

Yak Wool and Its Products

Anesha Chanda, Martina Pukhrambam*, Dinamani Medhi and Mihir Sarkar

ICAR-National Research Centre on Yak, Dirang-790101, Arunachal Pradesh

*Corresponding Author: martypukh@gmail.com

The Yak (*Poephagus grunniens*), one of the larger members of the bovine family, often revered as the lifeline of the highlanders living in high altitudes of the Himalayas. They survive at an altitude of above 3000m above msl in the extremes of climate. Yak wool is an emerging natural fibre. Yak fibres come in three grades: coarse, secondary and premium down. The

longer, coarse fibre is produced first followed by the softest, premium fibre. These are spun and woven into the finest yarns and fibres. Down fibres are short in length and very fine having more importance than the coarse hair and is shed during the late spring or early summer. To comb prior to shearing is one of the methods to increase the yield of down fibre (Jie and Xi, 1984).

Table1: Fibre Characteristics of Yak (adapted from Das P.J. et al., 2017)

Hair /Fibre Characteristics	Coarse Fibre		Fine Fibre	
	Male	Female	Male	Female
Age at clipping (in months)	12-18	12-18	12-18	12-18
Weight of clipping (in Kg)	1.6	1.15	0.50	0.45
Hair length	Long (1.50%)	Long (1.50%)	Short(35-50 mm)	Short(35-50 mm)
	Medium(94.25%)	Medium(94.50%)	-	-
	Short (4.25%)	Short (4.75%)	Short(35-50 mm)	Short(35-50mm)
Hair Diameter	50-100 microns	50-100 microns	16-20 microns	16-20 microns
Hair Texture	Straight (82.50%)	Straight (86.50%)	-	-
	Curly (17.50%)	Curly (13.50%)	-	-

The staple shape varies with the part of the yak body on which the fibre grows and differ between the coarse hair and the down. These are Flat topped type, Micro- braid type, Sub-braid type and Braid type. Yak fibres tend to be oval to circular in shape, and varies in length, diameter and density. Length varies depending on the stretch and type of the fibre and on the part of the body where it is found, the diameter varies with the breed and sex of the animal and the density varies greatly with the position on the body of the yak. Three types of fibre are specifically produced from the yak- The guard hair used in making ropes, extremely warm blankets and weave materials for nomadic tents, the mid-layer suitable in the form of outer wear fabric and the down hair, softest of all fibres used in making winter coats and shawls. Yak fibres are hydroscopic fibres, with the ability to absorb, transport and desorbs moisture, with water storage capacity by creating a buffer between the

wearer and the varying humidity condition of the surrounding environment.

Yak wool is breathable (66%), odor resistant and antibacterial in nature and has a high resistance to static electricity due to its wicking characteristic (17%). Yak wool has great strength and flexibility compared to other fibres due to its high levels of sulphur based proteins and amino acids and high resilience to bending. The approximate proportions of different natural colours of yak fibres (Anon, Harvesting of Textile Animal Fibres).

1. White: 10%
2. Fawn: 20%
3. Dark grey: 10%
4. Dark brown: 60%.

Yak Fibre Products

Yak is a boon to the *Brokpas*- the yak herders' pastoral nomads of Arunachal Pradesh. Almost

everything from yak is used to sustain their life either directly or indirectly. The use of yak hair in making products goes back to the times since the yaks were the first domestication. Products made traditionally by the *Brokpas* from yak fibres are discussed below:

Chitpa Jaamu - *Chitpa Jaamu* is the traditional cap of *Brokpas* made of coarse outer fibre of yak.

Chola - *Chola* is a typical locally made jacket made from the fine down hair of yak.

Phachung - are small bags made of outer coarse hair of yaks. *Phachung* is a permanent attire of the *Brokpas* on the grazing ground whenever they go along with the yaks.

Liu - *Liu* is a hand-woven fabric using thin yak yarn, to make mats, blankets, tent etc.

Liu Bra - *Liu Bra* or tents used as shelter while migrating along the high altitudes, grazing grounds and pasture with their flocks.

Zidak - *Zidak* or ropes made from longer hairs of yak use as tying legs of a cattle while milking or to tie tents.



Value Added Products of Yak Fibres

Using Locally Available Tools:

Chamar/Chawar - The most valuable and popular product made from yak hair fibre, used as decorative item, in temples or made into other useful product.

Balw - Yak tail hair used by Galo men in traditional attire for *Xiida Parwk*.

Thisho - Hand- Knotted carpet made from fine and coarse fibres by incorporating sheep wool.

Bi - phakma - *Bi- phakma* is a doormat made from coarse outer yak hair.

Coarse Yak Fibre Products

Yak fibre is also used for making a variety of handmade domestic items for decoration and utility items like covers for stools.

Yak- Sheep Wool Blended Woolens Products

Cap, Sweaters, Gloves, Mufflers and Bags.

Yak-Jute Blended Fabric Products

Half jacket, Jackets, Cardigans, Handbags and File folder.



Jacket



Cap



Stool Cover



Hand bag



Mat



Muffler



Sweater

Conclusions

Yak is an asset to the highland rural economy of the yak rearing communities. The hair from the yak is a valuable and essential item to the life of herder households. The economic importance of yak wool is increasing, owing to its better luster and softness which is often compared to the highly appreciated Pashmina wool. The traditional products made by the yak rearing community with traditional handicraft art have special qualities for surviving in harsh climatic conditions. The value- added products have great demand in the market, not only having the potential

to establish natural fibre garment industry but also benefit the yak rearers by giving good returns as well as the consumers of unique natural fibre.

References

- Anon, Harvesting of Textile Animal Fibres, <http://www.Fao.org/docrep/v9384/v9384e03>.
- Das P.J., Begum S.S. and Deb S.M. (2017) Yak wool: An emerging natural fibre. In The yak Wool, Das

P.J., Bam J., Paul V., Medhi D., Roy A.N. and Deb S.M. Eds.; ICAR-National Research Centre on Yak: Dirang, India, pp. 1-19

Jie, W. and Xie, Q. (1984). Physical features of yak hair. Journal of South west Nationalities College (Animal Husbandary and Veterinary Sciences Edition), 1:25-29.

* * * * *