

Silk is a valuable product and due to its elegance and color, silk fiber is rightly called "*Queen of Textiles*". It is secreted from the salivary glands commonly called silk glands of larval silkworms. Silk glands are found on both sides of the alimentary canal of silkworm larvae and this secretion hardens into fine threads (silk). The cocoons enclosing pupae form the raw material from which thread is extracted. Most of the caterpillars of order lepidoptera form cocoons bearing extractable silk threads but those of only two families i.e., bombycidae and saturnidae produce silk of practical use.

Sericulture is the rearing of silkworms for the production of raw silk. Sericulture is an agro-industry in which India ranks third on globe in silk production. It was introduced in Europe in 555 A.D. by the Roman emperor. Today sericulture is an important agro-industry of several Asian and European countries, like Sicily, Spain, Italy, France, Brazil, Russia, South Korea, etc. but China and Japan are still great producers of raw silk. The share of India in the world silk production is 5% for mulberry silk, 10% for Tasar and 100% for Muga silk. Important sericulture centres in India are located in Odisha, Karnataka, Tamil Nadu, West Bengal, Assam, Punjab, Jammu and Kashmir, Bihar etc.

### Types of Silkworms:

Some of the important silkworm species are:

**(i) Muga Silkworm** (*Antheraea assamensis*): It is a wild and semi domesticated species in Assam, West Bengal, Bihar and Odisha. The caterpillars feed on the leaves of Cinnamon and *Machilus* plants. Cocoons are amber or white and silk obtained after reeling is golden yellow in color.

**(ii) Tussore or Tassar or Tropical tasar silkworm** (*Antheraea mylitta*, *A. paphia*): It is found in China, India, Sri Lanka etc. In India it is found in the forests of Bengal, Assam and Uttar Pradesh. It remains still undomesticated and its larvae feed on leaves of fig, oak, ber, sal etc. Cocoons are spun by the final instar larvae and are oval and hen's egg size. Cocoons are brown, red or yellow with hard case hung from the terminal braches by a stiff attachment. These have to be collected from the forests. The moths donot breed in captivity easily.

**(iii) Eri silkworm** (*Phlosamia ricinii*, *Attacus rechinii*). It is found in South East Asian countries including India. It feeds on castor leaves and produces a rough and strong silk locally known as "**Arandi Silk**". This silkworm is mainly found in the forests of Assam, Bihar, Bengal, Uttar Pradesh, Odisha and Madras. Cocoons are white in colour and unreelable therefore produce inferior quality silk. It is dull in color but it has long durability.

**(iv) Chinese or Mulberry Silkworm** (*Bombyx mori*): It is the most important and commonest of all, which produces most of the raw silk we use. *Bombyx mori* is a native of China and almost domesticated worldwide. It feeds on mulberry (*Morus alba*) leaves. It has been reared for so many centuries that it no longer exists in wild state. By careful selection and hybridization many races have been developed to meet the various needs of climate, quality and quantity of the silk obtained. The silk obtained from this silkworm is white or yellow in color. There are several races of the mulberry silkworm, which may be grouped into two categories viz. univoltine and multivoltine. The univoltine has an annual life cycle and produces superior quality of silk while multivoltine race passes through many generations in a year and silk produced is of inferior quality.

**(v) Giant Silkworm:** *Attacus atlas* of India, Malaysia, is nearly the largest of all living insects reaching upto 28 cm in wingspan.

**(vi) Oak silkworm:** *Antheraea pernyi* of China, *A. roylei* of Himalaya, and *A. yamamai* of Japan have been collected and reared for centuries. They produce silk of a fine quality.

#### Rearing of silkworms.

The silkworms are reared in places, which should avoid dampness stagnation of air, exposure to bright sunlight and strong winds. The temperature should lie between 25-30°C and humidity should never drop below 70% and rise 80%, proper ventilation should be ensured for efficient productivity.

#### Accessories