

Minutes of the 66th Research Council meeting held on 13th December 2023 at meeting room of CSR&TI, Berhampore

Dr. Dipesh Pandit, Sci-D, PMCE welcomed Director, Dr. Jula S. Nair to chair the Research Council. At the outset, Director greeted and welcomed the newly appointed scientists and advised them to actively participate in Institute research and extension activities. She suggested that the new concepts be thoroughly discussed so that they might be developed into relevant original proposals.

As no comments were received on the minutes of 65th RC meeting, the same were confirmed.

Concepts of the following new proposals were presented during the RC meeting

New Concept 1:

Dr. Srinivasa G., Scientist D, SEEM Division presented and explained a new concept note on "**Identification of Seri-based IFS model for enhancing productivity and income at farmers level in West Bengal, Assam and Manipur**" with the following objectives:

1. To study the socio-economic conditions of the sericulturists in the study area
2. To work out the cost and returns of different crop/enterprises practiced by the farmers in the study area
3. To identify the profitable crop/enterprises suitable for the study area
4. To identify the efficient seri-based IFS models for different study areas
5. To draw suitable policy suggestions for the implementation of seri-based IFS models

Investigators: Dr. G. Srinivasa, Scientist D, SEEM Division, CSR&TI- Berhampore

Budget: Rs.27.90 lakhs (including 3 Project Assistants and One Junior Research Fellow)

Duration: 3 Years

Expected outcome: The main outcome of sericulture-based IFS is to increase productivity and income on the existing farm practices.

Following suggestions were made by RC to modify the concept:

- Combine the 2nd and 3rd objectives
- Reduce sample size and relook into the requirement of 3 PAs and 1 JRF
- Add one Co-Investigator as the PI is retiring from service in August 2024

Research Council approved the concept and advised to include all suggestions before submitting in E-SubMIS and sending to CO, CSB for approval

Action: Dr. Srinivasa G., Sci D

New Concept 2:

Dr. A R Pradeep, Scientist D, presented and explained a new concept note on "**Identification of pathogens of the mulberry silkworm, *Bombyx mori* spread during unfavorable seasons using multi locus sequence typing**" with the following objectives:

1. To determine allelic variability in functional genes and house-keeping genes for identification of pathogens causing bacterial flacherie and grasserie in silkworm using multi-locus sequence typing
2. To determine copy number of the pathogen Vis-à-vis infection status in favorable and unfavorable seasons

Investigators:**Principal Investigator:**

Dr. A.R. Pradeep (To retire from service on 31 May 2024 on superannuation)

Co-Investigators

1. Dr. Pooja M, Sci-C
2. Dr. Rahul K, Sci-C
3. Dr. Rabha M, Sci-C

Budget: Rs. 23.28 lakhs (including One JRF and Two instruments)

Duration: 3 years

Expected outcome:

- Detection of pathogen and confirmation under changing climate and during unfavourable seasons
- Identification of actual pathogen species / isolate by allele- specific primers (at Institute level) and utilization of the information to formulate preventive / control measures against the respective diseases
- Detection of copy number of the pathogen and multiplication rate under different seasons

Following suggestions were made by RC to modify the concept:

- NPV isolates identification is to be included in the study as grasserie is rampant in West Bengal
- All the silkworm breeds may be considered while collecting samples from field instead of restricting to a few breeds
- Sequence analysis of functional genes to be done followed by bioinformatic analysis to ascertain the sequence variation

Research Council approved the concept and advised to include the suggestions before submitting in E-SubMIS and sending to CO, CSB for approval

Action: Dr. A. R. Pradeep, Sci D

New Concept 3:

Dr. Th. Ranjita Devi, Scientist C, presented and explained a new concept note on "**Improvement of M12W, a multivoltine breed for productive traits in West Bengal**" with the following objectives:

1. To develop improved M12W by heat shock
2. To evaluate M12W crossbreeds for productivity traits

The investigators are:

Co-ordinator: Dr. Jula S. Nair, Director

Principal Investigator: Dr. Th. Ranjita Devi, Sci-C

Co-Investigators: Ms. Reshma R. Sci-B

Budget: Rs. 10 lakhs

Duration: 3 years

Expected outcome:

The improved line of M12W can be utilized for commercial exploitation through NSSO and DOS-West Bengal to multiply further for sustaining productivity and quality of M12W Crossbreeds silk.

Following suggestions were made by RC to modify the concept:

- Increase the number of generations for induction of heat shock to the experimental breed (M12W)
- Selection of cocoons according to the racial characteristics of the breed
- Include the requirement of M12W DFLs in the State

Research Council approved the concept and advised to include the suggestions before submitting in E-SubMIS and sending to CO, CSB for approval

Action: Dr. Th. Ranjita Devi, Sci C

New Concept 4:

Dr. Yalavarthi Nagaraju, Scientist B, presented and explained a new concept note on "**Assessment of pesticide residues impact on soil microflora and soil organic carbon in mulberry soil ecosystem**" with the following objectives:

1. To conduct a strategic survey and soil sampling for the preliminary evaluation for the pesticide residue analysis
2. To study the dynamics of the soil microbiome across the sampling sites
3. To study the effects of pesticides on the soil carbon sequestration
4. To identify, characterize and optimize the conditions for the microbial pesticide degradation
5. Evaluation of elite strains for the pesticide degradation under pot culture conditions

The investigators:

Principal Investigator: Dr. Yalavarthi Nagaraju, Sci-B

Co-Investigator: Dr. K. Rahul, Sci-C

Project Assistant: 1

Budget: Rs. 70 Lakhs

Duration: 3 years

Expected outcome:

- Understanding the influence of pesticidal residues on soil microbiome, carbon pool and soil health aspects
- Identification of potential pesticide degrading microorganisms and preparation of suitable consortium for the improvement of soil health

Following suggestions were made by RC to modify the concept:

- The title of the project should be precise
- Modify the objectives and revisit the methodology
- Given the scope of the proposed concept, the project's timeline may be increased by an additional year

- Sampling from NE India may be avoided, since processing too many samples may become an enormous activity and the proposed project duration might not be sufficient. Accordingly, the budget may be modified
- The use of surfactants for the dissolution of pesticides in water makes the product costly. Modify the work plan accordingly

Research Council approved the concept and advised to include the suggestions before submitting to CO, CSB for approval

Action: Dr. Y. Nagaraju, Sci B

New Concept 5:

Dr. Harish Babu, Sci-C, RSRS Kalimpong presented a new concept on muga seed development entitled "Muga seed rearing activities in cooler regions of Kalimpong and Sikkim". RC suggested to discuss about the concept with MESSO, Guwahati.

Action: Dr. Harish Babu, Sci C

Concluded project:

PPA02005SI: Optimization of spacing and nutrient dose for newly developed high yielding mulberry variety C 2038 under irrigated condition

Dr. Yallappa H presented the concluded report of the aforementioned project.

The outcome of the project is cultivation of the variety C-2038 under 2'x2' spacing with 120% fertilizer dose. RC suggested to verify the outcome (fertilizer dose) before taking up further studies. The PI is advised to submit the concluded project report in the prescribed format without delay.

Action: Dr. Yallappa H, Sci C

Review of Ongoing projects:

PIB02010SI: Final yield trial of promising high yielding mulberry genotypes for Eastern and North Eastern India

Dr. Suresh K presented the progress of the project. The progress is as per milestone.

PIE13001MI: All India Co-ordinated Experimental Trial for Mulberry Varieties (Phase –IV) (in coll. with CO, Bangalore)

Dr. Suresh K presented the progress of the project. The PI is advised to monitor the bioassay at different test centers.

Action: Dr. K. Suresh, Sci C

PIB02007SI: Improvement of mulberry leaf longevity in Eastern and North Eastern states of India

Dr. Deepika K U presented progress of the project. The progress is as per milestone. As a follow-up of the previous RC, the PI presented the reframed objectives. The objectives have been slightly reframed to suit the original work plan and render the correct interpretation which are as follows.

- To understand the effect of externally applied GR on mulberry leaf longevity
- To correlate stay green characters with quality & quantity of mulberry leaves

The house approved the changes and advised the PI to communicate the same to RCS, CO, Bangalore.

Action: Dr. Deepika K U, Sci C

PIE02013SI: Final yield trial (FYT) of newly identified mulberry genotypes for leaf productivity and quality

Dr. Yallappa H presented progress of the project. The progress is as per schedule. However, the budget utilization is low and the PI is advised to take necessary action.

PIB03013SI: Development of high yielding quality mulberry (*Morus spp.*) genotypes under sub-tropical conditions of Northern India (in coll. with RSRS-Jammu)

Dr. Yallappa presented progress of the project. The progress is as per schedule.

Action: Dr. Yallappa H, Sci C

APS02020MI: Improvement of seed crop productivity in West Bengal

Dr. Satadal Chakraborty presented the progress of the project. The research and training progress is as per milestone. However, the budget utilization is low and the PI is advised to take necessary action.

Action: Dr. Satadal Chakraborty, Sci D

MOE02014SI: Popularization of improved technologies developed in the field of mulberry sector for Eastern & North-Eastern India

Component I: Popularization of new mulberry varieties (C-2038, Tr-23/BC259 & C-2028)

Component II: Popularization of Bio-control agents for the management of mulberry pests

Component III: Popularization of eco-friendly disinfectant, NIRMOOL

Component IV: Popularization of chawki rearing & shoot feeding (shelf rearing) with collapsible plastic mountages

Component V: Popularization of Sampoorna

All project components are progressing in accordance with the set milestones. However, the expenditure incurred is too low and all the Investigators are advised to look into the same.

Action: Dr. K Suresh, Sci C; Mr. Khasru Alam, Sci C; Dr. G. Srinivasa, Sci C; Dr. K. Rahul, Sci C

MOE02015MI: Evaluation of improved technologies developed in the field of mulberry sector for Eastern & North Eastern India

Component I: Evaluation of high yielding & bacterial leaf spot resistant mulberry variety C-2070

Component II: Evaluation of high yielding and low temperature stress tolerant varieties C-2060 & C-2065

Component III: Low cost drip fertigation system for mulberry in E & NE India

Component IV: Evaluation of Eco-friendly Silkworm Rearing Bed Disinfectant Seri-Win

The progress of all the components is as per milestone.

Action: Dr. Deepika, Sci C; Dr. Suresh K, Sci C; Dr. Yallappa, Sci C; Dr. M. Rabha, Sci C

ARE010028MI: Recommendation of novel fungicidal and insecticidal application for mulberry (in coll. with CSRTI-Mysore)

MTL01025MI: Life cycle assessment of mulberry silk: A National Assessment (in coll. with CSRTI-Mysore)

Mr. Khasru Alam, Co-PI briefed the progress of the projects which is found to be satisfactory.

Action: Mr. Khasru Alam, Sci C

AIB02006MI: Improvement of Nistari lines for survival and silk productivity

Dr. Th. Ranjita Devi presented progress of the project. The progress is as per schedule. However, the budget utilization is low and the PI is advised to take necessary action.

Action: Dr. Th. Ranjita Devi, Sci C

AIE02018SI: Identification of superior Bivoltine foundation cross as a male component to improve cross breed productivity in E & NE India

Dr. Satadal Chakraborty presented progress of the project. The progress is as per schedule.

Action: Dr. Satadal Chakraborty, Sci D

MOE02011EF: Development of Seri-Entrepreneurship in chawki Rearing [NABARD funded project]

Dr. P. Naik presented progress of the project and is as per schedule.

MTS13002MI: Impact assessment of mulberry sericulture technologies in India (in coll. with RCS, Bangalore)

Dr. P. Naik presented progress of the project and is as per set milestone. The PI is advised to recruit the PA at the earliest.

Dr. G. Srinivasa briefed on the extension programs conducted by Institute as well as different nested units. The progress of ECPs is found to be low and the divisional Incharge, SEEM is advised to achieve the set targets.

Action: Dr. G. Srinivasa, Sci D; Dr. Parameshwara Naik, Sci C

AIT02012CI: Characterization of mulberry silkworm, *Bombyx mori* L. mutants for tolerance to flacherie syndrome through genome editing tools (DST-JSPS project)

Dr. Pooja Makwana, Sci C presented progress of the project. She presented the results about the experimental rearing of microinjected eggs. The progress is as per set milestones.

Action: Dr. Pooja Makwana, Sci C

AIB01009MI: Evaluation of new bivoltine double hybrid, TT21 X TT56 at farmers level for authorization for commercial exploitation (in coll. with CSRTI - Mysore)

Dr. Raviraj presented the progress of the project and is found as per set milestone. The PI is advised to compile the data and submit the concluded report in the prescribed format.

AIT02008SI: Identification of high humidity tolerant silkworm breeds/hybrids for Eastern & North-Eastern India

AIB02019MI: Development of bivoltine double hybrids suitable for different regions of India

Dr. Raviraj presented the progress of the projects and are as per schedule.

Action: Dr. Raviraj, Sci C

MOT02016EF: Seri-Entrepreneurship development in aspirational districts of North-Eastern India (DBT funded)

The progress is as per schedule. No specific queries were made.

Dr. P. Naik presented about the activities of the Training division and the progress was satisfactory.

Action: Dr. Parameshwara Naik, Sci C

MTL02017CN: Study on sericulture-based IFS in hilly region of West Bengal

The PI presented the progress of the project showcasing different IFS models in the hilly districts of West Bengal based on elevations. The best models determined by BC ratio were finalized. The house recommended initiating CBT and awareness programs immediately to promote these models widely, aiming to meet physical and financial expenditure targets. He is advised to present the progress in the forthcoming RC meeting. The budget utilization is too low and the PI is advised to take necessary action.

Action: Dr. Harish Babu, Sci C

Minutes approved


(Dr. Julia S. Nair)
Director

**List of Scientists participated in the 66th Meeting of Research Council (RC) held on
13.12.2023 at CSRTI-Berhampore, West Bengal**

#	Name	Designation
1	Dr. Jula S. Nair	Director
2	Dr. G. Srinivasa	Scientist-D, SEEM
3	Dr. A.R. Pradeep	Scientist-D, Biotechnology
4	Dr. D. Pandit	Scientist-D, PMCE
5	Dr. Satadal Chakrabarty	Scientist-D, Farm Management & RST
6	Dr. K. Suresh	Scientist-C, MBG
7	Dr. Pooja Makwana	Scientist-C, Biotechnology
8	Dr. K. Rahul	Scientist-C, Silkworm Protection & PMCE
9	Dr. Raviraj V.S.	Scientist-C, Biotechnology
10	Dr. Parameswara Naik J.	Scientist-C, Training
11	Dr. Deepika Kumar Umesh	Scientist-C, MBG
12	Dr. Thangjam Ranjita Devi	Scientist-C, SBG
13	Dr. Mihir Rabha	Scientist-C, Silkworm Protection
14	Dr. Yallappa Harijan	Scientist-C, MBG
15	Mr. Khasru Alam	Scientist-C, Mulberry Protection
16	Mr. Arun Kumar	Scientist-B, Reeling & Spinning
17	Dr. Oshin	Scientist-B, SBG
18	Ms. Harshitha B.S.	Scientist-B, MBG
19	Mr. Pradeep S.D.	Scientist-B, Mulberry Physiology
20	Dr. Sanghmitra Aditya	Scientist-B, Mulberry Pathology
21	Ms. Reshma R.	Scientist-B, Entomology
22	Dr. Y. Nagaraju	Scientist-B, Farm Management
23	Dr. Harish Babu S.	Scientist-C, RSRS-Kalimpong