

## 7<sup>th</sup> – Fibre to Fabric I



**Introduction:** Clothing material or fabrics are woven from fibres. These fabrics are used for making dresses, curtains, sofa covers, carpets, etc. In this chapter we will learn about some of the animal fibers, their sources and how they are used to make fabrics.

Fibres are very thin, thread like strands from which fabrics are made. Some examples of fibres are cotton, wool, silk, flax, jute, nylon, polyester etc. The fibres are spun into yarn (long continuous thread) which can then be woven on a loom to make fabric. Yarn is a kind of long, twisted thread. Yarn is made from fibres by the process of 'spinning.'

### **Types of fibres:**

There are two types of fibres: natural fibres and man-made fibres. Natural fibres are those fibres which are obtained from plants and animals like cotton, jute, wool, silk etc. Wool and silk fibres are obtained from animals. Wool is obtained from the fleece (hair) of sheep or yak and silk fibres come from cocoons of the silk moth. Synthetic or man-made fibres are obtained from chemical process in laboratories like nylon, rayon etc.

### **Wool**

Wool is an animal fibre. It comes from the animals like sheep, goat, llama and alpaca. It is present as a thick coat of hair on the body of certain animals which keeps them warm. This body coat fine soft hair is called fleece. Air gets trapped in the space between the hair. Since air is a poor conductor of heat. So, the air trapped in hair shields the body from cold and keeps them warm in winter. The hair close to our skin i.e. hair on our body and arms is soft and hair on our head is coarse hair. Like us, the hairy skin of sheep has two types of fibres that form its fleece (or wool):

- (i) The coarse beard hair and
- (ii) The soft under-hair, found close to the skin.

The fine soft under hair provide the fibre for making wool. To obtain breeds of sheep that possess only fine under hair, their parents are carefully chosen. This process of selecting parents for obtaining special characteristics in their offspring such as soft under hair in sheep is termed as 'selective breeding.' Such sheep give not only better quality of wool but the yield per sheep is also higher.

### **Animals that yield wool**

Wool commonly available in the market is sheep wool. Several breeds of sheep are found in different parts of our country. However, the fleece of sheep is not the only source of wool, there are other sources of wool also like:

1. Yak wool is common in Tibet and Ladakh.
2. Angora wool is obtained from angora goats in hilly regions such as Jammu and Kashmir.
3. The under fur of Kashmiri goat is soft and it is woven into fine shawls called pashmina shawls.
4. The fur on the body of camels is used as wool.
5. Llama and Alpaca found in South America are also yield wool.

### **From fibres to wool**

Wool comes mainly from sheep. For obtaining wool, sheep are reared and bred, their hair is cut and processes into wool. We will discuss the rearing and breeding of sheep.

Name of Breed	Quality of wool	Name of state where found
Lohi	Good quality wool	Rajasthan, Punjab
Rampur bushair	Brown fleece	Uttar Pradesh, Himachal Pradesh
Nali	Carpet wool	Rajasthan, Haryana, Punjab
Bakharwal	For woolen shawls	Jammu and Kashmir
Marwari	Coarse wool	Gujarat
Patanwadi	For hosiery	Gujarat





### Rearing and Breeding of sheep

Rearing of sheep means to look after the sheep by providing them food, shelter and health care. The persons who look after the sheep are called 'shepherds.' Sheep are herbivores and eat mainly grass and leaves. So, shepherds take their herds of sheep to countryside for grazing. Apart from grazing, sheep rearers also feed them a mixture of pulses, corn, jowar and minerals. In India, sheep are reared in the hilly regions of Jammu and Kashmir, Himachal Pradesh, Uttaranchal, Punjab, Haryana, Gujarat, Sikkim and Arunachal Pradesh.

So, the breeding of sheep is done to obtain such breeds of sheep which yield good quality of wool in large quantities. These breeds of sheep have a thick coat of hair on their body and are called sheep of 'good breeds.' This raises the quality and quantity of wool produced.

Once, the reared sheep have developed a thick coat of hair, the hair is shaved off for getting wool. The cut off 'wool coat' of a sheep (along with a thin layer of skin) is called 'fleece.'

### Wool from other animals

- Wool can also be obtained from animals of the camel family, goat, and even rabbits.
- Camel hair is obtained from the very soft and fine fur of the undercoat of the camel.
- The Bactrian camels give the best quality camel wool.
- The Cashmere goat is found in the high plateaus of Asia. The Cashmere fibre soft and warm, is obtained from this goat.
- The Angora goat provides a type of fibre called mohair.
- The Angora rabbit provides the angora wool.

### Processing of fibres into wool

The different processes involved in wool production:

**1. Shearing:** the fleece of the sheep along with thin layer of skin is removed from the body. This process is called shearing. The hair of sheep are shaved off by using a shaving machine similar to those used by barbers. Shearing does not hurt the sheep because the uppermost layer of skin of sheep is dead. The shearing of sheep is done in hot weather of summers so that sheep may survive without their protective coat of hair. The fleece of sheep provides woolen fibres.

**2. Scouring:** the fleece of sheep contains dust, dirt, dried sweat and grease etc. So, the sheared hairs of sheep are thoroughly cleaned by washing with soap and lot of water in tanks. This process of washing of sheared hair is called scouring. It makes the fleece of sheep clean.

**3. Sorting:** the process of separating the fleece of a sheep into sections according to the quality of woolen fibres (such as fine, coarse, long, short etc) is called sorting. In sorting, the hairy skin is sent to a factory where hair of different textures are separated or sorted. The same quality wool obtained is then mixed together.

**4.** The small fluffy fibres called burrs are picked out from the hair (burrs are soft, fluffy fibres in wool)

**5.** The natural fleece or hair of sheep is white, brown or black in colour. The white woolen fibres obtained by sorting can be dyed in different colours.

**6.** The fibres are straightened, combed and rolled into yarn. The long woolen fibres are spun or twisted into thick yarn called wool which is used for knitting sweaters etc. The short woolen fibres are spun into fine yarns and then woven on a loom to make woolen clothes.

