

THE WINSTON CHURCHILL MEMORIAL TRUST OF AUSTRALIA

Report by - NICHOLAS HENRY - 2000 Churchill Fellow

To study the international alpaca fibre industry

CHURCHILL FELLOWSHIP 2000

THE INTERNATIONAL ALPACA FIBRE INDUSTRY

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CHURCHILL FELLOWSHIP 2000

THE INTERNATIONAL ALPACA FIBRE INDUSTRY

INTRODUCTION

This is the report of the Churchill Fellowship 2000 awarded for the study of the international alpaca fibre industry.

The aim was to gain experience with the worlds industry leaders in Peru and the United States of America in the areas of management, alpaca breeding, fibre processing and product manufacture, sourcing information that could be of benefit to the Australian industry.

I would like to acknowledge the assistance and support of firstly my referees Dr Michael Levy, Dr Andrew Paxton-Hall and Ms Janie Hicks as without them this could never have happened. The very patient Churchill Trust staff who have gone out of their way to make this possible. My very long suffering wife Lyn who has been a constant support despite very difficult circumstances for her. My two children Heidi and Hamish and lastly the undying support and encouragement of Ms Helen Aargaard who was the lynch pin in enabling this to happen. Also the many people who helped with referrals and directions to make the difficult times much easier.

EXECUTIVE SUMMARY

Churchill Fellowship 2000 - THE INTERNATIONAL ALPACA FIBRE INDUSTRY

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PROJECT DESCRIPTION

To study the alpaca animal and fibre industry from the worlds most experienced breeders and processors in Peru, South America and the United States of America. Having five years experience in the industry and 20 years experience with rural production the aim was to collect information as an impartial observer that could be of assistance to the Australian alpaca industry in the areas of breeding, genetics, management, fibre processing and end product manufacture. This viewpoint differing to some degree from the traditional Australian visitor to Peru who is directed more by the sourcing of animals and genetic material for import into Australia.

HIGHLIGHTS

Meeting with:

* alpaca breeders and consultants such as:

Snowmass Alpacas and North West Alpacas, internationally renowned breeders in USA
"Mallkini" Ranch, Peru with a commercial herd of 2000 animals on 3000 ha

Mr Beto Zegarra, commercial alpaca breeder and Mr Gino Garre, consultant agronomist and project manager with El Altiplano SA

* alpaca fibre processors of Peru such as:

Michell & CIA, Grupo Inca and Internacional de Comercio

* manufacturers of alpaca product in Peru and Bolivia such as:

Mon Repos, Millma-Bolivia, Top Knit, Incalpaca, MA y JA SA, Alpaca Products and Incagreat

* alpaca retail shops in Lima, Arequipa, Juliaca, Puno and Cusco in Peru and La Paz in Bolivia

* research consultants Dr Jane Wheeler of Lima and Sr Jose Maria Garcia-Planas of Spain

CONCLUSIONS

ALPACA PRODUCTION

* Peruvian alpaca fibre production has been reducing in quality and quantity for 20 years despite support from groups such as CANOPA, Michells, Inca and the Peruvian Alpaca Association thus providing an opportunity for the Australian industry.

* Peru's ability to increase production and quality of alpaca is limited due to lack of education, over grazing, low rainfall, natural pasture carrying capacity (less than one breeding unit per ha), and access to improved management practices.

* The well known and publicised Peruvian alpaca breeder Don Julio Barreda is in fact the most experienced selective alpaca breeder producing the most consistent high quality annual clip in the world.

- * Improved pasture/nutrition in Peru has given a 30% increase in cria weight gains. In Australia attention to availability of diverse grazing and balanced elements and minerals is important for healthy animal development.
- * USA have similar average herd sizes to Australia however animal value is 50% greater and there is generally less emphasis on fibre quality.
- * USA breeders get a substantial tax benefit and incentive at the time of entering the industry which has a great influence on new breeders starting. However their establishment and management costs are higher than Australia by necessity.

PROCESSING AND MANUFACTURE

- * Good quality Huacaya fibre has a very strong future in the world natural fibre fashion industry.
- * Suri has limited commercial use at present, is twice the value of Huacaya but will require substantial research and development as more fibre becomes available.
- * International processors and manufacturers are responsible for down grading alpaca fibre reputation by blending with inferior products for short term economic gains.
- * A good potential for strong fibre is in carpet as it appears to be softer to walk on, maintains temperature and humidity in the room, is longer wearing and would cost approximately 10% more than wool.
- * Australia is well ahead in alpaca fibre production and processing technology compared to USA which appears to be approximately three years behind.

AUSTRALIA

- * The Australian alpaca industry has started with low genetically developed animals but it is already proven that improvement is quickly possible using the elite genetics introduced over the past six years.
- * Genetics made available by those who constantly review and source animals from the worlds leading breeders is of untold benefit to all Australian breeders.
- * The majority of Australian alpaca breeders are making management decisions based on the latest technology and experience which will continue the national movement to more production of fine fibre.
- * Australia can become an important player in the production of the best alpaca fibre in the world over the next ten years with continued emphasis on breeding direction and quality control.
- * Alpaca fibre processing and manufacture is an integral part of this industry and more open communication and co-operation would benefit all parties involved and the industry.
- * It is important to recognize the contribution made by the many individuals and groups who have, through great cost and energy developed this industry (animal and fibre) to where it is today.

INFORMATION DISSEMINATION

This report will be made available to the Australian alpaca industry through the Australian Alpaca Association, Australian Alpaca Co-operative and via The Churchill Fellowship Trust web site. Further information will be made available to groups and individuals on request.

Through our specialist alpaca shop and information centre, The Ardent Alpaca, Beechworth, Victoria we will be constantly promoting all aspects of the Australian alpaca industry, the benefits of alpaca fibre and acting as a referral centre for the Australian Association, Co-operative and breeders.

THE PROGRAM

The program was to contact progressive alpaca animal breeders and the most experienced alpaca fibre processors in USA and Peru. The trip was made up of three weeks in the north west of United States of America and four weeks in the alpaca breeding and processing areas of Peru.

THE PLAN

- * to interview and collect information from the most experienced alpaca fibre processors in the world
- * interview and work with large commercial alpaca breeders
- * to speak with small breeders who are selectively breeding
- * to inspect alpacas at all opportunities from small community groups to large commercial herds
- * to interview personnel dealing with Camelid research
- * to meet with many alpaca garment and product manufacturers both large and small

VISITS

USA

- * North West Alpaca Stud, Hillsboro, Oregon - The alpaca seminar “How to Buy, Breed and Succeed in the Alpaca Business” (3 days) with internationally recognized speakers Mike Safley (USA) and Alan Cousill (Australia) addressing 35 American alpaca breeders and potential breeders.
- * Snowmass Alpaca Stud, Sandpoint, Idaho - Eight days working with the principals Julie and Don Skinner and their staff on their 160 hectare property carrying 400 international quality alpacas.
- * Champion Alpacas, Loomis, California - Two days spent on the property of new breeders Susan and Chris Lehner inspecting alpacas and assisting with the Sacramento Alpaca Show preparation.
- * 2001 Californian Alpaca Festival, Sacramento, California - A two day program including industry seminars by internationally renowned breeder and judge Mrs Julie Skinner and Suri expert Mr Andy Tillman. The first Californian State alpaca show where 300 animals were judged by international judge Maggy Krieger.
- * USA manufactured alpaca product was assessed at every opportunity.

PERU

ALPACA BREEDING

- * Mallkini Ranch, Juliaca - a commercial herd of 2000 animals on 3000ha on the high altiplano (4500m) where four days were spent with manager Moises Asparrin.
- * Mr Beto Zegarra, Juliaca - recent commercial alpaca breeder and long term dairy farmer.
- * Sra Monserrat Buscaglia, Juliaca - assistant to a recent Australian research project done by Coolaroo Alpaca Stud involving the skin testing of around 100 alpacas from many herds across the Peruvian Altiplano.
- * Sr Gino Garre, Juliaca - consultant agronomist and project manager with El Altiplano SA who has a long experience of rural production in south American regions.
- * Community group alpaca herds inspected in Juliaca and Cusco regions.

PROCESSORS

* Michell & CIA, Arequipa - the oldest, largest and most experienced alpaca fibre processors in the world. Interviews were held with managers Jaun Pepper, Rual Rivera, Ignacio Garaycocha and Walter Manchego.

* Inca Tops, Arequipa - the next largest alpaca processor where an interview was held with general manager Luis Chavers.

* Internacional de Comercio, Arequipa - small family owned processor operating for 20 years. A meeting was held with sales manager Mr Francis Rainsford.

MANUFACTURERS/SUPPLIERS

* Incalpaca TPX, Arequipa - the manufacturing company of Grupo Inca where discussions were held with general manager German Freyre.

* Mon Repos, Lima - 25yr old family company producing top quality alpaca garments from Peruvian yarn and also acting as agents for the processing of the USA Alpaca Cooperative greasy fleece.

* Top Knit, Lima - the design, manufacturing and marketing centre of alpaca garments for Michell & CIA.

* Natures Network, Arequipa - the internet exporting arm of Grupo Inca.

* Alpaca Products, Lima - a company specializing in alpaca skin product of high quality and exporting around the world.

* Unidad Operativa, Juliaca - a co-operative of underprivileged women producing garments of various qualities as part of a Peruvian Government incentive.

* Pacific Cargo Systems SAC, Lima - principal of MA y JA SA alpaca garment manufacturer and import/export agent.

* Incagreat, Lima - a small alpaca garment designer, manufacturer and exporter.

* Summaknits, La Paz - a company that manufactures specialty garments, generally made to order from Peruvian yarn.

* Millma-Bolivia, La Paz - a company that manufactures to their own designer label alpaca garments for export around the world.

RETAIL

* Alpaca specialist retail shops in Arequipa, Juliaca, Puno, Cusco, Lima and La Paz (Bolivia) were visited and all products assessed.

RESEARCH

* Dr Jane Wheeler - San Maros University faculty of Veterinary Medicine, is vice president CONOPA (South American Camelid genetic research) and is the worlds leading alpaca genetic researcher. Jane was guest speaker at the recent International Congress on South American Camelids in Lima.

* Sr Jose Maria Garcia-Planas, CEO of Artextil SA, Barcelona, Spain. A textile manufacturer who is currently consulting to the Michell Group in Arequipa.

THE PROJECT

The Fellowship 2000 was to study the international alpaca industry from the regions where the vast majority of world alpaca experience has been gained. Thus it was centred on Peru and to a lesser degree the United States of America.

Australia has had an alpaca industry for 13 years and this is developing solidly and consistently. However there is still much to learn about the animals needs under Australian conditions and some light can be gained from assessing their natural environment. Also there needs to be more known of the alpaca genetic potential and how this related to fibre quality and quantity.

In my opinion there was a need for answers to many questions, some of which are:

- * are there management lessons from Peru that can increase Australian efficiency
- * is USA management different from ours and what lessons could we learn
- * where are we now regarding fibre quality and production weights as compared to Peru and USA
- * how does Australian pasture compare with the alpacas natural environment and can improved pasture increase production significantly
- * what does the best Peruvian alpaca produce and at what average micron
- * how is the Australian industry going to influence the international alpaca industry
- * how does Australian price and value of alpaca products compare to the world

THE FINDINGS

The following is a summary of information gained based on my personal experience and not necessarily scientifically proven data.

ALPACA PRODUCTION - PERU

- * Peruvian production of alpaca fibre is reducing in both quality and quantity, despite groups such as CANOPA, Peruvian alpaca Association, Michells and Inca Groups who are creating more quality awareness for breeders as well as breeding their own herds. Currently of the 2.5m alpacas in Peru there are approximately 20,000 that are being accurately selectively bred.
- * There will be little change in the quality and quantity of Peruvian alpaca greasy fibre in the foreseeable future due to limited education, climate, isolation, severe over grazing and processors still paying on weight and white colour rather than fibre quality.
- * There is an assumption in Peru that all alpacas over the age of seven (females) are producing fibre that is too strong for commercial use. Therefore there is no differentiation of genetic lines that may produce consistent, fine fleece into old age.
- * The well known Peruvian breeders like Don Julio Barreda together with groups such as Michells and Rural Alianza are producing the best and most consistent fibre in the world. Therefore the access to their bloodlines that has occurred over the last few years has been very beneficial to Australian breeding and the speed at which we are breeding animals of superior fibre quality and quantity.
- * The price paid in Peru for greasy alpaca fibre varies from US \$2.00 to \$8.00 per kg. However the better breeders such as Accoyo and Rural Alianza direct sell their clip for 50% more than market price. International price depends greatly on European and Asian processors of Peruvian tops and

this is being influenced by the blending of alpaca with low grade fibre to allow greater margins and cheaper prices. Thus giving a false opinion of alpaca fibre character to customers around the world.

- * The available fibre from young male animals is limited as most young males (wethers) are slaughtered for meat at 12-18 months returning greater commercial value than their fleece production.

- * It has been shown that animals in Peru will produce 30% better weaning weights on higher grade improved pasture but do not need the high protein levels of traditional domestic livestock in Australia. This is confirmed by experience in Australia.

- * Supervision and classing of females for breeding reliability have resulted in increased annual weaning percentages of up to 85% on natural pasture, however this is not common practice in the area.

- * Alpacas rotationally grazed on native pastures choose small grass shoots, herbage and even lichens to select a completely balanced nutritional and mineral diet.

- * Handling of alpacas in Peru is done by intensive manual labour, limited yards and no handling facilities as we know them in Australia.

- * The general fibre production is similar to Australia in fibre diameter (19-35 micron). As an example for a commercial herd of 2000 the fleece weight average is Huacaya 2.5kg and 3kg for Suri.

- * Paddock mating is successful using three males to 50-100 females for a three month mating season.

PROCESSING & MANUFACTURE - PERU

- * Peru processes approximately 4500 tonnes of greasy alpaca per year, of which some 70% is sold as tops.

- * Yarn of varying character makes up the remaining 30% and is almost all worsted spun

- * Spinning difficulties are addressed using artificially high humidity together with conditioning treatments based generally on the operators personal experience and not technology.

- * Commercial black yarn is all dyed as natural black is not consistent enough for manufacturers.

- * Suri fibre (10% of Peruvian alpaca fleece) has limited end product potential at this point due to limited availability, it's natural weight, difficulty to spin pure and lack of research resources.

- * There is great potential for the stronger alpaca fibre in carpets as it appears softer to walk on, with high hydroscopic value it maintains humidity and temperature in the room, it is harder wearing and would be approximately 10% higher in cost than the traditional wool carpet.

USA

- * Average herds size is similar to Australia.

- * Most breeders are concentrating on animal breeding with only the larger well known breeders working from a commercial fibre industry view point.

- * The national alpaca fibre processing and manufacturing industry is approximately three years behind Australia.

- * Alpaca breeding properties are generally over capitalized by Australian standards and therefore tend to include ownership by a large percentage of high income professionals (2000 statistics show the ownership of alpacas was 14% medical/doctors, 10% teachers and 5% service industries).

- * Government incentives for alpaca investment is high, allowing tax deductions of approximately 30% in the first year. Thus creating further encouragement for new breeders to the industry.

- * Greater management and facility costs are required due to weather conditions and the extensive maintenance feeding (3-4 months).

- * There tends to be more intensive management such as flushing rectal plugs in day old cria, much use of goats colostrum, selenium injections at birth and antibiotics for some days after birth etc.

* Vitamin AD&E injections are only used if a problem is noticed, not as a general practice.

* The east coast is the older industry but more expensive, with more coloured animals and not as fibre orientated as the western region.

* The western region has a greater majority of white animals, larger producers and a greater emphasis on fibre quality.

* There is substantial Suri-Huacaya crossings to increase the Suri herd and colours with mixed results and continuing debate on Suri gene dominance.

* Australian breeding technology is being used by some breeders to line breed and inbreed for increased homozygosity of desirable characters with good results.

* Group ownership of sires is gaining recognition as having an advantage for smaller breeders.

* Paddock matings used successfully by some breeders with a male to 35 females. Females are introduced in 3 progressive groups and are scanning at 30 days for removal of pregnant animals.

* Breeding in the western region is generally restricted to be over the warmer months (May to Oct).

* The show ring plays a significant part in the promotion of studs and sale of males and females.

* The internet plays a large part in the marketing of alpaca across the nation. In one case an alpaca internet site created 16,000 leads for the year at a cost of US \$5000. The promotion of any Australian product in USA probably needs to be connected to the USA Alpaca Association web site.

AUSTRALIA

* It is possible for the current price for Australian fibre to be maintained as we are price competitive for alpaca product in the international market.

* The alpaca industry commenced with low genetically developed animals relative to the known potential of this species to produce quantities of fine fibre.

* Australia with its unique history and experience in fibre production is in a position to produce highly productive alpacas with the most consistently valuable fleece in the world.

* Genetics imported into Australia over the past six years by several well known breeders in the industry, at great risk and cost, has given the ordinary breeder access to some of the best genetics in the world.

* There are several well known, and very experienced people in the industry who are well versed in assisting with breeding decisions. They are not directed by their need to promote their own animals but in the interest of producing better fibre quality.

CONCLUSIONS & RECOMMENDATIONS

The following is a brief summary of my personal conclusions and recommendations stimulated by this study.

GENETICS

The recognized top Peruvian breeders including Rural Alianza, Michell Group and particularly Don Julio Barrera's Accoyo are the source of the world's best genetically developed alpacas. Due to a few Australian breeders foresight, dedication and risk we now have access to much of this breeding. Recognition and encouragement of these alpaca industry pioneers is important as their efforts continue to give our industry the advantage of quicker genetic development and the resulting world recognition of the Australian industry. Their efforts allow every breeder in Australia access to these genetics without the enormous cost of research and importation.

BREEDING

The Australian industry must continue breeding towards fibre of less than 26 micron and increased fibre weight production per animal. Australia's fibre production experience, foresight and continuing research and development ensures advancement can continue at a faster pace than any other country. Thus it is very important for those less experienced breeders to follow breeding advice given by those who have had vast Australian and Peruvian alpaca breeding experience.

PROGENY TESTING

As already stated by others, I believe it is of premier importance to use progeny testing records and visual assessment to more accurately determine breeding directions. This will also help to identify the genetic lines that produce consistent fine fibre during the full life of an alpaca. The use of alpaca breeding lines that produce fine fibre over their life will contribute substantially to the overall quality of the Australian clip.

NUTRITION

Grazing of alpaca has traditionally been by natural foraging where animals can select plant species that will give them a balanced diet in nutrients and minerals. Where we have specific improved pasture with a limited number of species available and usually very limited in natural soil minerals, there needs to be supplementation of free access minerals available. The maintaining of native species with the over sowing of multiple grass and herb species in a nutritionally balanced soil provides excellent grazing for alpacas.

WETHERS

With the increased sale of wethers for guards in sheep, breeders need to facilitate the returning of the commercial quality fleeces into the Australian clip for purchase and processing. At the moment these are at risk of being lost. Particularly as some sheep properties run more alpacas than a significant number of alpaca breeders.

FIBRE HARVESTING

The standardizing of fibre harvesting techniques that reflect the requirements firstly of the customer and then of the processor is all important. The work of the Alpaca Co-operative and AFMO have gone a long way towards this. It is essential that the industry accepts and endorses this totally and these organizations are constantly reassessing the criteria to keep up with changes in market demand.

PROCESSING

Processing of pure alpaca does have its challenges. The Australian industry owes much to the pioneers who have initiated the production of Australian yarn ie, CSIRO, Elite Fibre, Goldfields Mohair, Longtops and others. There is little objective information available on processing requirements as most commercial spinning operations are set by operators personal experience. Thus further understanding and sharing of information would go a long way to help those operations that are spinning alpaca by trial and error. This will help to keep the fibre processing in Australia and enhance the management of quality and consistency.

MANUFACTURING

Beside the Australian Alpaca Co-operative, there have been a number of people who have developed some excellent alpaca products. These include Coolaroo, Darfield, Touch of Alpaca, Creature Comforts and other small manufacturers. Doing their own research and development in isolation has cost each substantially. There has been no support from the industry, nor has there been intercommunication regarding techniques and processes. There needs to be more trust and open discussion between the Alpaca Association, the Alpaca Co-operative and those manufacturing companies who individually are all working very hard to take this industry into commercial alpaca product. The fibre product is what this industry is all about.

FIBRE PRODUCT

Alpaca product produced in Australia is comparable to much that is produced elsewhere and is competitive on the international market. Australia needs to continue to develop more yarn styles and textiles as fibre becomes available. This can be encouraged by supporting the small local processors and manufacturers together with the continued and expanded application for study grants, scholarships etc, to produce "Unique Australian Alpaca Products".

THE FUTURE

With strict breeding directions, quality fibre classing and creative manufacturing, Australia has excellent potential to become a very important player on the world stage in fine alpaca fibre production and end product.

INFORMATION DISSEMINATION

Using the specialist alpaca product retail shop "The Ardent Alpaca" in Beechworth, Victoria I am:

- * promoting the Australian alpaca industry and educating the public in the advantages of alpaca fibre
 - * showcasing Australian alpaca product of the very best quality from greasy fleece to the finest fashion garments
 - * continually sourcing new Australian product as it is produced
 - * displaying the best quality product available in the world to promote alpaca versatility and refinement
 - * encouraging open lines of communication between processors and manufacturers in the interest of quality and efficiency
 - * encouraging application to and membership of the Australian Alpaca Association and Australian Alpaca Co-operative to breeders and interested parties and the selling of fleece to the Co-operative
 - * making copies of this report available from the my business premises to anyone interested
 - * available to address groups within the industry and community organizations as required
 - * displaying the Churchill Fellowship plaque and encouraging questions and fellowship applications
-