolling the alpaca on the butt of his back and doing a sheep job on him. The fleece was unskirted and bagged together as it came off. Now she is following the Australian method and the animals are secured on their sides, the fleece skirted as shearing is done.

In the few years since alpacas have been in the UK, the number of animals has increased rapidly to about 3000 today. Pat Bentley's pioneering mob was originally made up from those she could source in Europe from wild-life parks. As interest spread, shipments have come in from Chile and the United States, some via Canada and some via Switzerland. By June, there will be about 60 suris there, with another shipment from Australia in the pipeline. One hundred Peruvian huacayas are soon to arrive to join those already there. Barreda's Peruvians have already made an impact and the UK is looking forward to rapid improvement in quality as these new Peruvians make their mark. As would be expected, the majority of the animals are whites and fawns, with a sizeable number of browns and few greys or blacks.

It seems that the British alpaca scene replicates ours of six or seven years ago, with buyers searching out breeders. This is not surprising, as alpacas are ideally suited to an animal-loving nation of small holdings with a solid history in textile manufacture. To date, promotion of the animals has been limited. The national agriculture show at Stoneleigh and the big county show are the obvious showcase venues, otherwise

most people make contact with breeders through information gained word-of-mouth, over the Net or via the two main small-holder magazines published. The first public auction took place at Pat Bentley's with all lots being snapped up. Prices were similar to those experienced some years ago in Australia, but in calculating to Australian dollars, allow for the exchange rate and don't forget to add VAT of 17.5 per cent, which makes a difference.

Prices were: pregnant females, £10,000; weaner females, £5000-£9000; wethers, £800.

More recently, on 11 March this year, another 103 Chilean animals were sold at Macclesfield, Cheshire. They were mostly coloured and had been doing it rough in quarantine for twelve months (the last eight months of which were spent in pens under cover). Prices for females were around £4000-£5000. Their ready sale reflects the great sense of optimism in the UK for the future of the industry.

Most of the fleece cut in the UK is going through the co-op to the British Alpaca Fine Fibre Co. near Bradford for processing into simple sweaters and throws. Debate and experimentation will determine what garments fill British market requirements and whether extra fleece will need to be imported. Initially £40 per kilo was to be paid in two instalments, but the second instalment was waived to encourage the enterprise to become firmly established.

Philippa was greatly impressed by our coloured animals and would like to see the number and quality of them increase in the UK.

Both she and Nick extend a very warm welcome to those visiting Britain to see how they are doing it there. The Oxford area has quite a cluster of breeders so, for those touring, it might be worth putting aside a day or two to have a browse around the studs in this simply glorious part of England. If you are really brave, do it in winter when you can see the alpacas in full fleece in a winter wonderland.

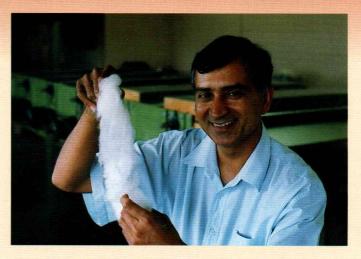
ELITE FIBRE: new manager brings new direction

BY STEPHANIE POPE

Mr Avtar Singh is the newly appointed General Manager of Elite Fibre Australia, Pty Ltd in Geelong, Victoria. He has invested his entire career in the specialty fibre industry. His knowledge of rare natural fibres combined with proven leadership abilities will certainly enhance the team at Elite.

Mr Singh, former Manufacturing Director with the Specialty Fibre Division of Dawson's International in Bradford, UK, brings a wealth of experience in the processing of specialty fibres to Elite. Beginning employment with Joseph Dawson, Ltd in 1977, he commenced his career as an Operative in the Dehairing Dept and worked his way through each discipline: sorting, blending, scouring, gilling and combing. His skill landed him a position in Quality Control and then as Manager of the Dehairing Dept. In this department, his tasks included scouring, dehairing, and combing of camel, cashmere, angora and other specialty fibres.

Seeking a change, he progressed to Technical Manager and developed his expertise in evaluating raw materials at their source. This paved the way for his final promotion to



Manufacturing Director where his responsibility extended from the purchase of raw materials, through to dispatching the finished product.

I wondered what would make him resign his position after 20 years at Dawson's, and move from the comfort of a well established home in England to the harsh rigours of setting up a new business in Australia. After all, he came without knowing anything about Elite. His initial intention was to set up a processing plant in Adelaide. When I first met him at

Grand Champion Male ~ Sydney Royal 2000 Coolaroo Jaminu

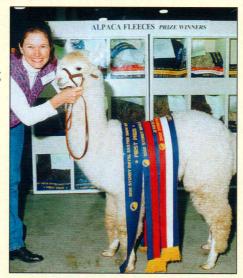
SIRE: Purrumbete Minderoo ~ DAM: Coolaroo Julia [pure Chilean]



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the South Australian Regional AGM, he had established a place of business and was beginning to process alpaca from local breeders using his own equipment. Avtar fully supports our industry, saying, 'Recent developments and efforts by the specialty fibre growers in Australia have given me the confidence that a specialty fibre processing plant in Australia is a viable investment for the future.'

However, one cannot investigate the specialty fibre sector too far without stumbling upon Elite. After visiting the mill, inspecting the existing facilities, and taking into consideration the very small amount of specialty fibre produced, he concluded that competition was neither a logical nor productive alternative. Avtar explains, 'Elite is an established specialty fibre processor and has a complete top making and yarn manufacturing operation. It offers enormous potential for growth and is located in the centre of an established textile manufacturing infrastructure.' The sensible solution was to enhance the existing operation.

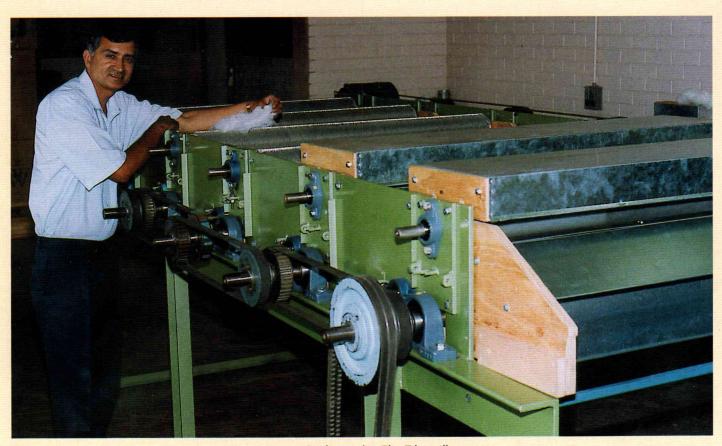
Upon confirmation of his contract as General Manager, Avtar relocated all his equipment to Geelong to be incorporated with the machinery already in use at Elite. Director, Alan Hamilton cites the installation of the equipment as yet another innovation by the company to assist specialty natural fibre producers with

the benefit of value adding. In addition to traditional wool processing, the mill specialises in alpaca, mohair, organic wool, black and coloured wools, and cashmere.

Avtar has brought the first dehairing equipment to Australia. Although developed to process cashmere, it offers enormous potential for the alpaca industry. It will allow guard hair to be removed from bellies, briskets and legs of the alpaca fleece, yielding a higher percentage of useful fleece per shearing. A sample of alpaca that Avtar had processed with this equipment was available for inspection at our AGM. The handle and comfort factor of the sample showed considerable improvement over the unprocessed portion of the fleece. Elite plans to trial the dehairing equipment using alpaca later this year, after the first run of cashmere has been completed.

With the installation of the cashmere dehairer, Elite is forming a relationship with the Australian Cashmere Grow-ers Association to process all of the fibre classed at their facility, currently 90% of the Australian clip. Similar relationships are being sought with the black and coloured woolgrowers and organic wool-growers.

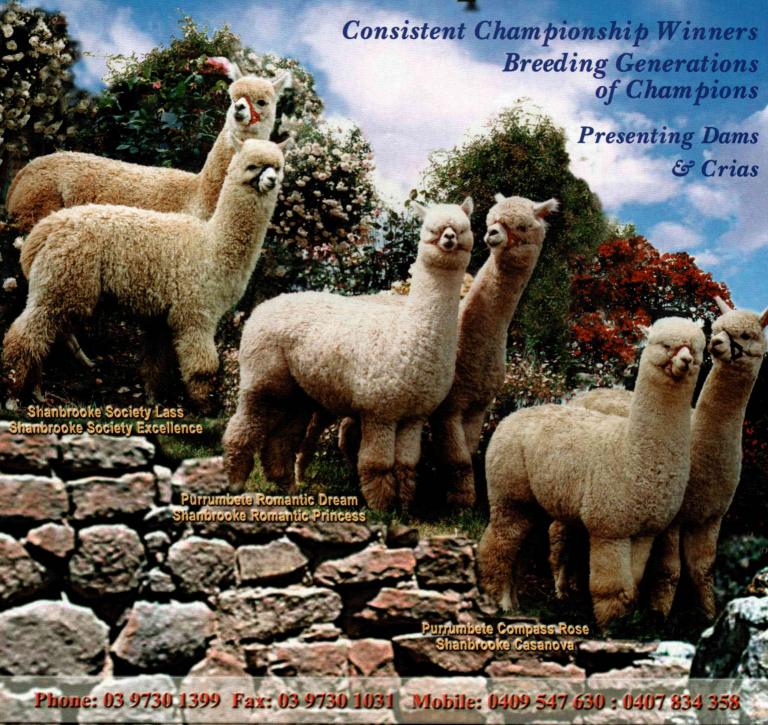
These strategic alliances will strengthen Elite, offering consistent work that, in turn, will help the Alpaca Co-Operative with its 15% interest in Elite. The cashmere



Avtar Singh at work at Elite Fibre mill

(Photographs courtesy of The Land Newspaper.)

Shanbrooke Alpaca Stud



Shanbrooke Elite Stud Servicing



dehairer will bring more work to Elite, not only in dehairing, but in the spinning of the cashmere.

According to Alan, the main focus at present is to achieve efficient operation of all machines and complete the installation of some peripheral equipment. Avtar's immediate task is to complete this – from carding through gilling, combing, spinning, dehairing and setting of yarns – by 30 June 2000. His wide experience in processing all types of natural fibres has granted him the proficiency to analyse each component of the machinery at Elite to reach maximum efficiency. This is a critical exercise as the bulk of the machinery was designed to process wool. For our industry, each element requires modifications to be capable of processing alpaca (and other fibres) at much lower speeds.

Avtar's presence at the mill has bestowed other advantages. Stuart MacPherson, Elite's Production Manager, now enjoys the freedom to pursue his finest talent... constructing exquisite yarns. He comments, 'Avtar's knowledge of early stage processing complements my own experience and will result in a higher quality end product, particularly with yarn.' Stuart relishes the opportunity to 'have someone on site to discuss problems and ideas with.' The symbiotic relationship between the two encourages creativity, enhances productivity and emphasises quality control.

The Co-Op's broader goals also include 'achieving sustainable market confidence in the alpaca livestock industry and perfecting the image of alpaca as a soft, luxurious and versatile fibre'. Linking growers to Elite through the Co-Op gives breeders the opportunity to manage some aspects of growing and manufacturing the fibre by creating a vertically integrated system. This alignment will further reward growers that produce quality fibre for distinctive products.

Development of products for the Co-Op has been made possible through trial and error at Elite. Stuart's invaluable expertise has helped the Co-Op perfect the quality in their range of merchandise. To date, a high percentage of our annual clip has been in the 30+ micron range. While this fibre is less desirable next to the skin, the creation of unique products has exploited its positive traits. Using the fibre in continental quilts has captured the thermal qualities of coarser alpaca, while a sateen cover conceals the prickle factor. Endless patience is required to experiment and 'try yet another twist' to get each product exactly right before it is introduced to the market-place. After all, we are creating an image whatever we produce. The Co-op and Elite have been careful to ensure that the image is one of quality and sophistication.

Elite and other manufacturers have developed a versatile and reliable product range for the Co-Op. The work wear jumper has been tailored into a well-designed, functional garment, yet stylish enough to surpass the projected sales figures. (However, selling the entire run as soon as it becomes available creates other marketing difficulties!) An array of delightfully soft footwear has been extremely well received in several classic colours. A full set of natural coloured yarns has been completed. Development of a lightweight throw rug has proven exceptionally luxurious to the touch. Each product was trialled and then returned to the drawing board until it achieved perfection.

Additionally, blending with other fibres is producing a two-fold benefit. It enhances the performance of alpaca considerably and lowers the cost of experimentation. Lambs wool blends beautifully, giving the yarn body and resistance. Experimenting with a silk blend, Stuart has woven alpaca fibre into a magnificent yarn, unparalleled in lustre and handle. Directors have also promised to initiate the processing of suri fibre later this year. The growing band of suri breeders will welcome the opportunity to launch a luxurious and sophisticated Australian-made garment.

Given time, rich and flowing garments will grace the catwalk proving to the world that Australia can do it better than anyone. Our century of wool-based experience can only increase our positive strides toward finer and highly advanced fleece types in the alpaca breeds. Our current basic range of products will be enhanced with elegant and refined fashions.

Meanwhile, Elite continues to aid the Co-Op in creating a niche for alpaca yarn with knitwear manufacturers in Australia. However, the Co-Op must also develop markets for other alpaca products. Having established good working relationships with many of Melbourne's best manufacturers, a more credible image is emerging. Avtar has an intimate knowledge of the broader natural fibre sector. His understanding and ability to negotiate in the arena will propel the fledging mill toward the mainstream commercial fibre segment. This representation will boost the reliability of a vertically integrated chain and increase returns for the growers.

When asked about plans for expansion, Alan states, 'I do not see Elite expanding capacity beyond its current size; we are still performing at less than 50% capacity on a single shift basis. We can handle the Australian clip without expanding for at least the next 7-8 years. The emphasis is on producing quality, not quantity.'

The acquisition of Mr Avtar Singh and his machinery can be seen as quite a coup for Elite Fibre and the alpaca industry as a whole. The principals of Elite are committed 'to offering full processing facilities for small lots of elite fibre and to participating in developmental work.' Avtar and his machinery will certainly be a key component in accomplishing these goals for the wider specialty fibre sector.



Nick Veltjens, Talca Alpacas

AN INDUSTRY PLAN

How are we planning our longer term future? Have we really analysed our strengths, weaknesses, opportunities and threats, i.e. a SWOT analysis? I know we have nibbled at the edges, but I feel we need to go further than that very soon. This is not a new thought, I've been pushing for a longer term vision on a global basis for a number of years — an industry plan¹.

This is why I am impressed with the Australian wine industry. Five years ago they prepared *Strategy 2025*, a plan for an integrated industry for the next 30 years. They are tracking it, and each vineyard knows exactly what contribution it is expected to make².

The strategy is not aiming to make Australia the biggest wine producer in the world, but the best. We would do well to take a leaf out of the winegrowers' strategy book!

Our alpaca industry needs to think much further ahead than we seem to be doing at present. We are still doing a lot of 'navel gazing', and do not spend enough time to plan further ahead than the next National Show.

I am pleased to see that our president, Ian Watt, is doing some number crunching to gauge the size of the industry. He has also expanded on his own vision of the future alpaca industry's commercial structure³ in *Alpacas Australia* recently, suggesting the development of elite studs. I agree with his idea of pushing the genetic development of top alpacas by means of elite studs and daughter studs. We are at a point in the development of the quality of our animals, where sudden quantum leaps can occur in the improvement of the Australian herd. Unfortunately this is not yet happening in a coordinated way.

The fibre industry will ultimately be supplied with its raw products from the breeders' largest customer, the broad acre alpaca farmers. They will buy wethers, which means around half of the Australian herd.

Unless those wethers produce fibre that has the quality their customers expect for selling to their clientele in terms of softness, light weight, etc.⁴ those farmers will consider our animals neither viable nor suitable for the production of the fibre they want to sell.

If we look at what we have achieved in the last ten or eleven years, we have bounded ahead in huge strides. Thanks particularly to Roger Haldane's insistence, we have consolidated our breeding with regard to solid colours, and have improved the average fleece quality every year.

The next step is to achieve what will be essential for broad acre farmers to be able to make a buck. Unless their farms are viable, they will not support us.

Animal quality

The average quality of our animals is up with the best in the world – if not at the top – and our chance of improving faster than everyone else is greater, because the average age of our herd is young; I estimate it at about 3.7 years.

I have again done some research with respect to the viability of broad acre farms, and concluded that, broadly speaking, unless alpacas produce useable fleece of at least 5kg per annum, per alpaca, at maximum 22-24 micron for, say, ten years, we are not likely to attract the farmers that will drive the industry forward with herds of 1,000+ alpaca.

To achieve that target, alpacas will have to be improved very rapidly. It is a task that can only be achieved in a coordinated way, otherwise the number of 'advanced' animals will remain too small.

How can we achieve such a daunting target?

^{1. &#}x27;The globalisation of alpacas', Alpacas Australia, Issue 18, 1997.

^{2.} The Age, 19 April 2000, Business pages 1 and 2

^{3.} Alpacas Australia, Issue 28, 1999, 'A model for the future' by Ian Watt

^{4. &#}x27;Pureblood Part 4' by Mike Safley in Alpacas Australia, Issue 28, 1999

We could start with our show judging.

At present, in my opinion, our industry is operating on two levels.

The show judging circuit, which, while it is improving, still tends to follow more aesthetic lines, such as pompoms, leg coverage, 'density' determined by feel, fine crimp.

On the other hand, we have the advanced alpaca farm productivity line. This concentrates on increasing follicle density by increasing the S/P (secondary to primary fibre) ratio, fast fibre growth rate, reduction of fibre diameter in primary fibres, and genetic changes to hold low mean fibre micron over most of the life of the alpacas.

The show circuit judging criteria can be counter-productive, as the visual evidence for breeding adopted in the show ring is not necessarily representative of the methods of the farm production line.

'Density' as determined in the show-ring and fleece judging sheets can favour coarser fleeces, as it is measured by feel and weight respectively. According to my investigations, two fleeces with the same follicle density, fleece area, crimp and fibre length, but different mean fibre diameter, will have very different fleece weights':

- Two fleeces each with 35 follicles per mm², one with a mean of 20 micron and the other with 25 micron, will weigh 2.41kg and 3.59kg respectively. (See the Fleece Weight Graph).
- If the follicle density is increased to 55 per mm², their equivalent weights would become 3.87kg and 5.75kg.

The success of increasing follicle density in the advanced alpaca production line has been proven by Dr. Jim Watts in his SRS® (Soft Rolling Skin) enterprise in Merinos, where he has achieved a fleece weight of 12 kg per year in a ewe. The promotion of his ideas through Coolaroo Alpaca Stud is already showing a far reaching effect among the breeders who follow their lead.

Important in this breeding program is that the improvement of robustness of those alpacas must be simultaneous with increasing fleece weight. The heavier fleece calls for animals that have a strong frame (not necessarily bigger), larger chest space for bigger lung and heart operation, broader muzzle to allow for proper breathing for these animals to carry the heavier fleece in the sort of climatic conditions where sheep now graze. In my personal opinion we should also not insist on growing fleece all over the face, belly and legs, as alpacas with high follicle density are possibly going to suffer more from heat stress than open fleeced animals, unless they have some skin areas for cooling (apart from absorbing Vitamin D).

The process of breeding such advanced alpacas to a stage when they produce 5kg per annum will still take a number of years, and will, without a coordinated effort, be more sporadic than it should be.

Herds for advanced fibre production

Most predictions for a viable fibre industry seem to rely on the number of alpacas in the Australian herd reaching 500,000, and some predictions, including mine, expect this

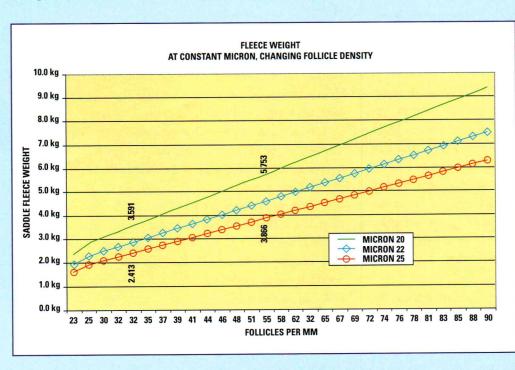
to happen around 2010.

It is not quite as simple as that. We may have the numbers at that stage, but will the quality of those animals be suitable for viable fibre production?

I have attempted to estimate what could be achieved. Such an estimate must naturally rest on a few assumptions, as we are talking about the sort of alpacas that do not even exist yet anywhere in the world.

By 2007

We could assume that some quantum leaps in breeding could be achieved over the next seven years, and that (very



^{5.} This takes increased medulation for larger diameter into consideration

optimistically) 75% of all animals born in 2007 and later will be of advanced production quality and producing, say, 5kg of fleece per annum.

By 2010

Our herd6 will consist of around 222,000 adult females, 210,000 wethers, 65,000 cria and weanlings of each gender, and perhaps 4,600 stud males7.

However, we cannot expect that all of the 500,000 alpacas that will roam our paddocks in 2010 will be up to speed in producing consistent quality and quantity of fleece.

Consequently, the alpaca herd suitable for viable fibre production by broad acre farmers would still be quite small. Females could be excluded from the broad acre farms, as they would still be very much in the breeding stage, but those born 2007 or later, i.e. less than 4 years of age, would number only 138,000 (75% of 184,000), and wethers in that age group would be around 131,000 (75% of 175,000). The remainder of the herd, i.e. about 297,000 would, apart from stud males, be of intermediate and primitive quality, depending on age and breeding. Some of these could well be suitable for supplementing the supply of animals and fleece.

Broad acre farmers, concentrating on building herds with wethers rather than on breeding stock, would have, at best, about 200,000 wethers of suitable quality. Assuming initial average herd numbers at 1000, there would be about 200 broad acre farmers.

By 2015

The generations, born after 2010 would, at face value, add 507,000 to these broad acre herds (on the basis that 75% of these animals will be of appropriate quality). In reality, these younger wethers may well almost completely replace the animals of preceding generations whose quality, at ten years of age, may no longer be sufficient. Our 'usable' numbers will depend on our ability to breed quality animals.

This does not mean that the females held by breeders, and the wethers 'left behind', could not contribute fibre to the industry - as they do at present. But for the most lucrative market gains, specialist fibre producing farmers need the best animals available.

By 2020

The additional number of wethers (75% of total born in 2015 to 2020) would be 1,300,000. Assuming each was producing at least 5.5 kg, our total yearly production would be 7,200 tons of top quality alpaca, plus, say, 280 tons from the older wethers of the previous generations. (The present total global production of alpaca fibre, ranging from excellent to dubious quality, is approximately 8,000 tons.)

In other words, commercial feasibility would have been well and truly reached.

But, this progression will not occur as I have outlined, unless it is planned and coordinated on an industry-wide basis - now.

White or colour?

There have been suggestions that we should concentrate on breeding white in preference to colours8.

This move would place us in the same position (to use a money market term) as Peru. In spite of their efforts to breed out colour for decades, white still represents only 39% of the Peruvian herd, while 45% consists of multi or mixed coloured alpacas9.

After the importing of large numbers of white and fawn alpacas from Peru, our Australian herd contains only about 22% white alpacas, and relatively few multis (12%). If imports are kept low, the advanced alpaca production herd of 2020 would probably still have only 25% white animals. This means that in the herd of 2020, advanced quality wethers (see above) with white fleece would represent about 325,000, producing 1,800 tons of fibre. That is far less than the annual production of the present world market share held by Peru, which means we will never be able to compete against Peru's quantities, albeit with much higher quality.

My view in this matter is not just to follow the world wide trend for 'natural', but to lead it. We should build our coloured herd to a level where no one can compete in either quantity and quality.

Australia's advanced breeding program must concentrate on quality. Attempting to breed out colour would be a major setback to our efforts. I am not saying that white is not needed, it is a very important colour. White animals can also be used to up quality in other coloured alpacas, especially in blacks and greys.

The argument for white is driven by spinners and fashion retailers wanting dyed colours and is a reaction in our ranks rather than a vision. My view is that what sells (in the retail world) are brand names. Our task is to create just that. Combine top quality fibre with top products and establish the brand of alpaca made in Australia as the most prestigious in the world, just as Strategy 2025 is doing for the wine industry.

^{6.} All the figures referred to in this paper are based on the assumption that 2% of breeding females and stud males are exported each year.

^{7.} This is based on the assumption that 5% of all males born will become stud males.

^{8.} Alpacas Australia, Issue 20, 1997, 'The cut of his cloth', an interview with Carl Dowd by Carol Hosking

^{9.} Robert Weatherall: Proceedings 'Cria to Criation Seminar' 1995

We are ahead now. We can forge even further ahead if we do it together.

The world

Where will the world's alpaca industry be during the period of development in Australia over the periods discussed above?

We can – and should – exert influence on global development as well.

Ultimately, the world's alpaca industry will remain a niche market, considering that by 2020 there will probably be no more than 16,000,000 alpacas. (Compared with a likely 1,100,000,000 sheep of which 450,000,000 will be wool producers, the alpaca niche will be a small one.

Nevertheless, marketing is perception management. What will be important is for alpaca to be seen as a top product, and every producer in the world the maker of a top product. This way the price for alpaca will not as easily be diluted with products of poor quality.

Still, it will be impossible to avoid price cutting by someone providing poorer quality in order to cash in on the growing reputation of the top quality product. But, we can minimise this risk.

That is why we in Australia should lead by:

- breeding top quality alpacas;
- producing the best fibre in the world;
- producing the best alpaca products; and

 securing this quality by establishing the brand for such quality world wide.

This brand can be registered world wide, be licenced only to those who can produce the quality attached to the brand, and allow them to join a world wide alliance established for furthering the quality of alpacas and alpaca products¹⁰.

That will allow us to assist other countries to breed up the quality of their alpacas – and to participate in the industry – while the quality of alpacas improves world wide and, with it, the reputation of the animals and their products.

This way we can create an export market not only for our animals and products, but for quality itself, and still remain at the leading edge of the industry.

CONCLUSION

An industry plan must put Australia at the centre of the alpaca world. This plan needs to inspire both breeders and fibre industry to provide the genuine enthusiasm and commitment necessary to progress the plan.

The plan needs a leader and a champion who will unite disparate points of view and motivate industry leaders to focus on one target.

There may be many pathways to reach that target, and all should be explored, but in the end we need to walk one path together.

I think a 20 year industry plan makes good sense. Why don't we call it '2020 Vision' – and start planning?

^{10.} Alpaca Alliance International® was established by Christine and Nick Veltjens in 1997 with just this aim in mind.



BLACK OUT! a shining success

ustralia's first all black show, sale and sire display, Black Out! was held under cover on 22 November ■1999 at a picturesque thoroughbred stud near Kyneton, Victoria.

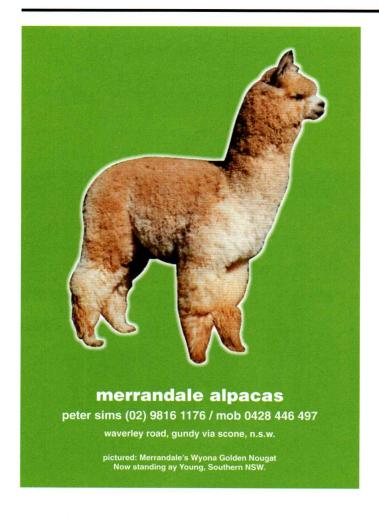
It was initiated by three breeders of black alpacas, Mariea de Crespigny, Louise Roston and Jane Szigethy. Between their three studs, they have in the vicinity of 100 black animals, giving them a reasonable understanding of the black scene. The intent of the day was to provide a forum where those interested in black alpacas could come together to promote their quality stock and address issues of mutual interest, in particular, genetics, fleece research and marketing.

The weather was, thankfully, perfect and the day's activities were launched with a parade of all participating black stud sires. We had 15 sires from South Australia, Victoria and New South Wales, giving breeders a rare opportunity to compare and assess characteristics relevant to their breeding programs. Sire owners each had generous display space including sire pen, progeny pen and promotional area to showcase their studs.

During the parade, owners could speak briefly about their sires' best qualities, allowing spectators to look for those qualities in progeny exhibited in the show classes that followed.

Irene Alston, a noted black alpaca breeder, generously accepted out invitation to judge the show classes. She flew in from Tasmania and took up the challenge with great perception and not a small amount of courage - most of the classes being large and all of a high standard. Irene really agonised over some of her decisions which created considerable tension and excitement for competitors and spectators alike. The championships were judged outside in natural light - another first for Black Out! The Supreme Champion went to Pitchingga Ridge Picasso and the Reserve Champion to Monara Park Mackinnon.

Seventeen black alpacas were presented for sale, representing a substantial spread of genetics for those looking to strengthen their black herds. Some bargain hunters scooped some really worthwhile females for \$4000 each, and two females achieved in excess of \$10,000 each. Sales were by private treaty and







Irene Alston judging a class at the Black Out! Show & Sale.

vendors had the opportunity, when parading their sale animals, to relate the breeding history and genetic strengths of each. The organisers felt that this direct marketing approach allowed vendors to maximise their profits. As a gesture to vendors, no commission was charged and sale entry fees were set at \$50 each. This approach does require more effort by vendors in preparation of their animals to the highest standards, in the presentation of information and in positive communication, but it also affords vendors direct control over the selling process.

The program after lunch began with an open forum based on fleece research work being undertaken by TAFE Armidale and was chaired by Antonia Bagshawe, a black alpaca breeder from Western Australia. Participants shared their experiences and concerns regarding fleece assessment and processing, with a focus on future directions for black breeders.

The year 2000 will see Black Out! staged again, strengthened and encouraged by the success and support of

our first venture. This year, a similar sale will be held with an emphasis on presenting the finest quality animals to a targeted 'black market'!

To those who missed out on the original mail-out our apologies. Any breeder who wishes to receive Black Out! information, please contact the organisers: Mariea de Crespigny (03 5762 3661); Louise Roston (03 9739 5095); or Jane Szigethy (03 5427 0375).

We would like to take this opportunity to thank all who participated in the event, ensuring its success. Very special thanks go to the stud sire owners, all of whom agreed to be part of the raffle with the two winners each entitled to one free service from the sire of their choice. Black Out! was self-funding. It was informative. And it was fun.

It has crystallised the need to showcase these specialty animals at their own exclusive occasion and we intend that it becomes the annual forum for the promotion of black alpacas.



The winners at Black Out!

Ife is becoming more hectic by the minute for the AAA
National Conference Committee. Up to their ears in
preparations, organisers nevertheless found time, through
Kerry Dwyer, to give Alpacas Australia a tantalising taste of the
topics and speakers lined up for the 2000 event.

Linda Berry Walker,

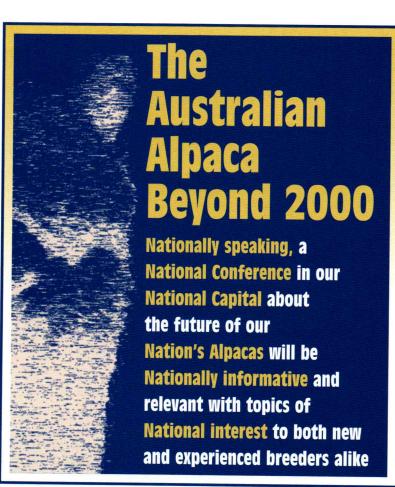
WoodsEdge Wools Farm, Stockton, New Jersey, USA

Linda Berry Walker has been breeding fibre producing livestock since 1976 for the international mail order business she started 23 years ago. Her recent activities have included staging a fashion show in New York City and acting as consultant to the organisers of large auctions in the USA. She is also a sought-after speaker for the American Alpaca Owners and Breeders Association. Linda will speak on the latest American developments in fibre preparation and marketing and also on her work with male fertility evaluation and selection.

Professor Gregg Adams DVM, PhD

University of Saskatchewan, Western College of Veterinary Medicine, Canada.

Professor Gregg Adams will speak on evaluation of breeding management strategies for alpacas. He graduated in veterinary medicine from the University of Saskatchewan and went into private practice for three years. He then began a residency at the University of Wisconsin where he earned a Master's Degree in Reproductive Physiology as well as achieving status of Diplomate in the American College of Therigenologists. He gained his PhD in Reproductive Physiology in 1991 at the University of Wisconsin. He has worked with Dr. Julio Sumar at the LaRaya High Altitude



Conference Highlights include ...

Introductory and advanced topics, concentrating on the future of the Alpaca industry designed to allow maximum interest and interaction

Traditional welcoming cocktail party

Spectacular Industry Conference Dinner in the Great Hall of the new Parliament House

AGM & OGM held directly prior to conference

Interesting tours and alpaca stud visits available post conference

A Calendar Event not to be missed!



Hyatt Hotel, Canberra Friday 25, Saturday 26 & Sunday 27 August 2000 Info Hotline Australian Alpaca Association (03) 9899 1099



AAA to launch annual industry newspaper

Pebruary 2001 will see the launch of a new consumer-oriented publication for the Association – just in time for distribution at the Canberra Royal Show.

Following modern design trends, the Association has chosen a large, full colour format and articles will be presented in newspaper style.

The *National Alpaca Review* will report on major events, publish feature articles on key aspects of the industry, update research and development projects and present regional news. It will appear annually.

Its key focus will be upon promoting the Australian alpaca industry to a wide spectrum of potential industry entrants, from established farmers to those wishing to change their lifestyle.

Big and colourful, the 16-page newspaper will be an effective display addition to industry stands at regional shows and field days as well as at national events throughout Australia. And it will certainly catch the eye as it is folded and carried around by visitors.

All Association members will receive a copy of the inaugural edition and, of course, the newspaper will become an important part of the AAA information kits distributed in response to enquiries.

The newspaper will be distributed more widely across Australia than any other AAA publication and will be free of charge to the public. On this basis, not only does it offer the industry an excellent marketing vehicle, it also offers individual breeders looking for more advertising reach, a chance to jump in as a first edition advertiser.

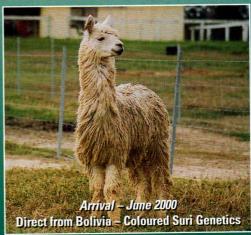
To fund the newspaper, the Association has decided to reduce the number of editions of Alpacas Australia to three a year. Consequently, this year, the magazine will be published in September and December, as normal, but from 2001, editions will be published in April, August and December.

These new arrangements (as well as the GST) have necessitated an overhaul of our advertising rates and you will find the new rates set out on page 49.

You will also see that, as from the magazine's September issue, advertising bookings will be handled by Sandra Wright at the Association's national office.



Jolimont Starburst (White), Hunter Bolivian Yungas (M/Fawn) Huacaya: Jolimont Marcello



For Service & Sales contact ~ Peter & Narelle Tulip Phone: 02 4934 1799 ~ Fax: 02 4933 1283 Email: hunter.alpaca.stud@hunterlink.net.au



Research Centre in Peru. His research focused on ovarian function, an area where ultrasonic imaging has been an invaluable tool.

The Australian line-up

Jane Vaughan back with a progress report

Those who attended last year's conference will remember Dr. Jane Vaughan for her fascinating presentation. This year, episode two – reviewing a year spent working toward her thesis in ovarian follicular dynamics in alpacas, as part of a RIRDC-funded Doctor of Philosophy in Alpaca Reproduction.

From fibre to fashion

This is a fascinating journey: the progress of alpaca fibre from preparation, through classing, cleaning and spinning to its final emergence as an elegant fashion garment. This session is sure to be very popular, especially given the credentials of the distinguished trio of presenters: Ian Knox of the Gordon Institute at Deakin University; Avtar Singh newly appointed fibre processor at Elite Fibre Australia in Geelong Victoria (see article page 5); and Carl Dowd, eminent fashion producer, marketer and alpaca breeder.

Benoît takes a bow

Benoît Ernst of Coricancha Alpacas will guide new breeders into screening standards for alpacas and conduct a special session on marketing studs and their animals. Benoît is not only an experienced alpaca breeder, he also has a strong background in marketing world famous fashion labels. Benoît, of course, was instrumental in producing the Association's outstanding promotional video launched at last year's conference.

A lucky chance

The organisers say it was a stroke of luck to be able to engage Dr. Pierre Baychelier to speak at the conference. Now an Australian citizen, Pierre trained as a veterinarian and practised in his native France, before joining the large animal

pharmaceutical industry. He will speak on a study he has conducted on huacaya/suri genetics.

DNA profiling

This subject has received much publicity recently and not least in the alpaca industry. From July 31, DNA recording will be required for male alpacas to be recognised as stud males. Dr. Nic Robinson, Head of the Molecular Genetics Unit of the Victorian Institute of Animal Science will discuss the issues of DNA profiling.



New Zealand

moves into Show mode

By Carolyn Jinks, Benleigh Alpaca Stud



(Above) Allan Jinks looks on as trainee judges evaluate an animal at the New Zealand 'mock show'.

(Below) Participants in the New Zealand training sessions for show judging and stewardship held over two days.



THE 'MOCK SHOW'

To assist in the growth and development of the New Zealand industry, Allan and I were invited to advise and educate selected breeders who are keen to learn and, ultimately, establish showing of alpacas.

Until recently, only one show had been held, with a veterinarian as the judge. Members of the ALANZ felt the time had come to broaden their horizons.

Nic Cooper and Linda Blake's picturesque property, Southern Alpacas, which is close to Christchurch, was the ideal venue. We had the convenience of animals, pens and excellent indoor facilities for conducting the workshop which covered showing, stewarding, and judging.

Throughout the two days, all aspects of these important areas were covered, commencing with the basics: conformation of animals, body scoring, recognising sickle and cow hocked legs, under or overshot jaws and discussion of the meaning of fleece terms such as lustre, density and crimp.

A 'mock show' provided realistic experiences. Having been involved in teaching at many of these throughout Australia, we are aware how important it is that all participants gain the confidence to become involved in shows, whether it be as an exhibitor, steward or with the goal of training as a judge.

We gradually worked through every area – from convening shows to responsibilities of stewards – with all participants acting as inspection stewards, ring stewards, marshalling stewards and fleece stewards.

Earlier in 1999, in Auckland, we had taught a basic class of show protocol, but this workshop was seriously focused on the total concepts required to organise a successful show.

A gourmet lunch provided some relaxation for the participants, but all were so keen that not too much time elapsed before they were ready to continue their training. Some had travelled considerable distances – a mark of their dedication and desire to learn.

Although it was a very full program, the amount of 'hands on' experience contributed to an air of confidence which was apparent by the close of the day. Much appreciation was given to Linda and Nic for the use of absolutely everything – from fleece to overhead projectors!

The second day was designated to train aspiring judges.

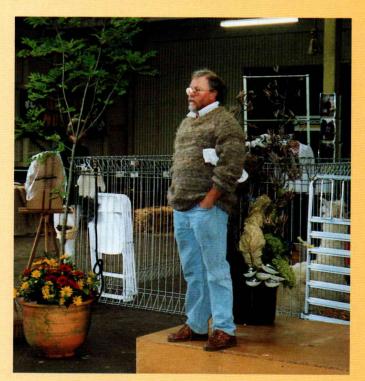
This was really a crash course, but following on from the previous day and with fewer applicants, the procedure was more in depth on animal judging, based on the course available for Australian breeders.

The fleece judging system was a totally new concept, which created a few challenges but, again, by the end of the



Nic Cooper parading his winning alpaca (with red sash) at the NZ Royal.

day, confidence was rising. All completed the written exam, which provided each person with an insight as to his/her own ability level. There was further discussion of correct answers before President Lorne Kuehn awarded certificates for participation in the weekend's workshop.



ALANZ President, Lorne Kuehn at the New Zealand Royal Show, Invercargill.

THE REAL THING

This was an action packed time as, the following day, many set off with animals for the seven hour drive to Invercargill, the southern-most city in New Zealand, where the Sixtyninth Royal Show was being staged.

The interesting situation in NZ is that the Royal Show moves throughout the country, being held in a different area each year, so it is a particularly special event for whichever city is the host.

Invercargill is a picturesque spot, which is not as well known for tourism as some areas, but well worth a visit to experience the southern hospitality.

The organising committee had transformed an army shed into a spectacular display area with

generous space for all exhibitors. The remarkable range of knitwear on show, plus demonstrations of spinning, dyeing and videos, provided the public with the opportunity to appreciate all aspects of the industry.

Classes were not the same as those held at AAA shows, and Allan met the challenge of judging the designated sections, but also offered recommendations for future consideration.

Following are the classes that were competed:

- Male over 2 years;
- Male under 2 years;
- Wethered male:
- Female over 2 year;
- Female under 2 years.

These were sections for both suri and huacaya alpacas.

They were followed by Imported Males and Females; ie bred overseas or cria conceived outside NZ.

'Best of Group' and Champions were also awarded before the Llama classes were held.

It was impressive that, by the dinner that evening, a result sheet had been printed for each exhibitor.

During the second day of the show, Allan and I had been invited to give informal breeders' talks on alpacas, and once again the enthusiasm and eagerness to gain knowledge was tangible.

We covered a large range of subjects relating to breeding, showing and fleece production. We were generously rewarded for our efforts with commemorative Invercargill Royal show glasses and a Goetfield sheepskin rug.

Now there is yet another breed that was new to us!

We walked to where they were being shown and learnt a little about the animals from proud owners. How important it is that good information and willing advisers are available at shows to promote both product and industry. The benefits can not be underestimated - a good lesson for us all!

It is always a pleasure to share information, and we thoroughly enjoyed both the company of the alpaca breeders and the magnificent scenery which makes New Zealand such a special place.

An Update of Alpaca Fleece Colours

By Elizabeth Paul, B.App.Sci., (App.Biology) R.M.I.T., Cert.Animal Technology. F.I.T.

Author's Note

This article follows on from the previous article, 'The status of white and red alpacas in the Australian herd', first published in issue no. 30 of Alpacas Australia. The last table of results was table no. 9; the first table in this article is table no. 10.

INTRODUCTION

The progeny results of matings in the Association's Herd Book Vol. 7 were assessed and results incorporated with those of Herd Books Vols. 2-6 inclusive.

There were 4546 progeny results where both the parents' and the progenys' colours were listed.

The total progeny results for Herd Book Vol. 7 are presented in table 10.

Approximately 67% of progeny were solid colours, 24% were white, 5% were grey and less than 4% were white/ coloured.

The fleece colours were assigned to the following groups for assessment:

brown, white/brown and rosegrey were assigned to Brown; black, white/black and silvergrey were assigned to Black; fawn, white/fawn and roan were assigned to Red.

For example, a mating between a rosegrey alpaca and a solid black alpaca, giving a silvergrey progeny, was assessed as Brown x Black = Black; a mating between a light fawn alpaca and a white/black alpaca, giving a dark brown progeny, was assessed as Red x Black = Brown.

Table 10. Progeny Phenotypes from A.A.A. Herd Book Vol. 7.

Brown 845	Wh/Brn 85	R/grey 113		Wh/Blk 33			Wh/Red 51		Totals 4546
18.6%	1.9%	2.5%	16.8%	0.7%	2.8%	31.7%	1.1%	23.8%	

Table 11 presents the updated figures for the results of all matings from Herd Book Vols. 2-7 incl. The figures for Herd Book Vols. 2-6 inc. were drawn from Table 2 (Paul, E.)

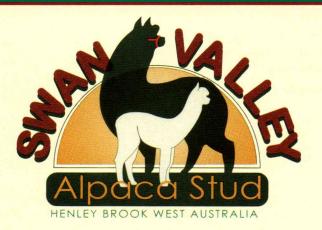
page 14, issue 28, Alpacas Australia.

Table 12 presents the updated figures from Table 4 (Paul, E.) page 31, issue 29, giving the results of all matings involving at least one grey parent. There

Table 11. Progeny Phenotypes from A.A.A. Herd Book Vols. 1-7 incl.

Progeny Phenotypes	Brown	Black	Red	White	Totals	% of all Matings
Parent Phenotypes:						
Brown x Brown	772	135	170	37	1114	5.8
% of total	69.3	12.1	15.3	3.3		
Black x Red	421	142	145	52	760	4
% of total	55.4	18.2	19.1	6.8		
Brown x Black	1064	842	63	102	2071	10.8
% of total	51.4	40.7	3.0	4.9		
Brown x Red	1330	143	1122	106	2701	14.2
% of total	49.2	5.3	41.5	3.9		
Brown x White	714	151	553	339	1757	9.2
% of total	40.6	8.6	31.5	19.3		
Black x White	306	257	177	227	967	5.1
% of total	31.6	26.6	18.3	23.5		
Red x White	481	95	960	578	2114	11
% of total	22.8	4.5	45.4	27.3		
Red x Red	336	23	1370	149	1878	9.8
% of total	17.8	1.2	73	7.9		
White x White	373	108	568	1950	2999	15.7
% of total	12.4	3.6	18.9	65.0		
Black x Black	271	2372	26	51	2760	14.3
% of total	10.0	87.2	1.0	1.9		
TOTALS	6068	4268	5154	3591	19081	
% of TOTAL	31.8	22.4	27.0	18.8		
(Herd Book Vols. 2-7)	24.0	22.0	25.0	17.2		
% of TOTAL (Herd Book Vols. 2-6)	34.8	23.0	25.0	17.2		
% DIFFERENCE	3.0	0.6	2.0	1.6		



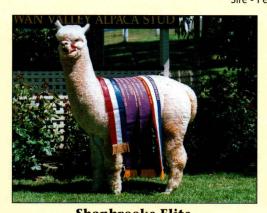




WHEN ONLY THE BEST WILL DO Outstanding Sires At Stud



L-R Swan Valley Calypso, Swan Valley Top Gun, Swan Valley Majestic. Champion Sires Progeny Group 1999 National Classic Tamworth Sire - Peruvian Sonoma (Deceased)

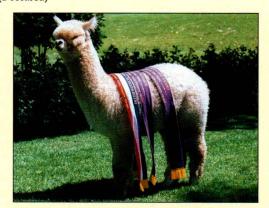


Shanbrooke Elite

His record speaks for itself. Winner of 7 championships

T/O Aust. Incl. National Classic 3 Supreme Championships in WA.

Champion Fleece Melbourne & Perth Royal Shows



Swan Valley Majestic
Supreme Champion 1998 Perth Royal Show & Albany Show.
Reserve Champion, Mature Senior Male at
1999 National Classic.

~ INSPECTION WELCOME ~

QUALITY STOCK FOR SALE
AGISTMENT AVAILABLE ON QUALITY PASTURE

Table 12. Results of matings involving at least one grey parent – A.A.A. Herd Book Vols. 2 - 6 inclusive.

rogeny Phenotypes B	rown	Rosegrey	Black	Silvergrey	Red	White	Totals
arent Phenotypes:							
Rosegrey x Rosegrey	19	41	1	8	1	1	71
% of total	26.7	57.5	1.4	11.3	1.4	1.4	
Rosegrey x Silvergrey	40	93	28	50	3	6	220
% of total	18.1	42.3	12.7	22.7	1.4	2.7	
Silvergrey x Silvergrey	32	28	86	160	2	7	315
% of total	10.2	8.9	27.3	50.8	0.6	2.2	
Rosegrey x Brown	67	30	12	6	11	14	140
% of total	47.9	21.4	8.6	4.2	7.9	10.0	
Rosegrey x Black	31	21	28	22	3	12	117
% of total	26.5	17.9	23.9	18.8	2.6	10.3	
Rosegrey x Red	60	26	13	5	44	18	166
% of total	36.1	15.7	7.8	3.0	26.5	10.8	
Silvergrey x Brown	212	59	97	56	14	73	511
% of total	41.5	11.5	19.0	11.0	2.7	14.3	
Silvergrey x Black	47	18	204	163	7	39	477
% of total	9.9	3.8	42.8	34.2	1.5	8.2	
Silvergrey x Red	130	22	19	23	40	34	268
% of total	48.5	8.2	7.1	8.6	14.9	12.7	
Rosegrey x White	50	32	9	8	59	47	205
% of total	24.4	15.6	4.4	3.9	28.8	22.9	
Silvergrey x White	102	38	52	61	86	149	488
% of total	20.9	7.8	10.7	12.5	17.6	30.5	
TOTALS	789	408	549	562	270	400	2978
% of TOTAL	26.5	13.7	18.4	18.9	9.1	13.4	

Table 13. Results of matings of non-grey parents which produce grey progeny. Herd Book Vols. 2-7 inclusive.

Progeny Phenotypes	Brown	Rosegrey	Black	Silvergrey	Red	White	Totals
Parent Phenotypes:							
Brown x Brown	598	17	101	3	159	21	899
% all colours of total	66.5	1.9	11.2	0.3	17.7	2.3	
Black x Red	266	3	93	7	105	18	492
% all colours of total	54.0	0.6	18.9	1.4	21.2	3.7	
Brown x Black	595	13	544	17	43	11	1223
% all colours of total	48.7	1.1	44.5	1.4	3.5	0.9	
Brown x Red	1211	33	112	13	107	88	2535
% all colours of total	47.8	1.3	4.4	0.5	42.5	3.5	
Brown x White	558	74	89	45	494	292	1552
% all colours of total	36.0	4.8	5.7	2.8	31.8	18.8	
Black x White	157	9	97	47	91	78	479
% all colours of total	32.8	1.9	20.2	9.8	19.0	16.3	
Red x White	424	57	60	41	960	578	2120
% all colours of total	20.0	2.7	2.8	1.9	45.3	27.3	
Red x Red	324	12	20	3	1370	149	1878
% all colours of total	17.3	0.6	1.0	0.2	73	7.9	
White x White	319	54	88	20	568	1950	2999
% all colours of total	10.6	1.8	2.9	0.7	18.9	65	
Black x Black	145	2	1734	23	17	5	
% all colours of total	7.5	0.1	90.0	1.2	0.9	0.2	
TOTALS	4597	274	2938	219	4885	3190	16103
% of TOTAL	28.5	1.7	18.2	1.4	30.3	19.8	

were 606 grey X grey matings, producing 380 grey progeny, or 60% of the total progeny. There were 1372 matings between grey X non-grey parents which produced 590 grey progeny, or 25% of the total progeny for this group.

Table 13 is an update of Table 5, (Paul, E.) page 31, issue 29, which shows the results of all matings of non-grey parents which produced grey progeny. There were 16,103 matings which produced 493 grey progeny or 3% of the total progeny for this group.

Overall, the results of over 19,000 matings were remarkably consistent. Incorporating the results of Herd Book Vol. 7 with Herd Book Vols. 2-6 did not alter any percentage by more than 5%.

CONCLUSIONS

In brief, the results to date indicate that coloured fleece types dominate over white fleece types; that Brown fleece colour is dominant to Black fleece colour and that Red fleece colour is separate from Brown/Black colour.

These conclusions may be represented by Diagram 1.

Grey fleece colours are assumed to be dilute forms of Brown/Black colour, with rosegrey being dilute Brown and silvergrey being dilute Black. Dilute Red fleece may appear to be nearly white.

There may be more than one or two different white fleece types.

The reader is referred to the author's previous articles for more detailed discussion of these results.

'Theory of colour inheritance in alpacas' pp 10-17, issue 28, *Alpacas Australia*;

'The status of grey alpacas in the Australian herd', pp 30-34, issue 29, *Alpacas Australia*;

'The status of white and red alpacas in the Australian herd', pp 40-44, issue 30, *Alpacas Australia*.

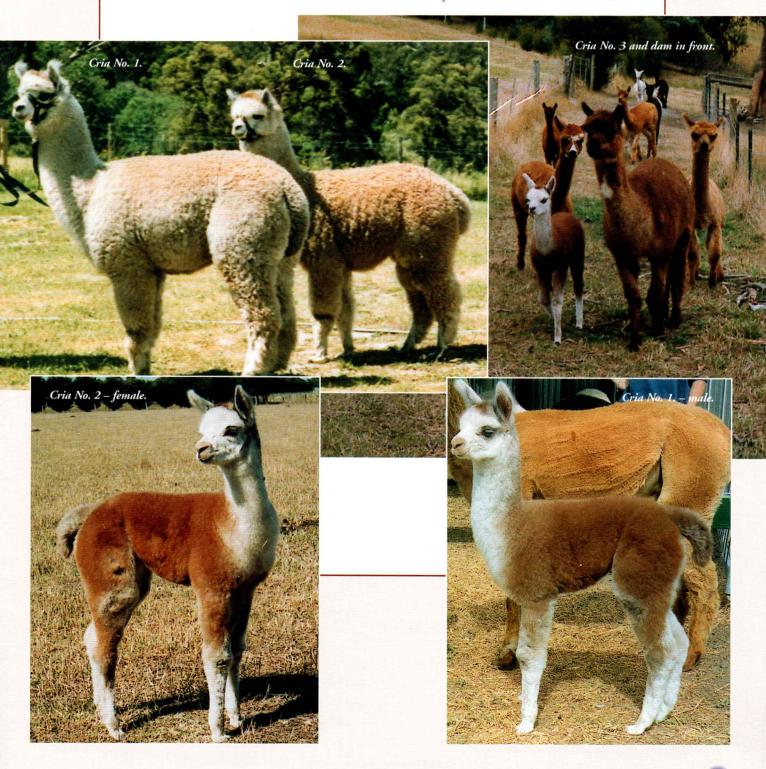
Diagram 1

SOLID	BROWN		
dilute	brown		
SOLID	BLACK	SOLID	RED
dilute	black	dilute	red
•••••		SOLID	WHITE

Disclaimer

The author's opinions and conclusions are based solely on personal research and interpretation of the mating results presented in the Australian Alpaca Association Herd Book, Vols. 1-7 inclusive. The author is not responsible for any breeding or other decision taken by any other person in relation to these opinions or conclusions.

These rosegrey cria are full siblings. The sire is a light rosegrey, the dam, pictured with cria No 3, is dark rosegrey. The two older cria are also shown at 20 months and 10 months. Their fleece colours are almost identical in shade.



SELECTION OF ELITESIRES: AN INTEGRATED EVALUATION MODEL

A.A. Charry, R.F. Scott & J.W. Lawrie

ABSTRACT

Selection of alpaca sires based on the performance of the individual and his progeny is discussed in this paper as a cornerstone to a steady development of the alpaca industry. This paper proposes a method for performance recording and evaluation of alpaca sires, considering the limited scope of the available techniques applied to fibre industries. *Standardised Deviation Ranking* (SDR) values are the foundation to work out the *Herd Improvement Index* (HII) of sires in specific characteristics of economic importance, considering also dams' effect in progeny performance. Research data for individual progeny and progeny group is used to test the validity of the proposed herd-based selection method.

INTRODUCTION

The major aim of a serious alpaca stud breeder is the permanent improvement of the herd. However, in Australia at present, alpaca breeders need to use all available breeding female alpacas which do not have hereditary genetic faults to build up the national herd. For those breeders who can afford to, it is possible from the beginning to improve the quality of their herds by selecting the highest quality breeding females as foundation animals of their herds, and culling those females of poorer quality in the target characteristics for improvement. The other way to improve the stud herd is selecting sires which are better than the breeding females and continue evaluating the performance from these sires by measuring the quality of progeny they throw. This is called genetic evaluation and it is widely used in most livestock industries. It is a valuable tool the alpaca industry needs to use to continue the rapid improvement of the national herd.

There are currently two main methods used to select stud alpacas. The first is the traditional quantitative method, which uses Estimated Breeding Values (EBVs). Although this method works well in the meat industry, it is not giving consistent evidence of its value in the fibre industry (Ferguson & Watts 1999). The second method, an holistic method integrating quantitative and qualitative components, is based on the identification of biological markers which influence fleece quality as well as using long-life performance records to evaluate and compare parents and progeny (Charry, Clymo, Lawrie, O'Donoghue, Savage, Owen & Sutherland, 1999). This new holistic method uses a herd based approach to rank individual animals according mainly to their fleece performance, as proposed by Charry, Lawrie & Johnson (1997a,b), integrated with a Herd Improvement Index (HII) which can objectively evaluate sires by the performance of their progeny.

Ten indicators of animal performance have been selected using data from a joint research project of The Australian Alpaca Association and The University of Sydney, Orange. These indicators will provide a reference point to generate a nation-wide discussion on suitable indicators for evaluating stud alpacas in Australia.

Eighty-nine (89) males enrolled in the research project provided the basic data to build up a theoretical performance for five sires used in this paper. Standardised Deviation Ranking (SDR) values for individual sires and their progeny were generated from the data collected. Parentage was organised in an arbitrary random manner since the research project does not provide this information at this stage. SDR values for the mothers were not available; so they were assumed to have similar performance to the sires to standardise the effect of the mother in the evaluation of the progeny.

Using Selection Differential to quantify animal performance

Selection Differential (SD)is a statistical technique to quantify the variability in performance of an individual in relation to the whole performance of the population. Traditionally, this variability has been measured for phenotypic physical characteristics that can be quantified in an objective manner (e.g. birth weight, fleece production). Characteristics which can only be evaluated in a subjective manner have been largely ignored. This is particularly relevant to the fibre industry in relation to the biological markers that are an indication of high quality fibre production, as described by Charry et al. 1999; Ferguson & Watts, 1999; Watts & Ferguson 1999a,b. The formula for calculating the Selection Differential is:

SD = IP - GP (Formula 1) where.

SD = Selection Differential,

IP = Individual's Performance.

GP = Group's Performance.

USING STANDARDISED DEVIATION RANKING VALUES AS A HERD-BASED **SELECTION METHOD**

A Standardised Deviation Ranking (SDR) value gives the ranking of an animal, as per its selection differential, for a particular characteristic (qualitative or quantitative) related to the whole population performance. The SDR method assumes a normal distribution of performance of the population. As such, all animals in the population should have a value which is between three (3) relative (+ &/or -) standard deviations from the mean value of the population.

The simple formula used to calculate a SDR value is: SDR = SD/STDEV (Formula 2)

where,

SDR = Standardised Deviation Ranking Value,

SD = Selection Differential, (Individual STD)

STDEV = Population Standard Deviation

The SDR value of an alpaca for a characteristic or a group of characteristics can be ranked as follows,

TRANSITIONAL: Below - 1 SDR: AVERAGE: Between -1 & +1 SDR: Between + 1 & +2 SDR; ADVANCED: ELITE: Beyond + 2 SDR.

This distribution positions an animal under the normal curve in relation to the population's performance. The position of animals as per the above mentioned ranking may be observed in Figure 1.

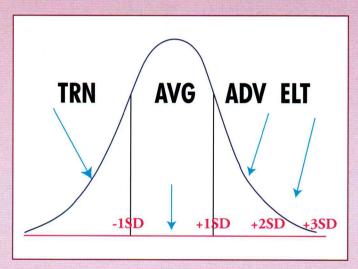


Figure 1: Distribution of Alpacas within the normal population.

The Herd Improvement Index for Sires

When SDR data is available from both the dam and progeny from specific sires, then it is possible to quantify the effect of the sire in the progeny. This is done through the use of a Herd Improvement Index (HII) for sires. Basically HII relates the combined SDR values of the progeny from a specific sire, after subtracting the effect of the dam, to the maximum range of standardised deviations within the normal distribution (i.e. 3). This index may be expressed as such, or as a percentage, and it may be understood as the capacity of the sire to influence his progeny performance relative to the whole population.

The formula for calculating a HII for sires is as follows,

(SDR Progeny – 50% SDR Dams) HII (Sire 1) = 3 STDEV

where,

HII (Sire 1) = Herd Improvement Index Sire 1;

SDR Progeny = SDR value of Progeny;

SDR Dams = SDR value of dams; and

3 STDEV = 3 Standardised Deviations

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Part				Z	INDIVIDUAL SIRES				NAT	NATIONAL HERD VALUES	ALUES	
Propriet Provider - Australian Cross)	re's Name	Name	SIRE01	SIRE02	SIRE03	SIRE04	SIRE05	AVG	STDEV	%AO	BEST VALUE	WORST VALUE
Charles Pairwish Amarialian Cross Ab Archades Ab	pe (Huacaya Or Suri)	HOrS	Ξ	I	I	Ŧ	I					
MAY COMES SW NOTE SW	te Of Birth (DOB)	γ-M-Q	01/01/87	30/11/97	76/70/70	30/11/96	10/12/96					
Fig. 19	IIOIL	AAA Codes	Sw	Sw	Sw	Sw	Sw					
Fig. 2009 6.200 6.500 5.000 6.500	neage (Bolivian – Chilean – Peruvian– Australian Cross)		Per	Per	Per	Aus	Aus					
result of the control	th Weight (BW)	Kg	8.00	6.20	6.50	7.00	6.50	7.89	1.46	19%	5.5	13.00
the blancher (Filter Long Order) The Danmeur (Filter Danmeur (Filter Long Order) The Danmeur (Filter Cong Order) The Danmeur (Fil	o Body Weight	Kg	40.00	62.00	48.00	20.00	45.00	47.18	7.22	15%	65.00	40.00
A	o Height To Withers	Cm	85.00	90.00	88.00	93.00	90.00	90.45	4.34	2%	99.00	82.00
May these weight filter Level Text) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	o Testes Size (Length X Width)	Cml + Cmw	4.00	2.00	3.80	4.80	3.00	4.28	1.93	37%	5.50	3.00
Main State Circle Level Test) Moin Circle Cir	o Adjusted 365-Day Fleece Weight	Kg	4.02	4.20	3.90	4.00	2.00	2.69	0.68	25%	4.50	1.60
the brighted refine Level Test)	o Fibre Length (Mid-Site) Of Fleece	Cm	12.00	15.00	17.00	17.00	10.00	14.20	1.80	12%	17.00	9.00
Price Pric	o Adiusted Total Fibre Diameter (Fibre Level Test)	Mic	22.50	19.80	21.70	30.12	20.97	24.21	3.09	13%	21.01	31.30
No. 15.64 15.04 13.69 34.35 34.55 30.55	o Fleece Visual Score	Up To 24 Points	20.00	21.00	19.00	12.00	15.00	13.50	6.70	49%	22.00	10.50
Parior 1568 1504 1344 1114 125 3914	o Adjusted Total Follicle Density/Sn Mm	NON	53.44	82.62	49.69	34.35	60.31	30.55	22.03	72%	82.62	16.77
State Stat	o Adjusted C/D Follicle Batio	Batio	13.68	15.04	13.49	11 14	12.25	9 11	2.21	24%	15.04	5.76
The Secondary Folicides Pation The Secondary Folicides Pation	O Adjusted O/F Fullible hallo	nauo	13.00	10.01	45.45	26.41	20.76	20.04	- 2.2	0/ 1-7	40.07	00.00
STANDARDINSED DEV. PAMANNE (SDR) VALUESS STREET	o Adjusted Follicle Density Per Follicular Group (3 Prim. Fol.)	Ratio	44.04	48.13	43.46	36.41	39.76	30.34	0.02	%77	48.13	20.29
STREAM S	o Adjusted Prickliness Factor: % Secondary Follicles > 30 Mic	%	0.00	0.20	4.80	2.00	0.50	4.26	8.72	205%	0.00	47.50
STANDAROUSED DEV. RANKING (SDR) VALLES STANDAROUSED CO. STANDAROUSED DEV. RANKING (SDR) VALLES STANDAROUSED CO.	o Adjusted Diameter Primary Follicles To Diameter Secondary Follicles Ratio	Ratio	1.45	1.50	1.77	1.32	1.62	1.38	0.19	14%	0.76	2.03
Single S	STORE TO MOLITAIN VILLA		ò	TAMBABBICED			10		DOCENY HE	IMPROVER	CNT INDEX	4
## And State of Primary (SP) folicies Ratio ## State of Primary (SP) folicies	INDIVIDUAL (SDK) & PRUGENT (HII) EVALUATION OF STRES	ċ		IANDARDISED				٦.	HUGENY-HE	AD IMPROVED	ENI INDEX	
res sources (Fiber Level Test) and Mark 19			SIREOT	SIREUZ	SIREU3	SIREU4	SIREUS	SIREOT	SIREUZ	SIREUS	SIRE04	SIREUS
strate Name of Princes -3 Index 43 -1.25 -0.10 -0.56 0.58 -0.30 0.53 -3 Index 43 -1.25 -0.15 -0.56 0.58 -0.10 0.61 -3 Index 43 -1.25 -0.15 -0.56 0.58 -0.10 0.61 -3 Index 43 -1.25 -0.15 0.25 0.25 0.24 -3 Index 43 -0.26 0.24 1.55 -2.33 0.34 -3 Index 43 -0.26 0.24 1.55 -1.55 -2.33 0.34 -3 Index 43 0.37 1.12 0.82 -0.22 0.22 -3 Index 43 0.37 1.12 0.82 -0.22 0.22 -3 Index 43 0.37 1.12 0.82 0.15 0.22 -3 Index 43 0.37 1.12 0.82 0.97 1.12 -3 Index 43 0.37 0.37 0.36 0.36 0.36 -3 Index 43 0.37 0.37 0.36 0.36 0.36 0.36 -3 Index 43 0.37 0.37 0.36 0.36 0.36 0.30 -3 Index 43 0.37 0.37 0.36 0.36 0.36 0.30 -3 Index 43 0.37 0.37 0.36 0.36 0.36 0.30 -3 Index 43 0.37 0.37 0.34 0.35 0.35 0.30 -3 Index 43 0.37 0.37 0.36 0.36 0.30 -3 Index 43 0.37 0.37 0.34 0.35 0.30 -3 Index 43 0.37 0.34 0.35 0.30 0.30 -3 Index 43 0.37 0.34 0.35 0.30 0.30 -3 Index 43 0.37 0.34 0.35 0.30 0.30 -3 Index 43 0.37 0.34 0.35 0.35 0.30 -3 Index 43 0.37 0.34 0.35 0.30 0.30 -3 Index 43 0.37 0.34 0.35 0.35 0.30 -3 Index 43 0.37 0.34 0.35 0.35 0.30 -3 Index 43 0.37 0.34 0.35 0.30 0.30 -3 Index 43 0.37 0.34 0.35 0.30 0.30 -3 Index 43 0.37 0.34 0.35 0.30 0.30 -3 Index 43 0.37 0.30 0.30 0.30 -3 Index 43 0.37 0.34 0.35 0.30 -3 Index 43 0.37 0.34 0.35 0.30 -3 Index 43 0.37 0.30 0.30 0.30 -3 Index 43 0.37 0.30 0.30 -3 Index 43 0.37 0.30 0.30 -3 Index 43 0.37 0.30 0.30 -4 Index 5 Index	th Weight (BW)	-3 Index +3	-0.07	1.15	0.95	0.85	0.95	0.10	0.04	0.24	0.09	0.11
and the control of t	o Body Weight	-3 Index +3	-0.99	2.05	0.11	0.39	-0.30	0.33	-0.11	0.25	0.14	0.12
A contact A co	b Height To Withers	-3 Index +3	-1.25	-0.10	-0.56	0.58	-0.10	0.61	0.63	0.26	-0.03	0.08
3 Index +3 -0 66 0.14 1.55 1.55 1.55 0.18 0.18) Testes Size (Length X Width)	-3 Index +3	-0.14	0.37	-0.24	0.26	99.0-	0.46	0.11	0.44	90.0	0.04
Action of the Energy	Adjusted 365-Day Fleece Weight	-3 Index +3	1.95	2.22	1.77	1.92	-0.98	0.18	0.40	0.14	0.25	-0.50
The Diameter (Fibre Level Test)) Fibre Length (Mid-Site) Of Fleece	-3 Index +3	99.0-	0.44	1.55	1.55	-2.33	0.34	0.18	0.24	0.58	-0.28
Concentration Concentratio	Adjusted Total Fibre Diameter (Fibre Level Test)	-3 Index +3	0.51	1.60	0.81	-1.60	1.32	0.28	0.31	-0.04	0.03	0.45
Folicular Density (Per Sq.Mm.) 3 Index +3 104 2.36 1.38 0.17 1.35 0.16 Secondary To Primary (Shillee Ratio 3-1 Index +3 1.00 0.04 1.98 0.32 1.42 0.05 Secondary To Primary (Shillee Ratio 3.0 Mic 3.0 Index +3 1.00 0.04 0.05 0.05 0.05 0.05 Index Partor: & Secondary Politicles Ratio 3.0 Mic 3.0 Index +3 0.07 0.05 0.04 0.05 0.04 0.05 Secondary Politicles To Diameter Secondary Politicles Ratio 3.0 Index +3 0.07 0.04 0.05 0.04 0.05 Set Primary Foliticles To Diameter Secondary Politicles Ratio 3.0 Index +3 0.05 0.05 0.04 0.05 Set Primary Foliticles To Diameter Secondary Politicles Ratio 3.0 Index +3 0.05 0.05 0.04 0.05 Set Primary Foliticle Ratio 3.0 Index +3 0.05 0.05 0.05 0.04 0.05 Set Primary Foliticle Ratio 3.0 Index +3 0.05 0.05 0.05 0.05 0.05 Secondary Foliticle Ratio 0.05 0.05 0.05 0.05 0.05 0.05 0.05 Secondary Foliticles To Diameter (Three Level First) 0.05 0.05 0.05 0.05 0.05 0.05 0.05 Secondary Foliticle Ratio 0.05) Fleece Visual Score	-3 Index +3	0.97	1.12	0.82	-0.22	0.22	0.24	0.41	0.10	0.27	0.10
Secondary To Primary (5/P) Follicle Ratio	Adiusted Total Follicular Density (Per Sq.Mm.)	-3 Index +3	1.04	2.36	0.87	0.17	1.35	0.16	0.11	0.36	0.17	-0.03
ular Densify Per Follicular Group -3 Index +3 -3 Log -0.47 -3 Log -0.49 -3 Log -0.40 -3 Log -0	Adjusted Total Secondary To Primary (S/P) Follicle Ratio	-3 Index +3	2.07	2.69	1.98	0.92	1.42	0.05	0.22	0.04	0.25	0.13
inease Factor: % Secondary Folicies > 30 Mic E WITHIN THE ALPACA NATIONAL HERD ANG	Adjusted Follicular Density Per Follicular Group	-3 Index +3	2.07	2.69	1.98	0.92	1.42	0.05	0.22	0.04	0.25	0.13
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EWITHIN THE ALPACA NATIONAL HERDO	o Adiusted Diameter Primary Follicles To Diameter Secondary Follicles Ratio	-3 Index +3	0.37	0.24	0.65	-0.03	-0.03	0.11	0.26	-0.01	-0.23	0.40
PROGENY SDR AVERAGE VALUES 12 12 12 12 12 12 12 1	FRAGE COMBINED SDR & HII VALIJES PER SIRE	-3 Index +3	0.52	1.25	0.67	0.42	-0.04	0.22	0.24	0.15	0.13	0.08
AVG AVG AVG AVG AVG	VELOE THE SIRE WITHIN THE ALPACA NATIONAL HERD			<u>~</u>	2	- 13	- 61	22%	24%	15%	13%	%8
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©: SDR Dams have SDR = SIRE PERFORMANCE - NAT. HERD VALUE/NAT. HERD STDEV Copyright The University Of Sydney - Orange, Dr A.A. Charry & R.F. Scott 1999	o Adjusted Diameter Primary Follicles To Diameter Secondary Follicles Ratio		0.50	0.90	0.30	-0.70	1.20	0.19	0.12	0.33	-0.02	-0.01
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The ten characteristics for sires' selection

Table 1 gives the values for the ten characteristics selected for evaluating the performance of five (5) sires. It also gives the results of national herd values calculated from the research project. The performance of the five sires and their herd improvement indices are given for each of these characteristics. To simplify the evaluation technique, these ten characteristics were selected from a total of more than 100 characteristics evaluated.

It was considered that adjusting values to one year old (1YO) age was the most suitable age to evaluate sires, both from a marketing and management perspective.

The following characteristics were selected:

- · Birth Weight (kg);
- 1YO Body Weight (kg);
- 1YO Fertility Testes Size (cmW+cmL);
- 1YO Adjusted 365-day Fleece Weight (kg);
- 1YO Fibre Length (mid-site) of Fleece (cm);
- 1YO Total Fibre Diameter (mic.) (fibre level);
- 1YO Fleece Character Visual Score;
- 1YO Adjusted Total Follicular Density/sq. mm (No.);
- 1YO Prickliness Factor (% total follicles > 30 mic.); and
- · 1YO Diameter of Primary Fibres to Diameter of Secondary Fibres Ratio.

Secondary to primary (S/P) follicle ratio, and follicular density per follicular group, though listed in Table 1, are not considered relevant to the purposes of identifying superior performance animals. The reason is due to the enormous variation in the number of primary follicles in the skin of sires per sq. mm (range 1.5 to 7.00), and a widely spread CV = 70% (Charry, 1999, pers. com.). The non-uniform counting of primary follicles is a disadvantage for those sires reporting high primary follicles count. It hides the real follicular density of an animal when S/P follicle ratios are used as an information tool.

Discussion of results

When the Coefficient of Variation (CV) of each characteristic is used as a decision criterion to evaluate the risk of genetic performance of the national herd (see Table 1) the following five characteristics have the highest variability:

- Prickliness Factor (CV = 250%);
- Total Follicular Density (CV = 72%);
- Fleece Character (CV = 49%);
- Fertility Testes Size (CV = 37%); and,
- Fleece Weight (CV = 25%).

The high values of the coefficients of variation indicate that the above listed characteristics are the most critical,

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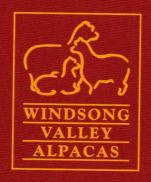
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affecting the performance of Australian alpacas. Selection of superior performance sires for these characteristics will ensure meaningful improvement of the alpaca herd in the medium term.

To choose a sire which has the best performance for a given characteristic, the breeder should analyse the SDR value for each sire for that characteristic in Table 1. As an example, if the breeder wants to increase follicular density then SIRE02 offers an ELITE SDR for this characteristic (i.e. SDR = + 2.36) that is 83 total follicles per sq. mm. compared with the national average of 30.5 total follicles. On the other hand, SIRE02 also has an ELT SDR for fleece weight (i.e. +2.22 or 4.20 kg) while SIRE01, SIRE03 and SIRE04 offer ADVANCED SDR values for fleece weight. For fibre diameter ratio between primary follicles and secondary follicles, SIRE03 offers the most attractive performance indicating a more uniform micron counting in the fleece. Finally, the combined SDR for all the characteristics classifies SIRE02 as an ADVANCED sire, and the remaining sires as AVERAGE. The last position is reserved for SIRE05.

However individual performance is not the only and/or best way to evaluate a sire, there is also a sire's progeny performance. The Herd Improvement Index (HII), which provides a simple method to evaluate a sire from his progeny performance, is also given in Table 1.

Relative values are provided for each of the ten characteristics, and an average HII for all the characteristics is given for each sire at the bottom of the table.

As an example of HII analysis, SIRE02 has the best progeny improvement for fleece weight with a HII of +40% while SIRE05 comes last with a HII of -50%. SIRE04 is the best improver for fibre length in progeny (i.e. HII = +58%). SIRE02 is the one producing the better improvement in fleece character in the progeny with a HII of +41%. In general SIRE02 is the most consistent across all the characteristics with a combined improvement of +24% followed by SIRE01 with a HII of +22%, SIRE03 with a HII of +15%, SIRE04 with a HII of +13% and lastly SIRE05 with a combined HII of +8%.

A comparative evaluation of SDR and HII values between SIRE01 and SIRE03 shows a level of disparity in the rankings. An accepted criterion should be framing the decision as per the HII values described in Table 1. In this case, SIRE01 would be showing superiority in producing higher quality progeny (i.e. HII = 22% against HII = 15% for SIRE03).

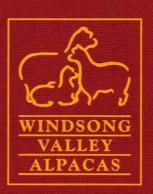
A reliable implementation of the HII method implies complementary calculations of statistical repeatability, since the confidence of these values is highly dependent on having a large number of progeny recorded for each sire.

Conclusions

- 1. SDR values are useful indicators of the quality of individual sires because they are related to the national herd. They can be confidently used to select a suitable sire
- 2. HII values are an objective measure of the improvement effect of a sire in his progeny. The use of these values will increase the probability of selecting the best possible sire for individual females.
- 3. Although there are many factors to consider when selecting a sire, the ten characteristics selected in this paper provide a reliable starting point for practical selection purposes.
- 4. If show judges develop a standard set of characteristics to assess alpacas in the show ring, consistent with the biological markers proposed by Charry, Clymo, Lawrie et al. (1999), then these results could be used in SDR and HII evaluation to implement a systematic method for evaluation of performance in alpacas.
- 5. Individual breeders are now able to make holistic evaluation of potential sires using the national herd evaluation values as a guide without having to solely rely on show ring results. This implies that mating decisions have to be better informed in terms of SDR and HII values from available sires

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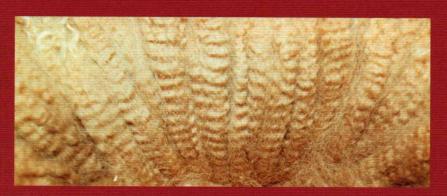
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TERRY & TENA WHEELER 08 9399 2737

Alpaca Breed Standard

This is the official alpaca breed standard of the Australian Alpaca Association Inc.

HUACAYA AND SURI CONFORMATION

Overview

The alpaca is a tall, graceful animal with a smoothly blended body and upright stance. It carries its head high. It is strong boned and vigorous. It has good conformation with all its parts in correct proportion and when true to type has the characteristics described in this standard.

Head

The head has a strong appearance and is not coarse. It is neatly formed, of medium length and with a square muzzle.

The eyes are oval in shape, alert and set well apart. They protrude slightly from their sockets, giving the appearance of being large and round. They may be blue, brown or black.

The nose has two well-defined nostrils. The upper lip is divided and mobile.

The ears are of medium length, covered with short soft hair, erect and bayonet-shaped, pointing forward in the alert stance.

The jaws fit together well, with the lower incisors meeting the upper dental pad.

Faults

- Muffled face (fibre or hair impeding the animal's vision particularly after first shearing)
- Wry face
- Head very narrow
- Face hard and open
- · Roman nose
- Lower jaw undershot or overshot

Neck

The neck is long and slender and continues directly from the line of the backbone, blending smoothly into the shoulder.

Faults

- Length of neck disproportionate to body size (too long or too short)
- Neck bent
- U-neck

Forequarters

The chest is broad and deep, well sprung in the fore-rib. The wither is relatively wide where the shoulders meet, well fleshed and set well into the shoulders forming a straight line with the back.

Faults

- Narrow chest
- Loose shoulder blades
- In or out at the elbows
- Prominent wither

Body

The body is deep through the girth, with well-sprung ribs. The back is strong and the top-line is slightly convex. The loins are broad, strong and flat, with the back barrel large and deep.

Faults

- Roach back
- Sway back
- Over-long straight back

Hind quarters

The rump is broad with a slightly convex top line. There is good space between the pin bones. The tail is straight, covered with quality fibre, set slightly lower than in other livestock and should cover the genitalia. The thighs are strong and well muscled. The height of the pin-bones equals that of the shoulders.

Faults

- Narrow hindquarters
- A bent or kinked tail that cannot be manually straightened or where there are no signs of a break/calcification
- Steeply sloping rump

Legs

The forelegs are strong and straight. The hind legs are straight and parallel when viewed from behind. The pasterns are firm and upright. The feet are neat and well formed and bear two forward pointing toes each carrying a long strong toenail. The sole of the foot is covered with a callused membrane.

Faults

- Weak pasterns
- · Obvious carpal deviation
- Cow hocks
- Sickle hocks

Udder

The udder should show good capacity, with four working teats.

Faults

More or less than four working teats

Testicles

The scrotum is well attached, relatively small and carries two even sized testes.

Faults

- Testes of uneven size
- Testes too small (relative to age)

Height and weight

A mature animal measures from approximately 90 cm at the wither and weighs from approximately 60 kg upwards.

Faults

Oversized – particularly if llama like characteristics present

Movement

Alpacas should exhibit an even stride length with two distinct tracks. the hind feet following the front ones.

Faults

- Uneven stride length
- · Paddling on the front feet

Disqualifying faults

- Polydactylism (more than two toes on each foot)
- Syndactylism (fusion of the two toes of the same foot)
- Fused ears (short stubby ears or fused at the tops)
- Banana shaped ears
- Tail absent or abnormally short or bent
- Fewer than two testes
- Jaw not properly aligned
- Jaw excessively overshot
- Jaw excessively undershot

HUACAYA FLEECE

Introduction

A guide for both breeders and judges that will evolve with time. Huacayas are distinguishable from suris in that they carry sheep like fleece, which

stands at right angles to the body. The fleece should exhibit a strong wave or crimp across each fibre and have strong staple definition. The alpaca should be well covered with a rounded appearance. Coverage should extend down the legs and up to a bonnet on the head with a clean muzzle and ears.

The most important characteristics of huacaya fleece are:

- 1. Density this is perhaps the most important as it determines the commerciality of the fleece i.e. the quantity you have to sell. It also prevents dirt and moisture penetration.
- 2. Fineness and Handle fineness sets the value of a fleece per unit weight. The finer the fleece the more per kilo it will make. Soft handle goes with fineness. The softer the handle the finer the micron.
- 3. Character is closely related to density, as strong crimp definition and staple formation is necessary to achieve heavy fleece weights.
- 4. Lack of medulation fleece should not contain broad microned straight medulated fibres, especially throughout the main blanket. The aim being to eliminate it completely.
- 5. Lustre this is the amount of light reflected from the fibre, which enhances its appearance when processed into a garment.

Other determining factors are:

- 1. Uniformity of micron processors require fleece with minimum variation in fibre diameter. This also helps to eliminate fleece tenderness (fleece breakage).
- 2. Uniformity of colour an even colour is preferred by processors,

- but allowances need to be made for greys and fawns which can have colour variation.
- 3. Uniformity of length the fleece should be of the same length for 12 months' growth. The ultimate aim is to have the neck fibre match the main blanket in length, thus increasing the weight of the fleece.

Faults

- Open fleece with no density
- Chalkiness
- Harsh handle
- Short staple length
- Medulated fibre
- Lack of overall coverage
- Tenderness

Colour

Alpaca fleece comes in varying shades of colour from white to black. In between there are shades of fawn, brown and grey, as well as rose grey. Animals may be solid in colour or be any combination of the above.

SURI FLEECE

Introduction

The suri carries a silky, soft-handling, dense, locking fleece that moves freely, yet hugs the body giving the animal a flat-sided appearance. The fleece hangs from a centre part - neck through to tail - with well-defined locks forming close to the skin and twisting uniformly to the ends. The overall effect is similar to the drape of a curtain of silk tassels.

The primary characteristics which distinguish a suri are its lock structure, high lustre, silky handle and long staple length. The suri exhibits little medulation giving its fleece a more uniform look throughout.

Legs, apron and belly should be well covered and silky, not coarse or 'hairy'.

The most important characteristics of suri fleece are:

1. Fineness

Fineness is of paramount importance (closely followed by attributes of high lustre and softness/silkiness of handle).

2. Lustre

This is apparent as a 'sheen' or 'pearliness' in the fleece and is a highly desirable feature in the suri.

3. Handle

The handle of the suri should have a silky, slippery feel and be evident throughout the body, including the ears, forelock, muzzle, apron, belly, neck and legs.

4. Locks

Architecture

The locks should be well-defined, narrow, independent, uniform and form close to the skin.

Type

Locks may be twisted, curled or pencilled.

Uniformity

Locks should be uniform across the body commencing from the forelock and continuing through to the hocks. When the fleece is opened to expose the inside layer, the inside locks should be uniformly well-defined and hang in similarly well-formed layers.

Clockwise or anticlockwise spirals Spirals in the locks may twist from either left or right.

Wave/crimp

Locks can be with or without a wave (not to be confused with crimp which is a fault).

Overall appearance

The locks should hang straight and hug the body, giving a draped appearance.

Lock Definitions

Lock architecture

The 'lock definition' is also referred to as 'architecture' and relates to the degree of twist or curl and the solidity in the lock. The best architecture has a tightly twisted lock.

Uniformity

Locks should be uniform from the forelock and base of the ears to the hock, with particular attention to uniformity across the midline from shoulder to thigh.

Independence of lock

The fleece should swing out freely from the skin when the animal is in motion or the fleece disturbed.

5. Density

The hallmark of a good suri is its compactness. This is synonymous with heaviness or weight in the fleece. A more rounded appearance can indicate volume (fluffiness) rather than density.

Density is evident by gauging the solidity of lock (or thickness in terms of density, not broadness of lock), the number of locks over a relative area as well as the weight of the fleece.

6. Staple length

The staple of a suri is relatively long and its fibre should grow one to two centimetres per year longer than a huacaya of similar age and micron.

7. Medulation

There should be little or no evidence of medulated fibres in the fleece.

Faults

- Flat, open fleece with no lock definition (architecture)
- Medulation
- · Chalkiness or lack of lustre
- Short staple length for age of fleece
- Coarse handle
- Lack of density
- Rounded appearance indicating fluffiness rather than density.

NOTE FROM BILL ROBBINS, Chairman, Breed Standard Committee

The Alpaca Breed Standard is an evolving standard based on the type of animals we have today, not an ideal of the future. The standard can be upgraded as time passes and should be an overview not tied down by specific measurements of characteristics (e.g. testicle size or jaw alignment). It is a guide that can be refined with time.

Muffled faces

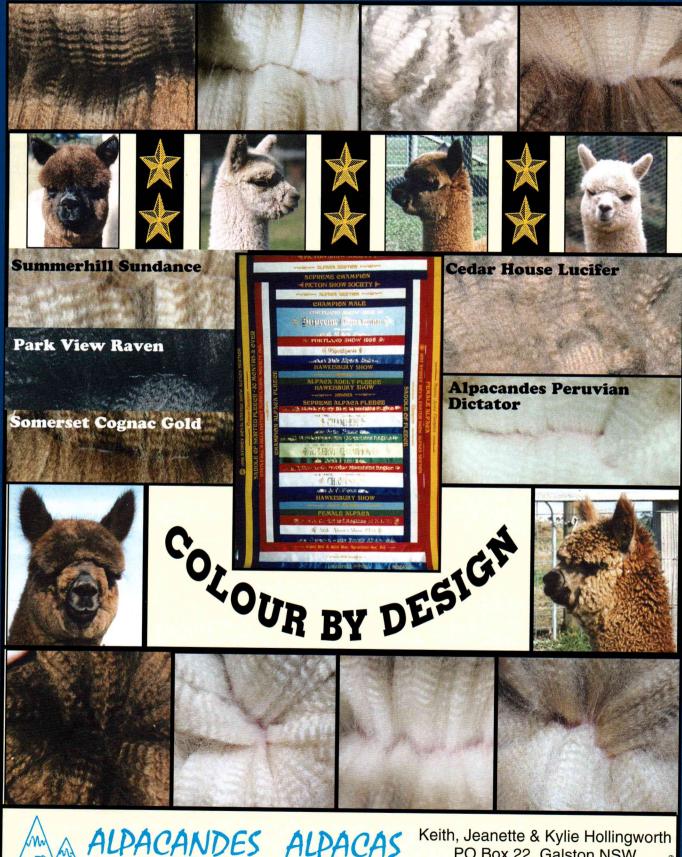
There has been some conjecture about muffled faces. An animal with a muffled face has fibre growing on the muzzle impeding its vision.

Fibre growing on the cheek is not a problem. Muffled faces on cria do not appear to be a problem as, in most cases, it disappears after the first shearing.

Where it is a problem is when its persists beyond this time into adulthood. If this attribute is bred on, ultimately you finish up with a wool blind alpaca that has to be wigged (have fibre cut away from the face). Otherwise, the animal will have trouble seeing and, therefore, foraging. It will also be very nervous and agitated simply because it cannot see properly. Additionally, eye problems, particularly from grass seeds embedded in the fibre around the eyes, almost always result. (In merino sheep with similar attribute, fertility has been found to be a problem).

Note, this does not mean to suggest that we should breed bareheaded alpacas. Far from it, as density is tied in with point coverage (i.e. fibre down the legs and on the head). The overall look of a stud animal should be complete with good head coverage.

I reiterate, we do not want adult alpacas growing fibre on their muzzles as distinct from on their cheeks.



ALPACANDES ALPACAS

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CANADIAN ALPACA BREEDERS ASSOCIATION INTERNATIONAL FLEECE SHOW - July 21-23, 2000 - Red Deer, Alberta, Canada

Fleece Show Judge: Cameron Holt, Australia

An international alpaca fleece show of major proportions and potential!

– By Maggie Krieger –

magine a fleece show where there were no holds barred in terms of entries from all over the world! One's own alpacas' fleeces could compete with others from Australia, Canada, Peru, England, Chile, Europe and the USA. Imagine your own fleece beating a top quality fleece from Peru. Well, I have news for you. This is no longer a figment

of anyone's imagination, it is a reality. You may not have heard of the inaugural Canadian Alpaca Breeders Association Annual International Fleece Show of 1999 and what a resounding success it was, but we are determined that you will hear about the upcoming 2nd CABA Annual International Fleece show, once again part of Alpacafest.

Let me tell you a little about the background of this event. A couple of years ago, the idea was tossed around that there was a need to stimulate some interaction on a world wide basis that would

contribute to competition between farmers of the various countries of the world involved in alpaca breeding. The organisation of an actual alpaca animal show between the countries was obviously out of the question because there were too many animal health hurdles to overcome. It would also be rather stressful and expensive to fly animals all over the world to compete in halter classes! So what alternatives were there?

As it happens, alpaca fleece is a very moveable commodity. Once squished down into a reasonably sized package it can be

shipped just about anywhere. You don't have to train, feed or look after it at the show. You don't have to have a trailer (float) or other fancy rig to get it to the show. You don't have to vet check it before it leaves home. There is no risk with exposure to other fleeces and you don't have to give it any shots. It certainly won't lose its pregnancy through either! The only problem that does exist is the de-bugging and sterilisation for health purpose and entry into a foreign country. Even that is easily surmountable without harming the fleeces.

dose of persuasion and a lot of good faith, in July of 1999 this important international event was born. The inaugural show comprised of 88 fleeces coming from Canada, the USA and Australia. Although the numbers were not of mammoth pro-

So, with this in mind, a huge

to know details.

The entry fee is CAN\$40.00 per fleece and is to be included with the fleece, not remitted separately.

While time is now short for entering Australian

fleeces into the show, breeders may be interested

included with the fleece, not remitted separately.

Australian fleeces must be accompanied by signed declaration from AQIS that they are visually free from ectoparasites.

The deadline for entries is 7 July.

In Australia, the Australian Alpaca Fibre Marketing Organisation is helping promote the event. AAFMO's Dr Ian Davison is in possession of full information, including entry forms for the event. If you want further details, please email him asap at:

iandavison@mail.shoalhaven.net.au

portions it was still a very exciting event, which generated huge interest, not only from the participants but from the general public as well. Dr. Julio Sumar DVM was the judge of our first show and he certainly did a very thorough assessment of every fleece submitted.

An illustration of the lengths that some breeders went to last year to get their fleeces to the show was the situation of Nola Graham of Spokane, Washington, USA. She was so enthusiastic that she took the trouble to personally transport her fleeces up to the show. No mean feat, since she lives one and a half days' drive away from Red Deer. She was not, however, the owner of the fleece that travelled the furthest distance. Tiki Morgan and Dougal Macdonald of Australia clocked the most mileage on their fleece, which did not go unrewarded with a first in its class.

Prize money was certainly nothing to be scoffed at here with rewards that made competing very worthwhile. First place winners of their class category won \$100. Best white and best coloured fleeces of both huacaya and suri won \$500. The best coloured and best white huacaya and suri fleeces competed against each other for the Best In Show and each winner won \$1,000, totalling a substantial \$1600.00 each to the top two fleeces. This certainly made it lucrative to enter a fleece if you were a winner. Last year's winners included fleeces from farms in all three participating countries. Overall best of show huacaya went to West Wool Alpacas in Canada and the suri award went to Castle Hill Farms of the USA. Good promotion of other related businesses was also made available though sponsorship of the event.

This year we are anticipating at least doubling, if not tripling, the entry numbers, but this cannot be accomplished without the contribution of all breeders. This is a world wide appeal for your participation in the 2nd Annual Canadian Alpaca Breeders Association sponsored International Alpaca Fleece Show.

From Dougal Macdonald

At the First International Fleece Show conducted in July 1999 by the Canadian Alpaca Breeders Association, when Dr Julio Sumar judged the black fleece from Roskhill Triple J, the 89.5 points he awarded to it was enough to win its class.

We believe that this was the first win in international competition by an Australian bred and owned alpaca. We decided to enter when we heard that Maggie Krieger, well known to Australian alpaca breeders, was involved in organising the Show and because Roskhill Triple J was Champion Inter-mediate Male at Royal Sydney Show in 1999.

CABA will be conducting its second International Fleece Show on 22 July 2000 and there must be some Australian fleeces worth entering. Our fleece that won in Canada took only third place at the 1999 AAA National Show. Breeders who think they are in with a chance at the CABA show might like to know what's involved in getting it there and, more importantly, getting it back here afterward.

The Canadian quarantine authorities took a fairly benign view of a fleece from Australia. They required a certificate from AQIS that our entry was free of ectoparasites (lice, ticks, etc). We had to make a declaration to that effect on a form provided by AQIS which meant having our vet inspect the fleece and give his certificate that our declaration on the AQIS form was true.

Here's what I drafted for our vet to sign on a sheet of his letterhead:

I have inspected the black alpaca fleece which Roskhill Alpacas of 42 The Forest Road, Bungendore, NSW 2621 propose to enter in the Canadian Alpaca Breeders Association show on 23 July 1999 and confirm from that inspection that the endorsement on Declaration and Certificate for Shipment of Skins, Hides and Wool, No. 913367, is true.

AQIS required that the form be typed using a typewriter. Quite apart from the risk of typing errors, mechanics isn't as easy as it used to be. While the only typewriter in the house was in working order, its ribbon had dried out and the manufacturers don't make ribbons for that machine any more. A little sweat finally produced a pale original with no typing errors for our vet to read before giving his certificate.

Then it was time to get AQIS to approve the declaration and certificate. For us, not difficult, because the head office of AQIS was only half an hour's drive away. In other States, it would be necessary to submit the papers to the nearest AQIS veterinary officer. They took my money (user pays, even when user also does all the work), sealed and signed the Declaration and Certificate and I was ready to pack the fleece and post it.

Australia Post provided a Post-Pak and recommended that I consign the fleece by Sea-Air which guaranteed delivery in 17 days. So away the fleece went with a Customs Declaration on the outside and the quarantine certificate inside. The Post-Pak also carried a message to Canadian officials giving the name of the particular Canadian quarantine officer who was the man to contact if there were any questions. (It may be somebody else by now - CABA will have teed everything up and will advise exhibitors in their Show Entry Form package).

Naturally, we were over the moon when we got the e-mail telling us of our win. Then, because the fleece had been entered in the AAA National Show and the delivery deadline loomed, we had to ask CABA to return the fleece without delay. The Canadian Post Office does not, it seem, offer a service equivalent to Australia Post's Sea-Air. Nor does the Canadian Post Office accept international postal coupons for parcels. But one of the perks of winning was that CABA met return shipping costs.

When I collected the re-cycled Post-Pak from the local Post Office, I was surprised because the customs declaration from Canada was unopened. And there had been no call from AQIS demanding money to have the fleece irradiated (a normal requirement costing about \$40 and taking up to a month — otherwise the fleece would have been destroyed) before they would release it. The parcel had slipped through the system undetected — and we had to provide inward quarantine clearance from AQIS before AAA would accept the fleece for the National. I caught the inspector just as he was about to knock off and I must say that he was very good about it. But the lesson to be learned is that while Canada might worry only about ectoparasites, AQIS is, for good reason,

concerned with much more. I had to do some quick explaining that the vegetable matter in the fleece was Australian, not Canadian. (Maggie Krieger comments: 'Canada holds an extremely clean bill of health on the international animal health front so it is not likely that there will be anything transmitted to fleeces sent to competition. Show fleeces do not come in any contact with live animals so they return with what they arrived in Canada with and what they left Australia with! But AQIS does have responsibilities to protect the whole of this continent and while they're generally willing to be helpful, this doesn't extend to turning a blind eye to the rules.')

So there it is, the story of how we found our moment of glory and made a small mark in the history of the Australian alpaca industry. I've written it to help Australian breeders who might wish to enter a fleece in a future CABA Show to negotiate the bureaucratic maze. The CAN\$100 prize fell short of covering our costs, even after CABA kindly paid the return air-mail postage because of our win. But the buzz that we got from learning of the win, and the congratulations from many quarters when the news got out, made it all worth while. If you have a fleece that you think can stand international competition, our advice is, go for it.



ALPACA TO RAKE AND OR NOT?

JOYCE AND JEFFERY HILL, ADELYN ALPACAS

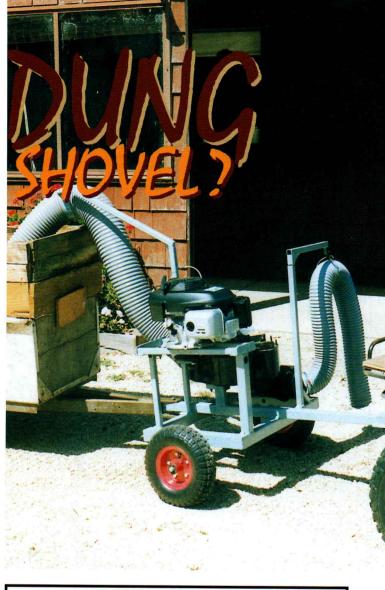
his was the dilemma that we faced as our animal numbers increased at Adelyn Alpacas and our time became tighter. No matter what, the dung still needed to be moved from the piles to where we wanted it: in larger heaps awaiting use, spread back on the pasture via our super spreader behind the ag-bike (after a suitable time to compost and eliminate any possible worm reinfestation); or in bags for others to experience the manure lift capacity in the domestic garden.

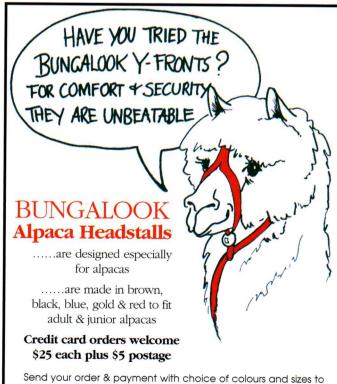
We decided to investigate the options for moving the dung and settled on utilising a vacuum system.

After inquiries, which established that no commercial unit was readily available in our area, pen was put to paper. The result was a design utilising a blower/fan (possibly from a ride-on mower for blowing the grass to a rear catcher) sourced via Sue Bourchier and John Simpson of Kantara Alpacas and a petrol driven motor. Some design criteria for the vacuum were compact, lightweight construction and it had to be user-friendly.

The end result is a compact vacuum unit mounted on a towable frame which is placed behind the quad bike with our small trailer behind this to act as the holding bin. The inlet is side-mounted and detachable from the hang stand. This allows us to vacuum the whole of a dung pile without needing to move the bike combination – and without the need to rake and shove!!

The trailer load of dung is broken down to a coarse dust/fibre which contains approximately 20 per cent of the dung still in singular pellet form. However, these clumps or pats totally disappear. The trailer, about eight-tenths of a cubic metre, can be filled in about 5 minutes — most of the time involved in the task is now actually spent moving around paddocks between dung piles. On a large pile of dung, the time would be even more reduced. As it is, we can clear a paddock in about a quarter of the time it took us without our vacuum. And there are no sore hands nor aching backs! It leaves us more time to enjoy our alpacas and attend to other alpaca jobs.





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THE INTERNATIONAL ALPACE INDUSTRY

BY PHILIPPA ERNST, CORICANCHA ALPACA STUD

lpaca are now rapidly becoming a world wide agricultural industry. They graze the pastures in: United Kingdom, Israel, Austria, Switzerland, Belgium, Germany, France, Sweden, Italy, USA, Canada, Peru, Argentina, Ecuador, Chile, Bolivia, Australia, Taiwan and New Zealand. South Africa and China are currently negotiating their first shipments.

Australia has the largest herd outside of South America and is fast developing genetic gain through selective breeding practices, thus projecting the alpaca industry forwards into a new future.

To grasp the implications of these two points, one first has to understand the traditional farming methods used in the native countries of origin and compare traditional methods used for fibre production with our own. In South America, there is little ownership of land, few fences, yards or sheds and no electricity. Typically, shepherds supervise 50+ female alpaca, some with cria, five male alpaca, five cattle, ten sheep, three goats and a dog or two - sometimes moving their stock every day to find feed in a land that is nowhere near as fertile as that of Australia.

Alpaca breeding occurs naturally. Shearing, done with blades, takes place on the ground. No fibre classing is done. Breeders sell fleece to the mill where the time-consuming, tedious task of classing is done by hand.

There has been virtually no change in the way alpaca herds are handled in South America for thousands of years. And while politics and limited technology have influenced the industry in the last few hundred years, this influence has been relatively small. Yet there is still an international demand for alpaca fibre.

In Australia, a few entrepreneurs saw niche market possibilities, took the initial risks and were the spearhead of the development of an up-and-coming industry that is recognised overseas.

At a recent international congress that I attended in South America, Dr Julio Sumar, a leading alpaca judge issued a warning to traditional breeders. 'Watch out! Australia has done it with the merino sheep and will do it with the alpaca global market with genetic pedigree.'

He was referring to his impressions of the Australian industry gained in 1998, when he judged at the industry's annual national show and was surprised at the genetic gains Australia had achieved over ten years.

In his summation of other countries that have now acquired alpaca, Dr Sumar likened the situation in the USA to a pet industry ('collectables' was the term he used, as I remember it) with fibre as a by-product.

Europe he labelled as a new and developing animal industry offering a good market for those interested in selling animals.

Asia, he believed, was potentially the largest buyer of alpaca tops and would outstrip Europe – although Europe would remain the main buyer of top-end fibre.

To us, this all means that there is plenty of new demand for alpaca fibre.

I believe that the task now confronting the Australian industry is to capitalise on marketing opportunities and develop a specialised global role in the industry. We cannot, as yet, compete with the status of Peru in terms of animal numbers and fibre production, nor do I believe will we be able to do so within the next decade.

At present, our prime advantages are that we do possess the largest non-South American alpaca herd and we have made excellent quality gains in alpaca genetics. To me, this means Australian breeders are probably in the best position of any country to supply quality, true-to-type alpaca to an expanding global market.

This does not mean putting the brakes on developing our own commercial fibre industry, but it does mean taking advantage of our ability to develop quality stock to 'seed' fledgling overseas alpaca industries.

The current trend to globalisation can only maximise our opportunities.

Export Report of Alpaca

January-November 1999

Company	Noils/Grease Kgs	Tops Kgs	Yarns Kgs	Fabrics Kg
Michell Industrial S.A.	163,926.00	1,635,471.23	199,970.49	0.00
Consorcio Textil del Pacifico S.A.	0.00	0.00	193.00	70,313.02
Inca Tops S.A.	30,926.50	138,508.10	196,623.82	0.00
Incalpaca PX S.A.	0.00	0.00	3,877.80	202,745.33
Internacional de Comercio S.A.	8,983.00	545,496.91	23,021.60	0.00
Michell & Cia S.A.	35,702.00	624,094.20	200,163.57	0.00
Productos del Sur S.A.	105,716.00	373,962.00	45,538.71	0.00
Others	18,694.67	26,782.20	6,895.04	7,625.17
Total	363,949.07	3,344,314.64	676,284.03	280,683.52
Country	Noils/Grease Kgs	Tops Kgs	Yarns Kgs	Fabrics Kg
Australia	0.00	0.00	3,137.74	275.20
Canada	5.00	0.00	2,873.01	9,007.25
China	106.00	1,476,401.31	92,684.95	25,329.60
Germany	175,305.50	150,122.70	45,266.54	51,823.03
Italy	18,258.87	1,011,913.54	123,727.44	37,765.89
Japan	0.00	158,809.70	154,011.24	13,843.45
	129,589.30	356,980.70	17,484.83	4,465.59
U.K.			73,897.05	36,141.94
U.K. USA	1.00	3,322.00	73,077.07	
USA	1.00 0.00	3,322.00 19,902.59	8,103.80	
				37,804.94 3,491.55
USA Spain	0.00	19,902.59	8,103.80	37,804.94

^{***}Knits not available

Coming up next issue

The story of Maria Bravo, president of Quintessence & Co, combines two talents, the creation of alpaca fashion and the breeding of fine alpacas. In our next issue, Stephanie Pope reports on Maria's 'unlikely initiation' into the industry and how she became internationally known and respected. It's an absorbing story.

Have you noticed 'Sprinkles' yet? If not, turn to page 43 (he's pictured with 'Pandora', a twin from Australia's newest dual arrivals). Adrienne Clarke of Ambersun Alpacas says that he enchants everyone who sets eyes on him - and he is the second of her alpacas to exhibit this beautiful 'appaloosa' type colouration. Read more from Adrienne, next issue.

louble troub

The incidence of live alpaca twin births is increasing, at least in Australia. What's more, the incidence of healthy twins seems also to be on the increase. In the case of the newest set born recently in South Australia, the cria were not only healthy, but one was also remarkably hardy.

When I heard about this latest birth, I decided to get back to owners of twins born over the past 18 months to see how the cria were progressing. I included Jill Nicholas, whose dam had experienced twin births, but whose firstborn did not survive. Her story, along with reports on surviving twins from Heather Hand and Ian Davison, I felt, might not only make interesting reading, but also provide food for thought.

The first time we reported on the birth of twins was in issue 10 (Autumn 1995). The cria (known as Snugglepot and Cuddlepie) had been born around Christmas '94. It was a difficult birth for the dam and had taken some effort on behalf of the owners, Will, Susan and Nikki Eastmure, to ensure the survival of the cria.

In issue 11, we ran an article written by Dr Murray

Fowler, 'Twinning in Llamas'. I suspect there was no literature on twinning alpacas at the time. (Actually, I'm not aware of any now!) Taking the similarities between the species into account, we assumed that what was true for llamas was also true for alpacas. The story was not particularly optimistic. Of 16 twin births (i.e. 32 cria) recorded between September 1981 and November 1989, 23 cria survived. Of the deaths, only one case involved both twins, with seven cases of death of one twin.

As a mean average, there were 2 live twin births per year, over the eight year period.

Alpacas have complex reproductive systems about which there is still a great deal to learn. It is probably fair to say that the encouragement of twin births (if we knew how to do it!) is probably not a good idea (strain on the dam, low birth weight for crias and heightened possibility of defects). Or is this a conservative view?

The only way to find out is to monitor the progress of our twins and see how they progress. If the present trend continues, we will have plenty of opportunities.

AND THEN THERE WERE TWO!

At Glenbrook Alpaca Stud in the Adelaide Hills, twin female cria were born on 18 February to Glenbrook Duchess. The sire is Peruvian Generalissimo.

(This is South Australia's second live twin birth. Twins were born to a huacaya female, by a suri sire, some four years ago at Adsail Lake Plains Alpacas.)

Ian White, Glenbrook's owner, knew that the dam was overdue. On checking, he found her with a live cria and a prolapsed uterus. After vet attention, both dam and cria seemed to be doing all the right things and were left to settle. A few hours later, as Ian was unloading hay near the spot where the birth had taken place, he was very surprised to see a small female cria walking towards him. Taken forthwith to its mother and sister, the cria soon began suckling happily.

The twins weighed 4.5 kg and 5.5 kg at birth.

Subsequently, the Glenbrook herd was sold and the twins moved to a new home with Chris Williams and Adrienne Clarke at Ambersun Alpacas.

TWINS MOVE TO MT **COMPASS**

from Adrienne Clarke

We heard on the South Australian grapevine of the birth of female twins at the Glenbrook Alpaca Stud in the Adelaide Hills.

Eager to make their acquaintance, we arranged a visit with David Binks and Ian White, who had cared for the girls since their birth. We were thrilled at being able to purchase the Glenbrook herd, comprised of six females (including the twins), which were all

related back to the one Purrumbete dam.

Because of the uniqueness of the twins, we contacted Harriet Davison of Illawarra Alpaca Stud (NSW) for some advice in caring for the twins. She was helpful in providing a history of raising her twins through to maturity.



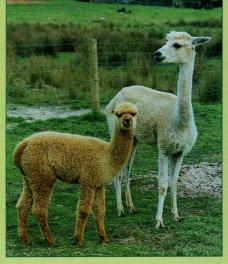
Pandora and spotted friend 'Sprinkles'.

We named the smaller twin 'Pandora', because of her mysterious introduction into the world. The larger twin we named 'Providence', in providing care and company for her younger sister. Apart from a difference in size, the two appear to be identical, with dark fawn fleece.

We weighed the girls on the date of their arrival at Ambersun. At three weeks of age, they weighed 6.8 and 8.1 kilograms. We weighed them diligently every day for their first six weeks. Both feeding entirely from their mother, the larger twin was able to achieve 100 to 150 g increases in weight per day. The smaller of the twins was struggling more, with weight gains ranging from 0-100 g per day. Concerned particularly about the smaller twin, we commenced supplementary feeding, three times a day of 400-600 ml per feed, to each twin. They still suckled from their mother despite our intervention. A bottle feed was almost always a catalyst for them to search out their mother for a little extra milk.

Duchess, their mother, was allowed unrestricted access to hard feed (a mixture of chaff and alpaca pellets) and managed to maintain a good weight while supporting both cria. She was always aware of both twins and appeared to mother them equally; although she often had some difficulty in keeping up with her adventurous daughters.

At two months of age, the weight difference between the two crias was increasing. While the amount of milk provided by bottle was roughly equivalent, it suggested that the larger twin was more successful in feeding from its mother. We made the decision to wean the smaller twin entirely to the bottle so we could monitor her intake and needs more closely. Although it was sad to break the physical and emotional link between the twins, it was the best decision in terms of their care as both



Dutchess with Providence.

twins gained weight more quickly once they had been separated and were not competing for food.

Providence continues to thrive under the care of Duchess, and Pandora has befriended another bottle-fed cria and has become very assertive in her feeding. Once the twins get to a weaning age, they will again be placed in each other's company, hopefully Glenbrook Providence and Glenbrook Pandora will be able to restore their family bond and state of uniqueness.

FOLLOWING UP LUCIELLE AND LACHLAN

by Heather Hand

Lucie and Lochie are now 20 months old and doing fine but, I think, a little small for their age. At 18 months Lucy weighed 48.6 kg and Lochie weighed 47.8 kg.

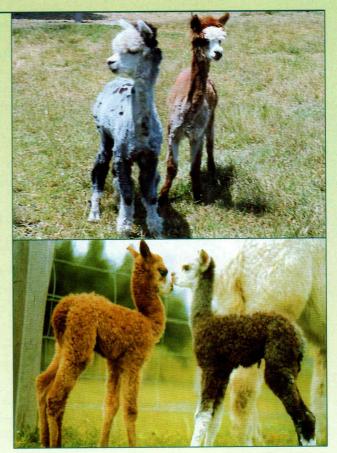
The male, Lochie has shown signs of maturity and has been separated from the girls 'just in case'. I am undecided at the moment about wethering him. He has been shorn for the first time and produced a light grey fleece, a little over-long.

I would describe Lucy as a curious and very gentle animal. We have made the decision to attempt a mating with Lucy at about two years of age, thus giving her a little more time to grow.

Their mother, Pengelly Olivia has since become pregnant (result of one mating) and produced a medium brown male cria.

Since the twins, Lucy and Lochie, we have had four crias, all uncomplicated births with the crias growing rapidly. Having these wonderful animals on our small acreage is certainly very enjoyable.

Thank you for the opportunity to report on the progress of Ellersley Lucielle and Ellersley Lachlan. I hope to be able to report in the near future that Lucy is pregnant.



Top: After their first shearing. Lochie, right, produced a light grey fleece.

Bottom: As new-borns (Alpacas Australia, issue 25).

NO ORDINARY DAY

by Jill Nicholas, Belgrave Alpacas

Saturday, 18 December 2000 was no ordinary day. Karen ran from the barn to the opposite end of the girls' day paddock with an obvious mission in mind. It was 9.30 am and I slowly followed her with the medical kit as I was sure she would birth that morning. It was not Karen who would create chaos that day! Ten minutes or so later, I phoned my partner Karl, who was back at the barn, to come and watch Karen birth. Karl rarely sees a birth as he is only here weekends. As I watched Karen produce a 9 kg cria, I became aware of a black female on her own on the top of the next hill. This concerned me a little, as no one else was due. I had dunked the cria's umbilical and was checking out the black girl through my binoculars when I saw something black drop from her tail. My tummy jumped into my throat. It was too early. Belgrave Park Queen of Hearts was not due for 18 days!

As Karen was OK and Karl had arrived, I raced up the hill to find Queenie with a tiny black cria in the grass. Right beside him was another black cria, apparently the first to arrive. It was not moving. I was stunned and I called for Karl to come. I concentrated all my efforts on trying to resuscitate the first born cria, draining it over my shoulder, massaging and giving CPR, but it never took a breath. The membranes were intact over its mouth, nostrils and eyes. The crias were solid black identical males. My camera lives in the medical kit, so I took a photo for the records. Not a very good one I'm afraid as I was too sad and pre-occupied at losing the cria. The one that didn't make it was 3.1 kg and the other was 3.3 kg. He became Belgrave Park Little Big Man as his fighting spirit was then, and is now, indeed BIG.

By 7pm I had given him 200 mls of his mother's precious colostrum, over 6



Little Big Man in cush position, 2 hours old.

feeds. The night was to be a long one. I managed to get a further 8 feeds of 205 mls into him and by the end of the first 24 hours the total was 405 mls. This being well above 10% of his body weight, I hoped it might make all the difference and thought I might have a chance of saving him. He was so tiny. I knew I wouldn't be out of the woods for at least two weeks.

In the barn, he had a bed of leg fleece with 3 hot water bottles the first two nights with his mother on one side of him and me, on a swag at the other side. There I spent my nights for a week. I was lucky, he had the sucking reflex and he took the marsupial teat very well. He had made it through the first night and weighed 3.4 kg. So I decided to get some of my plasma from my vet's freezer and give him that as well. As it was past the passive transfer time and he had taken plenty of his mother's colostrum, it would only be an extra boost of nutrition and protein. But it certainly wouldn't hurt. After all that's what it is there for. Day 2 was Sunday, naturally! Always is when I need a vet. (Lesson: Keep some plasma in your own freezer as well as the vet's freezer).

The cria received 180 mls of plasma interperitoneally; later, some electrolytes for good measure; and, by day's end, he'd managed 245 mls of mum's milk. He was now able to cope with the cush position.

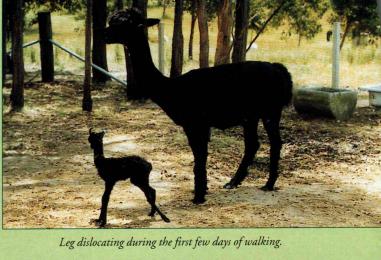
Day 3: he took 455 mls, and was trying to stand. His ligaments were so weak that his hind legs dislocated and turned backwards when he briefly stood. At last there was some sun after bad weather. As he was sleeping a lot and on 2 hourly feeds, I let Queenie out to graze. When it was time to milk, I would call

her and she would run up to the barn door, stand still while I milked her and then race off for some more grazing with the rest of the herd. Queenie was brilliant. Sometimes I would wander down to her in the paddock and she would stand still while I milked her. She is 3 years old, and it was her second pregnancy. She is not halter trained but she knew what to do. I never had to restrain her. How intelligent alpacas are.

In the middle of the day when the sun was warm, I took Little Big Man out to sunbathe beside his mum while she grazed. As I checked the males out in the back paddock, I looked up to see a wedge tailed eagle circling above where the cria was sleeping. We often have visits from the wedge tails, and I wouldn't normally worry over their presence as crias are generally too big for them. This time, the eagle was joined by its mate. I ran 500 metres back towards the baby, shouting at my fencers working nearby to help. They couldn't hear me over the tractor. By the time I reached Little Big Man, who was still sleeping, the two eagles were circling so low over him I could see the markings on their tail feathers. Perhaps they had seen him attempt to walk and were going to take advantage of his



Belgrave Park Little Big Man at one week old.

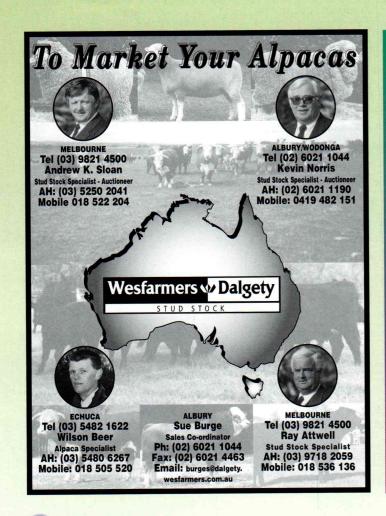




At 3 weeks of age - now able to reach mum to drink.



Leg ligaments getting stronger but still down on pasterns.



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weakness. I guess this is the natural culling that would occur in South America. Well, they were not getting my little guy after all we had been through. The gruesome tales of weak lambs relayed by the local fencers made me ever vigilant whenever I took him out in the sun until he had reached a good weight and gained agility. The wedgies returned the next day but I was on guard!

Day 4: 455 mls taken, weight 3.4 kg - and the fighting spirit was still there as he struggled to walk.

Day 5: 570 mls, his legs were stronger and he was always bright and alert. His main problem now was although he could stand for a while, he couldn't reach Queenie's udder. So I continued to milk her and weigh him.

Day 6: 600 mls and 3.6 kg.

Day 7: 700 mls and he stood to drink his bottle.

Day 8 was Christmas Day. He was 3.9 kg and we watched him stand long enough to snatch a drink from his mum by himself. He did this several times that day and consequently didn't want more than 465 mls from the bottle.

Day 9 and we had reached a turning point. He wanted to drink from his mum himself. Queenie now preferred to feed him rather than have me milk her, but he didn't have the strength to stand long enough to get enough milk. His weight had dropped to 3.7 and, when I insisted on the bottle, he was starving. He took 535 mls over 8 feeds that day.

Day 10: 640 mls in ten feeds and weight 3.9 kg.

Day 11: 480 mls, weight 3.9 kg. Everyday was a struggle to balance his drinking from mum and being fed from the bottle.



Little Big Man checks out Nicholas, a human friend. Behind him, a female friend, six weeks younger.

Day 12 we cracked 4 kg and he became less interested in the bottle, more independent and off with his mum in the nursery paddock during the day. The nights were still spent in the barn with a collection of friends, as the weather was unseasonable and unreliable. He continued to have days when he gained weight and days when he plateaued.

He was not interested at all in the bottle by Day 14. In fact he was quite stroppy. He was now the grand weight of 4.6 kg and he had spat the dummy. Queenie didn't need me any more and in fact, she wouldn't come when I called. I was no longer required. Redundant.

I continued to weigh him every second day and by Day 24 he was 6.3 kg. Fom there on he did OK., reaching 14.2 kg on February 12. Not normal, but wonderful for my Little Big

EPILOGUE

It was a hectic and interesting Fall for us, following the birth of the twins back in March, last year. The word spread like wildfire through the phones, faxes and the Internet, and we had messages and enquiries from all over Australia, as well as North America, offering congratulations, and requesting further details on the progress of the twins. A photograph of Harriet with the twins was published in colour on the front page of The Land, our major rural newspaper, and the story was run on two television news programs, and in several newspapers and magazines.

Our excitement was mixed a little with apprehension as it became quickly apparent that the second born was a clear favourite with its mother. Whilst the first born enjoyed its mother's full attention for the first six hours, it was quickly forgotten after the arrival of the second, and had to develop cunning in order to get to its mother's teats. Alone, it would occasionally bear the brunt of a deft kick or a well-directed



'We are Siamese, if you please...' Just kidding!

spit if it tried to suckle, but it quickly learnt to follow in on its sister whenever she suckled, thereby getting her turn at the milk bar. However, we frequently supplemented it with a powdered milk substitute, which it was eager to accept for the most part. Despite this, she has always lagged a little behind her sister in weight.

We kept the mother and twins separate from the main nursery herd for the first few months so that we could continue supplements to the first twin, and boost the feed to the mother. Fortunately, she was a good milk producer, and was still able to maintain good body weight at around 73 kgs with supplementary feeding. On one occasion, we returned the mother to the nursery herd with her twins, but the first twin fared considerably worse in this environment, and so we took them all back into their own paddock.

The matter of the naming of the twins was an unofficial competition, with suggestions coming from far and wide. The difficulty was in finding a name which was apposite for twin girls beginning with the letter U (which denotes the year 1999 in our herd). It was eventually Harriet who hit upon the names of Ursa Major and Ursa Minor because, although distinctly un-bear like, they were certainly the stars of this year's drop. The twins were weaned at 5 months, and weighed 26 and 27 kgs respectively at seven months (compared to a herd average of 35 to 40 kgs for the same age).

The mother, a full blood Sollocotta Peruvian, who was still testing 20 micron and 21% CV on her sixth fleece, was remated to the same sire 30 days post-partum, and has been spitting off ever since that one mating. The sire, known as Jolimont The Don, is another full blood Peruvian from the Rural Alianza (Huaripina) herd, whose fleece measured 19.9 micron at 4 years of age.

Illawarra Alpacas sheared its entire herd in September. Ursa Minor shore 1.13 kgs for the first six months, while Ursa Major shore only 0.93 kgs. These figures reflect the size and fineness of these two females, and we will await their second shearing with interest. Fibre testing results are not yet to hand, but both females are well below the 20 micron mark at this point. The mother, having carried and then fed twins, shore only 1.32 kgs for the twelve months.

So, at the end of the day, what lessons are there to be learnt from this Tale of Twin Pretties?

Firstly, there was no physical clue before delivery that the dam was carrying twins: her weight increase was within the expected range, and she was not clinically overburdened.

Secondly, where a healthy female gives birth to a full-term, grossly underweight, but clearly healthy cria, consider the possibility of twins: check the paddock for a prior birth, and don't discount the possibility of a much delayed second delivery, particularly with a retained placenta.

Thirdly, it is my suspicion that the incidence of twinning amongst alpacas is much higher than the 1 in 50,000 quoted in Peru, where many twin births would go unnoticed with either or both failing to survive. Australia, with its herd of approximately 25,000 alpacas, might generously have produced 20,000 of those animals, and has three recorded instances of twinning

If you are lucky enough to drop twins, watch carefully for signs that one (here, and in other species usually, the first) is being rejected, or at least underfed. Be prepared to supplement both dam and cria.

Much remains to be answered. Will both cria be fertile? The advice is probably yes, in contrast to twins of opposing sex, and that question will be addressed by ultrasound investigation at a future date to identify and measure the ovaries. Will they grow out to normal size? Will they carry a genetic predisposition to twinning? Will their fleece weights improve with advancing growth and nutrition?

We will be watching their development closely for a few years, recording their body weights, fleece weights and fibre statistics, and wondering how we can do it all over again!

If you want to know any other details about the twins, contact Ian and Harriet Davison, of Illawarra Alpacas, by email at iandavison@shoalhaven.net.au or by telephone/fax on (61) 02 4446 0096.



Illawarra Ursa Major and Illawarra Ursa Minor, healthy (and separate) twins.



ADVERTISING RATES

These revised advertising booking rates reflect the new arrangements for the magazine, which will now be published 3 times a year. Please note that your new contact point for the advertising bookings is the Australian Alpaca Association Inc. All prices listed below are inclusive of Goods and Services Tax (GST) from 1 July, 2000.

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Editorial to Carol Hosking

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Due: September, 2000 Deadline: Friday 14 July

Issue 33

Due: December, 2000 **Deadline: Friday 13 October**

Issue 34

Due: April, 2001

Deadline: Friday 16 February

Pick of the Pack 6 'I came!'

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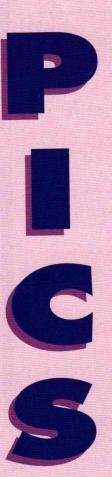


'I saw!'

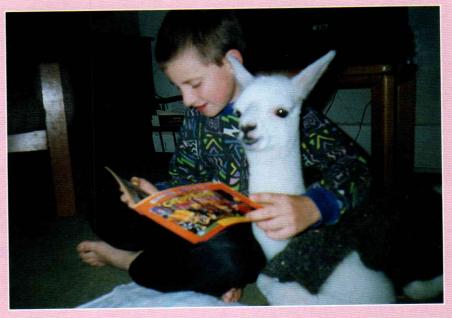
'I conquered!'



Marsha Baker, Courtney Lodge Alpacas.



'Im not going to sleep until I've had my bed time story. Steve Marshall, Stansbury Alpacas.





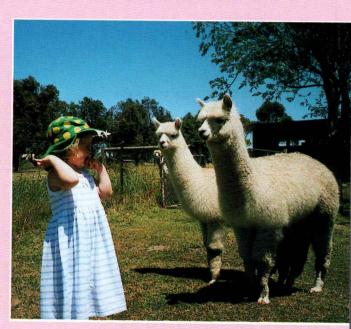
T'll help, Dad!'
Maureen Males, Mt Worth Park Alpacas.



'Well girls, do you approve of the new post, or not?' Nestor & Helen Ellinopoullos, Orrapoora Alpacas.



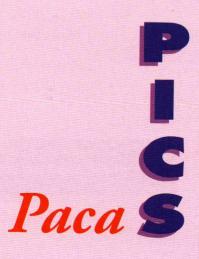
'Cush!' Bill & Alison Sims, Warinda Alpacas.



'Do you like my new Dorothy hat?' Gerry & Anita Maas, Gerita Alpacas.



'Where's my bed for the operation?' Jeffery Hill, Adelyn Alpacas.

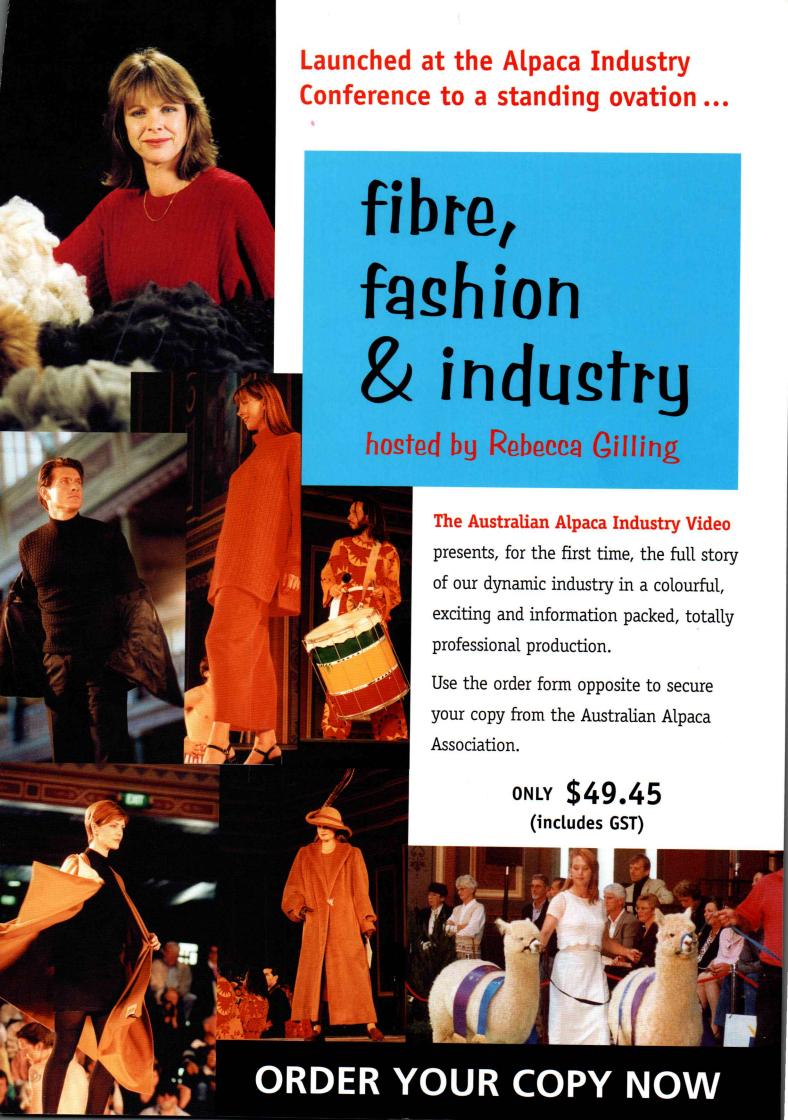


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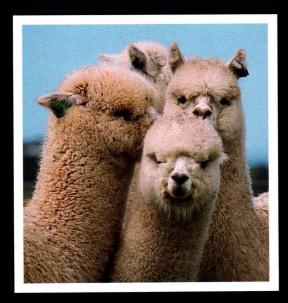
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