

Incubation and Black boxing techniques for Silkworm eggs

Methods of Incubation

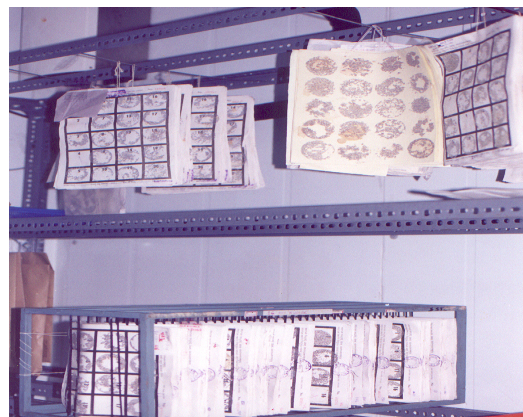
- 1) Double Wall chamber incubation
- 2) Incubation in Incubator

Advantages

- The term “Incubation” in Sericulture is used with reference to provision of optimum environmental conditions (Temperature $25\pm 1^{\circ}\text{C}$, $80\pm 5\%$ RH, photoperiod of 16L: 8D) for normal development of the silkworm egg. This enables them to hatch normally (i.e. effectively $> 90\%$) after 10 days.



Double wall chamber incubation



Incubation in Incubator

- Adoption of these incubation methods is very much effective in maintaining required temperature and humidity for uniform/robust development of embryos to obtain high rate of hatchability.

- Black Boxing technique enables the silkworm eggs to hatch on a single day which will help the farmers / chawki rearers and facilitate for proper brushing of larvae.



Black Boxing

Impact : ISTR(SSTL), has taken constant efforts to popularise and disseminate this technique of incubation and black boxing of silkworm eggs in the field over a period of 12 – 15 years. This avoided supply of silkworm eggs straight to the farmers, instead either fully incubated eggs or chawki larvae are being supplied to the sericulturists. It is really a prominent technique which is contributing much to the seed cocoon as well as commercial cocoon production and in turn silk. The bivoltine hybrid cocoon production has increased more than 70 kg/100 Dfls.

- ❖ The term Incubation in Sericulture is used with reference to provision of optimum environmental conditions (Temperature $25\pm 1^{\circ}\text{C}$, $80\pm 5\%$ RH, photoperiod of 16L: 8D) for normal development of the silkworm egg. This enables them to hatch normally (i.e. effectively $> 90\%$) after 10 days.
- ❖ Developed standard incubation procedures for different breeds and egg handling techniques for normal embryonic development and optimal hatching.
- ❖ Incubation methods are very much effective in maintaining required temperature and humidity for uniform/robust development of embryos to obtain high rate of hatchability.
- ❖ Black Boxing technique enables the silkworm eggs for uniform hatching on a single day which will help the farmers / chawki rearers and facilitate for proper brushing of larvae.



Double wall chamber incubation

Incubation in Incubator

Black Boxing

Fig 11: Progressive development of Incubation technologies through R&D