

## SILK- a natural fibre



**Silk** –often referred to as “**The Queen of Textiles**” is the strongest natural fibre lustrous, smooth, inherent affinity for dyes, vibrant colours, having high absorbent and light weight qualities excellent drape and elastic properties. Historically this is the highly desired fibre which has been used extensively for apparels, home furnishings and upholstery. Because of its lustrous look silk is always in vogue and cost highly. People love to dress in silk during festive season and during their family functions.

China is the first to discover this remarkable fibre incidentally in about 2600B.C. For many years China alone used to produce silk fibre and was producing this fine fabric , as the demand developed the secret was stolen out of China and eventually a large silk industry developed in Europe, Spain, Italy, France , India, Syria etc.



Silk fibre is a protein secreted by certain caterpillars (silkworms) to enhance themselves in the form of **cocoons**. Cocoons are then reeled to form yarn and yarns woven to form a smooth and lustrous fabric called silk fabric.

Geographically, Asia is the main producer of silk in the world and produces over 95 % of the total global output. Though there are over 40 countries on the world map of silk, bulk of it is produced in China and India, followed by Japan, Brazil and Korea. China is the leading supplier of silk to the world with an annual production of 153942 MT (2006). Out of Which the Mulberry raw silk product is 115092 MT. India is the second largest producer of silk with 18475 MT (2006-07) and also the largest consumer of silk in the world. It has a strong tradition and culture bound domestic market of silk. In India, mulberry silk is produced mainly in the states of Karnataka, Andhra Pradesh, Tamil Nadu, Jammu & Kashmir and West Bengal, while the non-mulberry silks are produced in Jharkhand, Chattisgarh, Orissa and north-eastern states.



There are five major types of silk of commercial importance, obtained from different species of silkworms which in turn feed on a number of food plan. Except mulberry, other varieties of silks are generally termed as non-mulberry silks. India has the unique distinction of producing all these commercial varieties of silk.

## Muga



*It is well said, ‘all that is golden and shimmering is Muga’*

**Muga silk** is popularly known for its natural shimmering golden colour prerogative of India and the pride of Assam state. It is obtained from semi-domesticated multivoltine silkworm, ***Antheraea assamensis***. These silkworms feed on the aromatic leaves of *Som and Soalu* plants and are reared on trees. Mainly silkworm *Antheraea assamensis* is found in the Brahmaputra Valley, in Assam and neighbouring areas of Nagaland and Meghalaya, West Bengal and Andhra Pradesh in India and some adjoining places in Myanmar and Malaysia. Muga culture is specific to the state of Assam and an integral part of the tradition and culture of Assam.

The fabric has a natural golden shade with lot of gloss and lustre. It has the highest tensile strength amongst all other natural fibers and is very durable. This is the **second costliest fabric, after Pashmina silk**, in the world. It absorbs moisture (upto 30%) better than ordinary silk and hence it is more comfortable to wear. The fabric of Muga is stain free and mainly is sought for the best quality of sari used for furnishing materials, decorative

items and dress materials. '**Mekhala Chador**' made of Muga silk forms the common costume of the Assamese. The muga silk, is a high value product is used in products like saris, mekhala chaddars . It is hand washable and the golden sheen of the fabric improves with every wash. The best part is that It can absorb UV rays up to 85.08% which is the most harmful rays comes to earth which can damage the human being skin and leads to many diseases.

### Uses of Muga Silk Fabric



- Muga Silk has flexibility of blending. It is blended easily with pashmina, cotton and other types of mulberry and non –mulberry silks while weaving.
- Muga is the most expensive of all silk fabrics and because of its golden lustre, Muga silk is widely used for garments. In formal dresses it is used as tie, scarf, trousers and lining for other materials. In Indian dresses, the fabric is used for gorgeous and exotic saris, ghagra, salwar suits, stole and shawl.
- Designers have identified another use of muga silk fabric, as that of Zari. Weaver now often use muga fibre instead of gold or other metallic wire.
- The durability, stain-free and moisture absorbent quality of Muga silk is suitable for home furnishing like bed spreads , cushion covers, pillow covers, wall hangings etc.
- The fabric is also used in making fishing nets and ropes.

### Tasar



*Tasar silk* fabric, also known as '**Kosa silk**' in Sanskrit, is valued for its purity and texture. It is light-weight and airy, yet dressy, giving cool comfort to the wearer. Tussah silk saris are popular for its crisp and paper-like feel. Tasar made dresses are usually worn in marriages, religious ceremonies and other important functions. Tussah, blended with wool or cotton is widely used as shawls and mufflers.

It is a copperish colour, coarse silk mainly used for furnishings and interiors. It is less lustrous than mulberry silk, but has its own feel and appeal. Tasar silk is generated by the silkworm, *Antheraea mylitta* which mainly thrive on the food plants Asan and Arjun. The rearing is conducted in nature on the trees in the open. In India, tasar silk is mainly produced in the states of Jharkhand, Chattisgarh and Orissa, besides Maharashtra, West Bengal and Andhra Pradesh. Tasar culture is the main stay for many a tribal community in India.

Tasar silk fabric has natural shades of gold-pale, dark, honey, tawny, creamy, etc. but it also goes well with dye. It is generally dyed with natural dyes. Yellow is obtained from Palaas flame (tree) and Kusum flower. The rich red hue is made from pollen dust of the Rora flower and rose red from Lac Bugs.

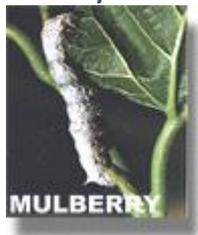
Indian tasar or tussore (also known as tropical tasar) silk originated from Orissa. Today, Raigarh and Champa in Madhya Pradesh and Ganeshpur village in Bhandara district of Maharashtra has become important centres in producing tussah silk fabric. The other states contributing to the country's tussah silk fabric production is Bihar, Jharkhand, West Bengal, Andhra Pradesh and Uttar Pradesh. Jharkhand produces around 40% of India's tasar production.

### Uses of Tasar Silk Fabric



- Tasar silk fabric is ideal for making saris. It is printed, hand-painted or embroidered into traditional designs. Brocade work is also done with zari in the fabric to give it an ornate look. These saris radiate natural brilliance.
- Traditionally 'Mailooga' and 'Gamchha' saris are made with simple designs which are worn by the Gond, Baiga and Kanwar tribals in India. The Muria, Maria, Dhruva and Gadba tribals also weaves special dresses from tasar for the folk dance performances.
- Tasar blended with wool, or cotton is used to make shawls and mufflers. The fabric is also used to make beautiful dresses, jackets, stoles and scarves.
- Tussah silk is also widely used as painting canvas.

## Mulberry



Mulberry silk fabric is known as the '**pure silk**'. The undyed mulberry is very white. The fabric is the finest silk in the world. It is very smooth, strong and soft in the texture with pearlescent shimmering luster. Benarasi saris, zari decorative saris, chiffon and chinnon scarves/stoles and organza embroidered garments are few well known varieties of mulberry silk fabric.



The bulk of the commercial silk produced in the world comes from this variety and often silk generally refers to mulberry silk. Mulberry silk comes from the silkworm, **Bombyx mori L.** which solely feeds on the leaves of mulberry plant. These silkworms are completely domesticated and reared indoors. In India, the major mulberry silk producing states are Karnataka, Andhra Pradesh, West Bengal, Tamil Nadu and Jammu & Kashmir which together accounts for 92 % of country's total mulberry raw silk production.

Mulberry silk is reared throughout Asia. Among these, China mulberry is smooth and satiny where as Indian mulberry is softer and richer in colours with more crinkly look. Italian silk is refined with elegant look and Thai silk carries natural blended textures and patterns. It is very smooth and luxurious comfortable with a good absorbent quality.

Strong and odourless not resistant to wrinkle it is sensitive to harsh chemicals and oil and it brittles with age and exposure to sunlight. The sunlight turns pure silk to yellow.

### Varieties and Uses of Mulberry Silk Fabric

**Plain Silk Fabric** – A deluxe quality thin silk fabric which ranges from 20 gm to 70 gm. Plain silk is widely used for making blouses, fashion garments, scarves, etc.

**Dupioni Silk Fabric** – Dupion silk is obtained from two silkworms spinning a single cocoon. It is mostly used for dress material, cushion covers and home furnishing.

**Charka Silk Fabric** – Charka is a thicker fabric made on hand looms. It is mainly used for the zari decorative saris.

**Chiffon Silk Fabric** – A highly twisted yarn is used to produce a thin but strong fabric on power looms. After the processing and finishing, it becomes soft with smooth texture. Chiffons are used for various ladies garments and scarves/stoles.

**Chinnon Silk Fabric** – Like Chiffon, Chinnon is also produced from highly twisted yarn, but it attains a soft and crimp effect after processing and finishing. Chinnon silk fabric is also ideal for ladies garments and scarves/stoles.

**Crepe Silk Fabric**– Crepe silk is made from 2-ply twisted yarn which are woven on power loom. Mysore crepe saris are very popular.

**Organza Silk Fabric** – Organza silk is a thin fabric with rough texture produced from highly twisted yarn. It is mostly used as saree material and for embroidered garments.

**Satin Silk Fabric** – Satin silk fabric is widely used for various end uses which gives an elegant look. Banarasi satin sari is very popular in India as well as in international market.

**Tabby Silk Fabric** – Tabby silk fabric is a very light weight fabric ideal for printing. This type of silk fabric is produced in Kashmir (India) and is widely used as printed saris, scarves, pareos, bandanas, etc.

**Matka Silk Fabric** – Matka silk fabric is a heavy weight silk made from very thick yarns. This fabric is good for making suits and jackets. It sews easily.

### Oak Tasar

Oak Tasar is the finer variety of tasar generated by the silkworm, *Antheraea proylei J.* in India which feed on natural food plants of oak, found in abundance in the sub-Himalayan belt of India covering the states of Manipur, Himachal Pradesh, Uttar Pradesh, Assam, Meghalaya and Jammu & Kashmir. China is the major producer of oak tasar in the world and this comes from another silkworm which is known as *Antheraea pernyi.*



### Eri



The word *Eri* is derived from Sanskrit word '*eranada*' or '*endi*' which mean castor plant is a multivoltine silk spun from open-ended cocoons, unlike other varieties of silk. The white silk fabric as white as the cultivated silk eri silk is the product of the domesticated silkworm, *Philosamia ricini* that feeds mainly on castor leaves. Eri culture is a household activity practiced mainly for protein rich pupae, a delicacy for the tribal. Resultantly, the eri cocoons are open-mouthed and are spun.



Eri is a fine, dense and coarse fabric which absorbs moisture and has good elasticity. It is a strong, soft and heavier silk which drapes well. It gives dull and wool like finish, wrinkleless, drapes well and blends with cotton, wool and jute and other silk. It has thermal property. Thick woven texture can be used as woolen fabric. The silk is used indigenously for preparation of chaddars (wraps) for own use by these tribals. In India, this culture is practiced mainly in the north-eastern states and Assam. It is also found in Bihar, West Bengal and Orissa.

### Uses of Eri Silk Fabric

- Eri silk fabric is a boon for those who practice absolute non violence and do not use any product any product obtained by killing any living creature. Eri silk is also said to be poor person's silk as it is not so enormously priced as other silk types. It is widely used by everyone in the regions it is produced. Now it is getting popular the world over.
- Eri silk can easily blend with wool, cotton, other silk fibres, jute, ramie or even the synthetic fibres while weaving. Due to this quality, a large number of eri blend fabrics can be produced.
- In India, Eri is mostly used for the preparation of *chaddars* (wraps). The thermal property of Eri silk makes it a suitable fabric for shawls, jackets and blankets. Dress materials and baby dresses are also made from eri silk fabric because of its soft texture and moisture absorbent quality.
- Eri silk is durable and strong and has a typical texture; hence it is widely used in home furnishing like curtains, bed covers, cushion covers, wall hangings, quilt, etc. The woolly feel adds to the comfort.

Courtesy: <http://www.indiansilk.kar.nic.in/silk.html>