

SILKWORM SEED TECHNOLOGY LABORATORY KODATHI, BENGALURU

PROCEEDINGS OF 49th MEETING OF RESEARCH COUNCIL

The 49th meeting of Research Council of Silkworm Seed Technology Laboratory (SSTL), Kodathi was held on 3.11.2018. At the outset, Dr. S. Vidyunmala, Scientist D & Head, SSTL welcomed the Chairperson Dr. R. K. Mishra, Director, NSSO, and other members (Annex-1). She briefed the house about the SSTL activities during last one year and requested the Chairperson to conduct the meeting. Dr. R. K. Mishra took up the meeting as per the Agenda.

(i) Confirmation of the minutes of the 48th RC meeting

Since no comments were received from any of the members, the minutes were confirmed.

(ii) Follow-up actions taken on the decisions / suggestions of the last Research Council meeting (48th RC)

The follow up actions of the comments / suggestions emanated from the last RC meeting were reviewed. Regarding the proposal “**Development of Lateral Flow Assay (LFA) kit for diagnosis of Microsporidian infection in Silkworm *Bombyx mori* L**” presented during 48th RC meeting by Dr. K. M. Ponnuvel, Scientist D, SBRL, Kodathi, it was advised that Dr.K.M.Ponnuvel, Sc-D may arrange a meeting with Dr. Shama Bhat of M/S Bhat Bio-tech India (P) ltd, Bangalore to finalize the modalities for preparing full pledged project. The concept note prepared may be sent to C.O for further approval.

The seed preservation technology projects proposed and carried out for Vanya silkworms were reviewed. SSTL Scientists informed that on Muga silkworm seed preservation, a project “**Development of Seed technology for Muga Silkworm *Antheraea assamensis*** “ was being carried out in collaboration with CMER&TI, Ladoigarh, Jorhat, Assam and the Principal Investigator of the project is regularly in touch with the counterpart of CMER&TI. With regard to Tasar Seed preservation, a project “**Development of Seed cocoon and seed preservation technology for Tropical Tasar silkworm *Antheraea mylitta* D.** was approved by C.O (APR-3635) and the project is under progress. It was informed to the house that based upon the suggestions of the RCC, the research Project “**Microbial Transformation of Natural and eco-friendly chemical compounds for the management of Silkworm Diseases of *Bombyx mori* L.** was referred to Prod. Bhat, member of RCC and also discussed with the Microbiologists from Bangalore University during the month of June, 2018. The C.O has approved the same and also allotted the code (ARP-3634) to the project.

(iii) 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 necessary chemicals were procured and supplied to IIHR, Bengaluru. Based upon the progress presented, the Committee observed the following:

1. The concerned Scientist to repeat the experiment one more time in the laboratory for the evaluation of promising volatiles with large quantity of FC lots (Bivoltine) from SSPC, Bengaluru.
2. Recording of data needs to be as per the data being collected by SSPC for commercial seed production. Data on total seed (laid + retained) need proper justification.
3. The Investigator should speed up the work and come to a logical end within the time limit.

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

The Committee observed the following:

1. To publishing the completed embryonic chart for Muga silkworm stressing on developing a preservation schedule for Muga Silkworm Seed.
- 2 To draw a clear plan for periodical supply of Muga seed cocoons from CMERTI, Jorhat to complete the work in time. For the purpose, CMERTI to be requested for regular supply of seed cocoons.
3. Scientists to be continuously in touch with the scientists of CMER&TI, Lahdoigarh and discuss with them about the data generated.

- (c) **Development of Seed cocoon and seed preservation technology for Tropical Tasar Silkworm *Antheraea mylitta* D.** (Collaboration with BTSSO, Bilaspur)- Dr. P.Sudhakara Rao, Scientist C

The Committee observed the following:

1. One more trial has to be conducted for erratic emergence studies by incorporating the cold treatment schedule developed by CTR&TI, Ranchi. Based upon the findings, a package has to be developed to avoid erratic emergence in the Tasar seed cocoon preservation.

2. The scientist along with the project JRF to visit BTSSO, Bilaspur for exposure to Tasar Seed industry and during return to bring the required seed cocoons for the Project work.
3. Further studies have to be carried out after getting the Tasar Seed cocoons on erratic emergence and bio-chemical changes during the preservation.

(d) Microbial Transformation of Natural and eco-friendly chemical compounds for the management of Silkworm Diseases of *Bombyx mori* L. - Dr. R. Saravana Kumar, Scientist B

The Committee observed the following:

1. The date of project initiation should be from August, 2018 for three years.
2. To utilize the existing infrastructure facilities available at SBRL, Kodathi.
3. A small culture room has to be developed at SSTL, Pathology laboratory by converting existing room with all the required facilities for taking up the microbiological studies.

(d) Development of Technology for Enhancing Egg laying in Vanya Silk moths by application of Host Plant Volatiles(APS05001EF (Collaboration with IIHR, Bengaluru & CMERTI, Jorhat)) - Dr. K. M. Vijaya Kumari

The Principal Investigator presented the data on preliminary trial. The Committee observed the following:

1. The treatments of the experiment should be spelt out correctly as per project document.
2. One more trial on egg retention should be made and present with logical conclusion. Data collection should be as suggested for the mulberry project.
3. Proper planning should be there for Seed cocoons supply / receipt of Muga and Eri.

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

The Committee observed the following:

1. To update the data in designated website of CSR&TI, Mysore and the revised project for further extension has to be submitted by Director, CSR&TI, Mysuru to Central Office.
2. The Scientists involved in the testing should taken care immediately to reject the lots with Pebrine and suggest remedial measures.

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

(iv) New Project Proposals for consideration

The Committee reviewed the new project proposal **“Development of Seed preservation Schedule for Eri silkworm *Samia ricini* Donovan”** submitted by Dr. B. Sailaja, Scientist B. The Committee noted the findings of the previous works, wherein preservation of seed up to 11/12 days was developed. However, since evaluation of the developed schedule and field data is not available, the Committee suggested the following:

1. Test verify the preservation schedule already developed with 10 P1 Eri ASRs in collaboration with ESSPC, Hosur and generate data under Transfer of Technology (ToT).
2. Based upon the data thus generated, taking up of new project for developing preservation schedule for longer duration.

The Director also informed that the proposal on development of cocoon cutting and sex separation machine by NSSO in collaboration with R.V. College of Engineering, Bengaluru was approved by RCC in its last meeting. Though the said work was already initiated, the project document was under preparation for its regularization. The Committee noted the same.

The meeting was concluded with thanks to the Chair.


22.11.2018
Dr. R. K. Mishra

Director, NSSO and Chairperson for RC