

SCOPE OF ERICULTURE IN TAMIL NADU

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Rearing of eri silkworm is called as ericulture. India is the only country which produces all the four types of silk i.e., Mulberry, Eri, Muga and Tasar, out of which eri silkworm is the only non – mulberry silkworm which is completely domesticated. Our country contributes more than 90 per cent (7,359 MT) of world's eri silk production (Figure 1 & 2) (CSB, 2022). Eri silkworm is polyphagous in nature and its host plants includes castor, kesseru and secondary host plants which include tapioca. Rearing of eri silkworm is traditional practice in North – east India particularly Assam, there eri pupae is also used as food as it is rich in protein and essential amino acids. Southern states of India particularly in Tamil Nadu ericulture gains popularity slowly among farmers as state sericulture department give subsidy as like for mulberry silkworm since 2019.

Biology of Eri Silkworm

Eri Silkworm, *Samia ricini* Donovan has five larval instars and moult four times. First three larval instars take each 2 – 3 days to grow, fourth larval instar take 4 – 5 days and fifth instar takes 5 – 7 days to develop. Between each instar it

goes to moulting for the period 24 – 36 hours depending on the weather condition.

Special characters and advantages of eri over mulberry silkworm

When compare to mulberry silkworm, eri silkworm is resistant to diseases, hardy in nature and easy to handle and rear.

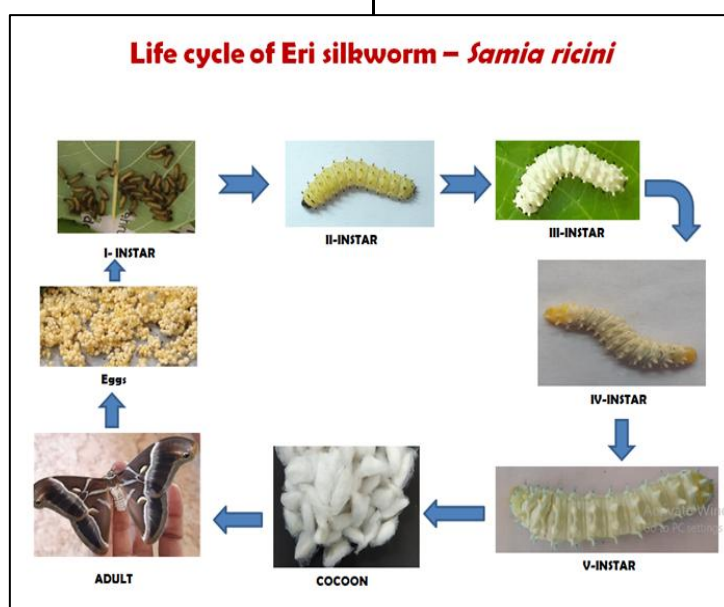
It constructs open ended cocoon; hence its silk is not reelable. Stifling process is not necessary as the adult emerge from the exit hole. Hence it is called as Ahimsa silk.

Short larval duration of 18 – 22 days where in case of mulberry it is about more than 25 days.

In Tamil Nadu, few districts like Salem, Dharmapuri and Erode are important tapioca cultivating areas. As tapioca is the secondary host of eri and it gives almost growth equivalent compared to castor in terms of economic parameters (Matured larval weight, Cocoon weight etc.,). So, the farmers may also rear by using the pruned leaves of tapioca (as it is traditional practice in the state at 6 months after planting a crop to enhance the tuber yield) and get some additional income.

Present status of ericulture in Tamil Nadu:

Tamil Nadu state government initiate the subsidy for rearing of eri silkworm on commercial basis from 2019 onwards for the scheduled caste and tribals only. From 2020 onwards, subsidy has been planned to give to all other communities. For scheduled caste and tribals it about Rs. 4500 for castor



plantation/acre and Rs. 90,000 for the construction of the rearing shed, for other castes it is about Rs. 3700 for castor plantation/acre and Rs. 55,000 for the rearing shed

(Primary data collected from technical officer, Thiruvannamalai district sericulture department, Tamil Nadu). At present, more than 250 farmers

are ready to rear the eri silkworm as they raise the castor plantation of more than half acres.

Future scope of ericulture in entrepreneurship

In Tamil Nadu, total area under tapioca cultivation is 91.51 ha (Indiastat, 2020-2021). Fasae *et al.* (2009) reported the leaf yield of tapioca is 925 kg/ha. To rear 100 DFLs of eri silkworm around

1200 kg of leaves is required. From the reported leaf yield of Fasae *et al.* (2009) about 77 DFLs of eri silkworm can be reared and cocoon yield of around 70 kg can be obtained. 1 kg of eri seed cocoon is procured by Eri Silkworm Seed production center, Hosur at the minimum rate of Rs. 650. Hence, approximately around Rs. 52,000 can be earned through ericulture (100 DFLs) by tapioca growing farmers in Tamil Nadu.

Add-on benefit from eri silkworm

Eri silkworm pupae (Figure 3) has rich protein content (62.11%), lipids (26.21%) and moisture (8.55%).

Apart from this it has higher linoleic acid, low Na/K ratio makes it an immense potential candidate as animal feed resources (Ray and Gangopadhyay, 2021),

thereby eri silkworm pupae is anyway superior than mulberry silkworm pupae. Kongsup *et al.* (2022) studied the impact of *Samia ricini* pupae inclusion

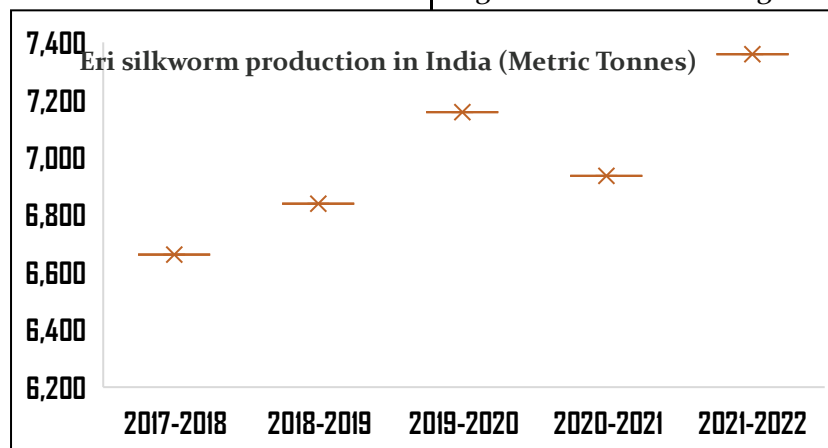
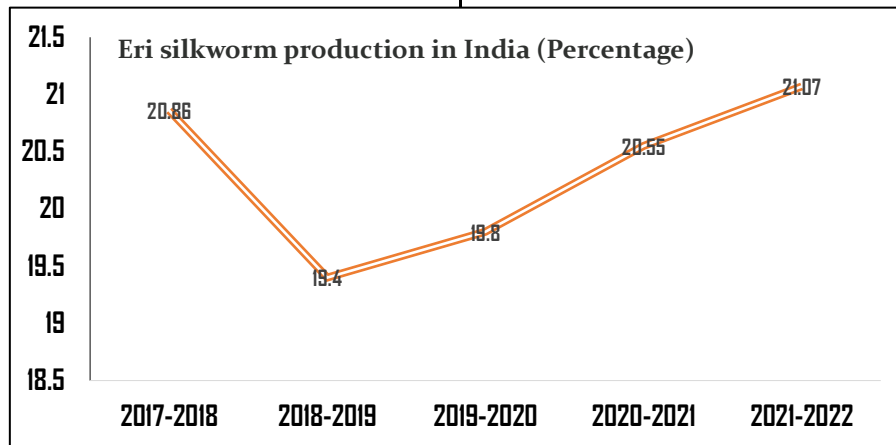
on growth performance, health, carcass, and meat quality of broiler chicken. They reported that broilers fed 10 percent eri silkworm pupae meal recorded highest cold carcass weight and skin yellowness than

other feed groups, as well as it did not cause any negative consequences on all the parameters. However, they noticed the adverse effect when birds fed 15 percent eri silkworm pupae

meal. Eri silkworm pupae is also utilized as a rich protein source, as potential to partial or complete replacement of fish meal and soybean meal.

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