## Introduction

- We already know that fibres are obtained either from animal sources or plant sources and are called natural fibres. Example: cotton and jute are obtained from plants. Silk and wool are obtained from animals.

## Wool

- Wool is obtained from animals bearing hair on their body such as sheep, yak, goat and some other animals.
- Hair keeps these animals' warm hair trap a lot of air which is a poor conductor of heat.
- Two types of fibre form their fleece, the coarse beard hair and the soft under hair close to the skin.
- Wool is also obtained from yak in Tibet and Ladakh.

## Rearing of Sheep

- Sheep are reared in the hilly areas of Jammu and Kashmir, Arunachal Pradesh, Himachal Pradesh, Uttaranchal and Sikkim or the plains of Rajasthan, Haryana, Punjab and Gujarat.
- Sheep are herbivores so, mainly fed with grass and leaves. Pulses, corn, jowar, oil cakes are also given to them.
- hair of sheep is shaved off for getting wool, after have developed a thick growth of hair.

## Processing of fibre into wool

**Step I** In the first step the fleece of the sheep along with thin layer of skin is removed from its body. This process is called shearing. These are then processed to obtain woollen yarn.

**Step II** The sheared fleece is then washed thoroughly in tanks to remove dust, grease and dirt. This is called scouring.

**Step III** The hairy skin is sent to a factory where hair of different textures are separated or sorted. This is called sorting.

**Step IV** The small fluffy fibres, called burrs, are picked out from the hair. The

fibres are scoured again and dried. The wool is now ready to be drawn into fibres.

**Step V** The fibres are dyed into various colours, as the natural fleece of sheep and goats is black, brown or white.

**Step VI:** The fibres are then straightened, combed and rolled into yarn. The longer fibres are made into wool for sweaters and the shorter fibres are spun and woven into woollen cloth.

## Silk

- silk fibre is obtained from silk moth. The rearing of silkworms for obtaining silk is called sericulture. The most common types of silk are mulberry silk, tassar silk, eri silk, mooga silk, etc.
- The most common silk moth is the mulberry silk moth.

## Life Cycle of Silk worm

- The female silk moth lays eggs, from which hatch larvae which are called

caterpillars or silkworms. They grow in size and as soon as the caterpillar is ready to develop into a pupa, it first weaves a net to hold itself. Then it swings its head from side to side in the form of the figure 8.

- During these movements of the head, the caterpillar secretes fibre made of a protein which hardens on exposure to air and becomes silk fibre.
- Soon the caterpillar completely covers itself by silk fibres and turns into pupa. This covering is known as cocoon. The further development into moth continues inside the cocoon. Silk fibres are used for weaving silk cloth.

## Processing of cocoon to silk

**Step I** Rearing of silkworm- silk moth lays hundreds of eggs at a time, which are stored carefully on strips of cloth or paper and sold to farmers. They keep the eggs under hygienic conditions and under appropriate conditions of temperature and humidity.

Eggs are then warmed to a suitable temperature in order to hatch the larvae from eggs. The larvae known as caterpillars are kept in bamboo trays and are fed with freshly chopped mulberry leaves. They eat day and night and increase a lot in size.

After 25 to 30 days, they move to a tiny chamber of bamboo in the tray to spin cocoons.

**Step** II The second step is the processing of silk. To obtain silk fibre the pile of cocoons are kept under the sun or boiled or else exposed to steam to separate the silk fibres. This process is called reeling the silk and is done using machines which unwinds the threads or fibres of silk from the cocoon. Thereafter, these are spun into silk threads, and are woven into silk cloth by weavers.