

PROCEEDINGS OF 48th MEETING OF RESEARCH COUNCIL OF SILKWORM SEED TECHNOLOGY LABORATORY, KODATHI

The 48th meeting of Research Council of Silkworm Seed Technology Laboratory (SSTL), Kodathi was held on 5.10.2017. At the outset, Dr. T. Jayappa, Scientist D & Head, SSTL welcomed the Chairperson Dr. R. K. Mishra, Director, NSSO, and other members (Annex-1). He briefed the house about the SSTL activities during last one year and requested the Chairperson to carry out the meeting. Dr. R. K. Mishra took up the meeting as per the Agenda.

(i) Follow-up actions taken on the decisions / suggestions of the last Research Council meeting

The follow up actions of the comments / suggestions emanated from the last RC meeting were reviewed. Regarding the project “Development of Lateral Flow Assay (LFA) kit for diagnosis of Microsporidian infection in Silkworm *Bombyx mori* L” proposed and presented during last RC meeting by Dr. K. M. Ponnuvel, Scientist D, SBRL, Kodathi, it was informed that the project was being submitted through CMER&TI, Lahdoigarh, Jorhat, Assam including the Muga silkworm since more funds were available for North-Eastern region. However, after discussions by the RC members, it was decided that the project concept note including the collaboration of CME&RTI, Lahdoigarh, SBRL and SSTL, Kodathi for Muga and Mulberry silkworms should be prepared and submitted. The request to include LAMP studies was not agreed.

The seed preservation technology projects proposed for Vanya silkworms were reviewed. SSTL Scientists informed that on Eri silkworm seed preservation a project “Development of egg preservation techniques of Eri silkworm, *Samia ricini* Donovan” in collaboration with CMER&TI, Ladoigarh, Jorhat, Assam and SSTL Kodathi was already developed and on Muga silkworm the project “Development of seed preservation technology for Muga silkworm *Antheraea assamensis* Helfer” in collaboration with CMER&TI, Ladoigarh was under progress. With regard to Tasar Seed preservation, a concept note on “Development of Seed preservation technology for Tropical Tasar silkworm *Antheraea mylitta* Drury” was already submitted to CSB in collaboration with BTSSO, Bilaspur by taking inputs and requirements for the study from BTSSO, Bilaspur.

(ii) Review of progress of on-going Projects/Programmes

- (a) Development of technology for enhancing egg laying in *Bombyx mori* L. by application of mulberry volatiles (collaboration with IIHR, Bangalore) - Dr. K. M. Vijaya Kumari, Scientist D

It was informed that the extraction and synthesis of volatile blends for bivoltine breeds / hybrids is under process at IIHR and the evaluation of Arka-eggstra were taken up at SSPC, Ramanagara (commercial Grainage) and with a RSP. Only one trial was conducted in absence of delayed supply of the product from IIHR.

The Committee observed the following:

1. Instead of directly taking up the trials at Grainage level, the scientists should take up in-house studies. Since the results were not encouraging, it was suggested to take up the study at laboratory level on the lines of the grainage operations done by SSPCs. In the study, the recovery and other commercial grainage characters should be assessed for which 3 kg seed cocoons of the breeds (three replications of 1 kg each) should be collected from the SSPCs. Optimum temperature and humidity should be maintained as desired for grainage activity at laboratory level and to study all the parameters related to the commercial Grainage (egg recovery / kg of cocoons, percent pairs, fecundity etc.). Data should be subjected to statistical analysis.
2. Silkworm rearing data of the prepared layings should be taken up at SSTL to study the performance.
3. It was decided that based upon the data thus generated from the study, continuance of the project would be decided.

(b) Development of seed preservation technology for Muga silkworm *Antheraea assamensis* Helfer (Collaboration with CMERTI, Lahdoigarh)- Dr. B. Sailaja, Scientist B

After reviewing the progress, the members suggested to cut short the content for the SAC presentation. For SAC, relevant information on embryo studies should be presented. The scientist was advised to be continuously in touch with the scientists of CMER&TI, Lahdoigarh and discuss with them about the data generated.

(c) Silkworm disease monitoring of seed and commercial crop rearings of South Indian States (collaboration with CSR&TI, Mysore)- Dr. P.Sudhakara Rao, Scientist C.

It was suggested to calculate the percentage of diseases other than pebrine and update the data in designated website of CSR&TI, Mysore.

Dr. P.Sudhakara Rao, Scientist C also presented the progress of other programmes of SSTL like Race maintenance, Quarantine testing, Quality check of disinfectants, Revenue generation, Transfer of Technology, Cold storage, Farm management / mulberry leaf production, Trainings of SSTL and Joint disease monitoring etc., The Committee noted the progress and suggested to present only important programmes like Quarantine testing, Trainings and Transfer of Technology before the SAC.

(iii) New Project Proposals for consideration

The Committee reviewed the new project proposals in the areas suggested by last RCC of CSB and Expert Review Committee. The following projects were considered:

- (a) Microbial transformation of Natural and chemical compounds with microbial isolates for the development of antimicrobial agents to control diseases of silkworm *Bombyx mori* L.** - Dr. R. Saravana Kumar, Scientist B

The Committee made following observations:

1. To highlight the references/works carried out in other organisms where products developed by microbial conversion of existing products were reported to be more effective on different diseases.
2. The protocols / methodologies should be adopted/developed carefully and to go for out-sourcing wherever required.
3. The project concept was approved to be taken up more cautiously as this was a new approach, subject to clearance of the concept note by Central Office. If approved, the same should be sent to referees for their comments for placing before the SAC.

- (b) Development of Seed preservation technology for Tropical Tasar silkworm *Antheraea mylitta* Drury"** (Collaboration with BTSSO, Bilaspur) - Dr. P.Sudhakara Rao, Sci.C

The Committee made following observations:

1. The Committee suggested to refer to the studies carried out previously in other Institutions on erratic emergence, embryonic chart development and seed preservation.
2. Since the project concept was submitted to CSB for approval, the project MIS should be kept ready for obtaining referee comments, if CSB approved the same.

- (c) Evaluation of eco-friendly chemicals for instant de-pairing and reasons for gap between pairs and egg laying in CB / Bivoltine hybrids of the Silkworm** - Dr. P.Sudhakara Rao, Scientist C

The Research Council suggested to take up a pilot study to evaluate the available plant products/repellants for instant de-pairing and if studies are encouraging, full fledged project can be prepared. In the study effect of the chemicals on reproductive potential of the breeds and associated physiological parameters need to be ascertained.

(d) Studies on the impact of SSTL technologies developed for seed sector and trainings conducted - Dr. P.Sudhakara Rao, Scientist C

It was suggested that in addition to the impact assessment, to take up economics of production of seed cocoons by ASRs and to include Dr. G. Srinivasa, Sc-D, NSSO(HQ) in the programme. The data thus generated should become a prelude to develop a comprehensive package for both multivoltine / bivoltine seed areas in future.

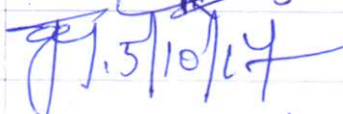
(e) Studies on Reproductive behavior of newly developed breeds / hybrids of mulberry silkworm in collaboration with CSR&TI, Mysore -Dr. P.Sudhakara Rao, Sci. C

The Committee suggested that this should be continuous programme for SSTL to evaluate the reproductive potential of the new breeds / hybrids in the pipeline before authorization. The Institute may also contact other Institutes (CSR&TI, Berhampore and Pampore) for similar studies.

The meeting was concluded with thanks to the Chair.

Dr. R. K. Mishra
Director, NSSO and Chairperson for RC

**ATTENDANCE SHEET FOR --- RESEARCH COUNCIL MEETING OF SSTL ON
05.10.17**

S.No	Name of the Members	Signature
1	Dr. R. K. Mishra, Director, NSSO	 5.10.2017
2	Dr. T. Jayappa, Scientist D & Head, SSTL	 5/10/17
3	Dr. G. Vemananda Reddy, Former Scientist D SSTL, Kodathi	— Absent —
4	Shri. H. S. Phaniraj, Scientist D, NSSO Hqrs	— Absent —
5	Shri. P. Jayarama Raju, Scientist D, RCS, CSB	 5/10/17
6	Dr. K. M. Ponnunvel, Scientist D & Head, SBRL, Kodathi	 05.10.17
7	Dr. K. Sashindran Nair, Scientist D, NSSO Hqrs	 5/10/17
8	Dr. B. A. Parthasarathy, Scientist D, SSPC, NSSO, Bengaluru	 5/10/17
9	Dr. K. M. Vijaya Kumari, Scientist D, SSTL	K. M. Vijaya Kumari - 5.10.17.
10	Dr. P. Sudhakara Rao, Scientist C, SSTL	 5.10.2017
11	Dr. B. Sailaja, Scientist B, SSTL	Dr. B. Sailaja 5.10.2017
12	Dr. R. Saravana Kumar, Scientist B, SSTL	Dr. R. Saravana Kumar 5/10/2017.
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