
Alpaca and vicuña: General perspectives

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“Gold of the Andes, riches that dresses the world”

In the landscapes of the high plains at over 4 000 meters above sea level, thousands of years ago the Incas domesticated two species of the South American camelids: Alpaca and Llama, using techniques that are a mystery to these days. The first one would later be used as a source of soft, fine and resistant fibre and the second one as a mean of transportation. From the two species that continued being wild: Guanaco and especially Vicuña, a fantastic and very fine fibre was obtained, which was reserved only for nobility. Its threads were mixed with gold threads to create varied work of art. It was the fibre of the gods.

Key words: South American camelids, domestic camelids, wild camelids, characteristics, population and distribution, fibres, market.

- The Camelids appeared in North America, about three millions of years ago. A group migrated trough the Bering Strait to Africa and Asia, evolving to form part of the Camelini Tribe (camel and dromedary). An other group migrated to the South trough Central America and expanded in South America, where they formed the Lamini Tribe. Finally, the ancestral Camelids disappeared in North America.
- The South American Camelids belong to the Ariodactyla order, Ruminantia suborder of the Camelidae family.
- Nowadays, the South American Camelids are represented by the domestic camelids: Llama (*Lama glama*) and Alpaca (*Lama pacos*) and the wild ones: Vicuña (*Vicugna vicugna*) and Guanaco (*Lama guanicoe*)

This group comprises the alpaca (known as the most resistant and light fiber in the world) and the llama, known for its nutritive meat with reduced content in cholesterol.

**The South
American
camelids**

**The South
American
domestic
camelids**



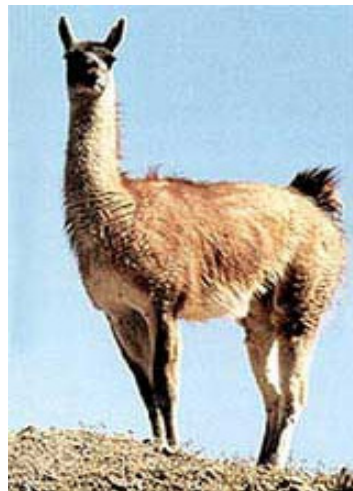
Alpaca (on the left) and llama (on the right).

The South American wild camelids

The South American group of wild camelids comprises vicuña, an animal very well known for the finest fibre in the world and Guanaco that is the most resistant camelid in South America.

The Alpaca: general characteristics

- The alpaca is a pacific animal with a slim body. It is covered with fibre that when it is set together is called *vellón*. It presents steps pads on it's four extremities, which gives it the characteristic of ecological animal, because it does not damage the grass.



Vicuña (on the left) and guanaco (on the right).

- Lives in the Andes zone of Peru, Bolivia, Chile, Argentina and today, by introduction, in United States, Canada, New Zealand, Australia, and in a minor number in other countries.
- There exists two breeds of Alpaca: Huacaya and Suri.

Country	Alpacas	Percentage
Peru	3 100 000	87.0%
Bolivia	325 000	9.0%
Chile	30 000	0.8%
United States	30 000	0.8%
Australia	25 000	0.7%
New Zealand	20 000	0.6%
Other countries	30 000	0.8%
Total	3 560 000	100.0%

Source: CONACS - MINAG 2003.

**The Alpaca:
population and
distribution**

- The Alpaca fibre got a special fibre denomination.

World's special fiber production (in MT).

Mohair	17 000 TM
Cashmere	8 000 TM
Alpaca	6 440 TM

This volume represents less than the 1% of the natural animal fibers.
Source: IPAC-2004

The alpaca fibre

Comparison between alpaca fiber and other main fibers.

Fiber	Production		Refinement (mic).	US\$/Kg (Top)	Comfort factor	Application	
	Tons.	%				Punto	Plano
Alpaca baby	515.2	8.0%	22.5	14.0	90.0%	xxxx	xxxx
Alpaca Suri	322.0	5.0%	26.0	13.0	70.0%		xxxx
Alpaca superfine	2 576.0	40.0%	26.5	9.0	70.0%	xxxx	xxxx
Alpaca Huarizo	1 301.8	20.2%	31.0	4.3	55.0%		
Alpaca adult	1 725.0	26.79%	34.0	2.9	25.0%		xxxx
Total	6 440.0	24.1%					
Cashmere	8 000.0	30.0%	16.0	80.0	98.0%	xxxx	xxxx
Mohair kid	3 400.0	20.0%	25.0	27.0	80.0%	xxxx	xxxx
Mohair young G.	10 200.0	60.0%	28/31	21.0	65.0%	xxxx	xxxx
Mohair adult	3 400.0	20.0%	35/37	11.5/6.0	25.0%		xxxx
Total	17 000.0	63.7%					
Angora other types	1 700.0	6.4%					

Source: IPAC-2004.

The alpaca fibre market

In traditional markets of tops and spinning, made of fibre, its reduced volume does not make it competitive and it is exposed to different interests of the producers and industrialists of Peru.

When it is on fashion, approximately each five years, prices become extremely unstable, i.e. they increase very fast due to the effects of the higher demand comparing to the offer; this matter causes relevant internal speculation and a temporal rise of prices in all the chain.

This situation makes the relation very conflictive between the final buyers, which retract from the market, with a consequent replacement of the alpaca with other more stable fibres. As a result, the Alpaca prices go down to sub yield levels of the producers.

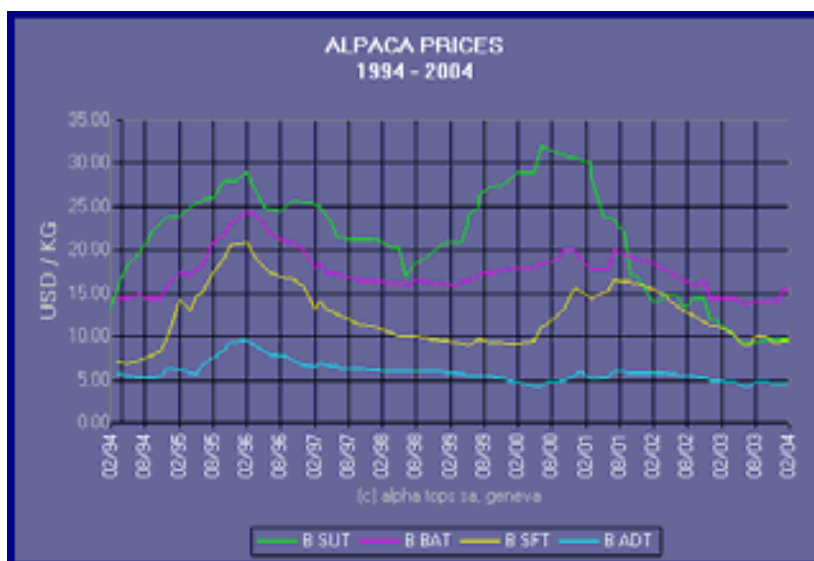
Markets and products of the alpaca fibre

- The main exportation markets are: China, Italy, United Kingdom and United States for the tops and spinning, and the United States, Germany, United Kingdom and Japan for the finished alpaca clothes.
- The main exportation products are tops of alpaca and wool combed or rebuke, spinning, fabrics, preparations in plane weave handmade or with special machines, such as sweaters, cardigans and artisan products.
- The 80% of the Alpaca fibre is exported with low added value such as tops, spinning and fabrics and only a 20% as finished clothes.

Development perspectives of the alpaca fibre

- Relating to the productive chain of the fibre, it was established four main objectives:
 - The fibre's refining through a genetic improvement process.
 - The standardization and normalization of the commerce and transformation process as well as the derived products.
 - The increase of the added value through the exportation of finished products in a bigger proportion.
 - The international positioning of derived alpaca fibre products in fashion segments more stable and with better prices.
- Relating to the meat productive chain, the development of the sector can be supported through:
 - the improvement of the quality of the carcasses: free of parasitic diseases and a better finished.
 - the identification of the markets that appreciate the properties of the alpaca meat, and that are available to pay an higher price.
- Relating to the productive chain of skins and leathers, basically not used, it must be noted that this





Prices of different alpaca fibres (in US\$) from 1994 to 2004.

sector has a great potential as soon as some problems linked to the conservation and quality of raw materials will be solved.

- The productive chain with better perspectives in short and medium term is the one associated to the germoplasm: animals on foot, such a reproducers or pets; frozen semen, embryos, ovules, etc.
- The vicuña habitat lays in the high andean ecosystem of the Puna, ranging 4 000 up to the 5 000 a.s.l.. Vicuñas can generally be found in Peru, Chile, Argentina, Bolivia and Ecuador.
- The vicuña is a wild animal, gregarious and territorial. Socially, they form three kinds of organizations: family groups ruled by a male with five or more female vicuñas, cattle of young male vicuñas rejected by the family groups and the lonely male ones.
- The vicuña is perfectly adapted to the Puna, has cinnamon fibre (mimetic), very fine (10-12 microns of diameter) very warming, particularly adapted to resist low temperatures.
- The Vicuña produces about 200 grams of this fibre every two or three years.
- Its blood contains around 14 million red globules/cubic millimetre, that facilitate the absorbtion of the small ammount of oxygen in the air. Its feet has very smooth pads that avoids erosion of the lands. It can reach a speed of 45 km/h.

The vicuña

The Vicuña: general characteristics

- The vicuña gestation period is of 11 months and produces just one baby vicuña per year, between February and April.

**The vicuña:
population and
distribution**

Country	Vicuñas	Percentage
Peru	149 500	61.5
Bolivia	57 905	23.8
Chile	13 528	5.6
Argentina	20 263	8.3
Ecuador	2 058	0.9
Total	243 254	100.00%

**The vicuña fibre
market and its
derived products**

- The vicuña fibre is consider the finest animal fibre of the world.
- The price of the partially free of hair vicuña fibre, ranges between 500 and 700 US\$ per kilogram.
- The animal products are positioned in a very specific market, because of the very high price of the clothes and their special characteristics.
- More than the 90% of vicuña fibre is exported partially or completely free of hair. Finished products are barely exported.
- The main exportation markets are Italy, United kingdom, Germany and Japan and in the near future United States.



**Development
perspectives of
vicuña fibre**

- The vicuña potential is based on the sustainable management of its specie which allow a safety increase of the population and the production of the fibre, improving the safeguard and the control of the population against furtive hunters.
- The Peruvian Government, according to the international agreements (Vicuña Agreement and CITES that regulates the management of the species, the commercialization and the transformation of vicuña fibre), is executing through the CONACS.
- Several actions to accomplish the sustainable manage of the specie have been started.
- In the national South American Census, that will take place in 2005, we hope to count a population above 145 000 units.
- In economical terms, the vicuña manage is more profitable than the alpaca raising.