

Eri Culture

Eri Silkworm

The silk produced by *Philosamia ricini* is called Eri silk. The distribution of Eri silk worm is confined to Assam and bordering districts of West Bengal. The Eri silkworm is multivoltine and reared indoors 5-6 times a year. Optimum conditions



required are 24-28°C temperature and 85-90% humidity. Adult moths emerge from morning to mid day; males emerge earlier than the females. After an hour of emergence mating occurs and continues till evening. Males are then separated. Both male and female have brown (chocolate), black or green coloured wings with white crescent markings and woolly white abdomen. The male is smaller than female and bear bushy antennae and narrow abdomen.

Eri worms are polyphagous having primary as well as secondary food plants (hosts). Primary food plants are *Ricinus communis* (Vern. Castor) and *Heteropenax fragrans* (Vern. Kasseru). Castor plants are of two varieties; the green leaved and violet leaved. Both are equally suitable for feeding the Eri silkworms. These plants are grown by seed sowing. Kasseru grows wild but may be cultivated as regular plantations on embankments around homestead land. It is grown by seed sowing and also vegetatively by stem cuttings. The secondary food plants are *Manihot utilissima* (Vern. Tapioca), *Evodia flaxinifolia* (Vern. Payam), *Plumeria acutifolia* (Vern. Plum) and *Carica papaya* (Vern. Papaya).

Rearing of Eri Silkwom

Disease free seed cocoons are obtained from Grainages or Agencies and reared fully indoors. Healthy cocoons are spread on bamboo trays in cool dark room. On hatching,



active males are separated from passive females and are then allowed to mate in quiet dark room. Fertilized females are then tied to 'kharikas' by passing a thread around the shoulder joint of the right wings. Kharikas are then suspended from a string. Eggs are laid within 25 hours on Kharika are normally selected for rearing. The eggs are white, oval and covered with a gummy substance, which makes them adhere to one another. The eggs are disinfected with 2% formalin solution and then washed thoroughly with water. Eggs are incubated at 26° C, the colour changes to blue on the day prior to hatching. Hatching takes place in the morning after ten days of incubation. The newly hatched larvae are yellow with black segments. These larvae are brushed to rearing trays over which few tender leaves are spread, and crowding is avoided. As the worms advance in age, older leaves can be given as feed at four hour interval for four to five times.



Bed cleaning is carried out at regular interval in the same way as for the Mulberry silkworm. The growing worms undergo four moults and have five instar stages. Total larval period lasts for 30-35 days. The 5th instar mature larvae stop feeding and start searching for a proper place to spin the cocoon. At this stage, the mature worms are picked up and transferred to mountages (Chandrikes). In wild, cocoons are spun between folds of leaves. The spinning is completed in 2-3 days. The cocoons are open mouthed, white or brick red, 5 cm long in case of female and 4.6 cm in male, tapering at one end and flat rounded at open end, flossy and without a peduncle. The silk filaments are not continuous.

Post Cocoon Processing

Stifling is done by spreading and exposing the cocoons to sun for 1-2 days. For degumming, cocoons are tied in a cloth sac and dipped in boiling soda solution. After sufficient boiling, the cocoons are taken out, washed with water several times to remove soda, squeezed to remove water and then spread on mats to dry. Being open mouthed, the thread of the cocoons is



discontinuous. So, the thread can only be spun and not reeled. Traditionally spinning is done in wet condition on takli and in semi dried condition on a charkha. Improved spinning machines like N.R. Das type charkha and Chaudhury type charkha are also available for spinning of silk from Eri cocoons.

