

History of Silk and its End Uses

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Introduction

Silk is sometimes called the queen of all fibers because of its luster, drape, price and extensive history. In this paper, the history of silk and how people all over the world were unknown to it for 2000 plus years will be discussed along with the production of silk and why it is so expensive. Lastly, the paper will discuss the end uses of silk and its categories.

History of Silk

Silk has a very long history of which extends back two thousand plus years. Silk was a Eastern luxury fiber that was unknown to the Westerners for a very long time. Westerners just did not know how to produce silk. Roman historian Pliny wrote in Natural History in 70 BC: “Silk was obtained by removing the down from the leaves with the help of water...”. The Chinese kept the secret of silk production, also known as sericulture, for so long that it was known as the most zealously guarded secret (Silkroad Foundation). As much as China tried to keep sericulture a secret, information leaked out of China. People migrated to other countries and sericulture was the way they made a living. In 200 BC, 300 BC, and 440 AD, Sericulture reached Korea, India, and the Kingdom of Khotan, respectively. As time passed, it reached other parts of the world as well. The Silk Road was the route where merchants from different regions of the world traded goods for silk, causing the prevalence of silk throughout the globe (Silk Road).

The origin of silk was always affiliated with a legend from China. The legend claims that silk was invented by the wife, Lady Hsi Ling Shih, of the Yellow Emperor that ruled China in around 3000 BC. She was also credited for the first person in history to invent the loom for weaving silk along with the process we know today as sericulture. Hence, she was known in numerous Chinese text as The Goddess of Silk (Silk Road).

For many years in Chinese history, silk was regarded as an luxury material that would only be appropriate for the Emperor and those close to him. Many old sources claim that the emperor always wore white silk garments in his palace and yellow silk when going out. Over time, silk became more accessible to people other than Emperors and those close to him. Many people in China were wearing silk with ornaments and silk production became a very large industry. Silk was being used to make lots of items such as fishing-lines, bowstrings to musical instruments, and luxurious paper. Silk even had an effect on the chinese language, mandarin, as the character silk is used in 200 of the 5000 most used words presently (Silk Road).

Silk was also being used as a currency/commodity during the Han dynasty. Many documents state that farmers paid taxes with grain and silk. Silk was also a form of payment for salary, as the state paid civil servants with silk. The cost of the silk would be measured by length, as the cost of silver or gold is calculated by its weight. Silk was a regularly traded commodity from China to foreign countries. Presently, silk is still a valuable commodity and people are able to buy silk in forms of securities and financial instruments such as futures, options, and ETFs (Silk Road).

Silk Production (Sericulture)

Silk is an animal protein fiber that can be produced by many different types of insects. It is most commonly produced by the larvae of insects, but can be also be produced by adult insects such as webspinners. Sericulture is very complex and labor intensive. The process of sericulture consist of hatching the eggs, feeding the larvae, spinning the cocoon, and then reeling the filament (TexereSilk)

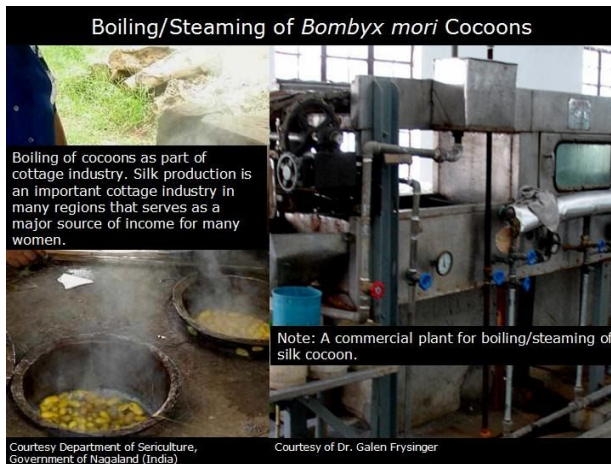
The most common insects that are used for the commercial silk industry is the *Bombyx mori*, the mulberry silk moth and a few other in the same genus. The first step to sericulture is hatching the larvae eggs. Female insects can deposit 300-400 eggs at a time and the eggs are checked for diseases before they are able to move on. In a controlled space such as an aluminum box, a 100 moths would deposit about 40,000 eggs with each egg being about the size of a pinhead. After those eggs are checked free of diseases, they are incubated until it hatches into a larvae (TexereSilk).

After the larvae is hatched, the feeding period begins. During this period, the larvae are fed enormous amounts of chopped mulberry leaves/Osage orange/lettuce until they shed their skin four times. The larvae that are fed mulberry leaves will produce the finest silk. The larvae are eating 50,000 times their original weight and will be fully grown to about three inches in about six weeks. The larvae changes color after that and will have reached 10,000 times its original weight. Upon reaching that weight and changing color, it will begin to spin its cocoon (TexereSilk).

The silkworm will be spinning the cocoon for three to eight days on either a compartment frame, twig, tree, or shrub in a rearing house. The silkworm creates his cocoon by using its two modified saliva glands called 'sericteries' that protrudes liquid secretions that harden upon exposure to oxygen. It makes its cocoon in a figure-8 movement about 300,000 times, producing about a kilometer of silk filament (TexereSilk).

The last step in producing silk is reeling the filament. The spun cocoon is either boiled or steamed until the larvae dies and then the silk is reeled delicately from four to eight cocoons into filament form to create a single strand of silk. Sericin is what protects the silk during processing

and it is required to be washed off with boiling water and soap in order for silk to be soft, lustrous, and 30% lighter. Getting large amounts of quality silk is hard, about 2500 silkworms are required to produce one pound of raw silk (TexereSilk).



All images are retrieved from “iTextiles.com”

End Uses of Silk

Silk is known as the queen of fibers and is known for making luxurious fabrics. Silks absorbency makes it comfortable to wear in warm weather and during active activities. However,

it is also good for cold weather as silk has low conductivity for keeping warm air close to skin. Examples of apparel end uses for silk are shirts, ties, blouses, formal dresses, high fashion clothing, lingerie, pajamas, robes, dress suits, sun dresses and kimonos (New World Encyclopedia).

Apart from apparel, silk's luster and drape is also good for categories such as 'textile for the interior' and 'household & institutional'. Examples from those categories are upholstery, wall coverings, window treatments, rugs, bedding, and wall hanging (New World Encyclopedia).

Conclusion

Silk has been around in China for 2000 plus years before the rest of the world had a chance to get ahold of it. This luxury commodity was so valuable in China that people were using it as a form of payment. Production of silk isn't easy either-silk production is so labor intensive, causing it to be very expensive. About 2500 silkworms are required to produce one pound of silk! Silk is such a luxurious fiber that it can be used in categories such as apparel, textile for the interior, and household & institutional.

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