

MINUTES OF 71st RESEARCH COUNCIL MEETING HELD ON 14.06.2023 and 17.06.2023 AT CSRTI, MYSORE

The 71st meeting of Research Council of CSRTI-Mysuru was conducted on **14.06.2023** and **17.06.2023** on hybrid mode to review the new concept notes, concluded research projects, progress of on-going projects, Extension Communication Programmes and Capacity Building Programmes of the Institute and progress of nested units. Scientists from main institute and nested units attended the meeting. The list of the participants is appended at **Annexure - I**.

The meeting was Chaired by Dr. S. Gandhi Doss, Director CSR&TI, Mysuru Mary Josepha A.V Scientist-D, welcomed Director, all the Heads of Divisions/sections, Scientists and SRFs, JRFs, PAs of the main Institute and all Scientists from RSRs, RECs and REC sub units, who attended the meeting physical and on line.

Dr. S. Gandhi Doss, Director and Chairperson of RC in his opening remarks said that, new projects need to be focused on addressing the mandates, challenges and opportunities for the Sericulture/CSB fraternity for enhancing sericulture productivity in Southern India. Recruitment of project staff and purchase of equipments should be completed within first quarter of the first year of the project. Publications needs to be made based on the outcome of the ongoing/concluded projects. Request for the extension of the project need to be sent to CO six months prior to completion of the project. Project needs to be formulated based on the real field constraints for high productivity and mitigating the high temperature and CO₂. MSG2 mulberry variety with high bush planting system can be popularized in the resource constraint area/ high alkaline soil through extension activities.

CONFIRMATION OF THE MINUTES OF THE 69th MEETING HELD ON 10.03.2023

The minutes of the 70th meeting of RC were circulated among all the members, since no comments were received from any of the member, minutes were confirmed.

REVIEW OF FOLLOW UP ACTION TAKEN ON DECISIONS OF PREVIOUS MEETINGS OF RC/ RAC

Dr. S. Balasaraswathi Sci-D, Head, PMCE presented the follow up action taken on the decisions of last RC/RAC. The meeting continued as per the agenda.

CONCEPT NOTES OF RESEARCH PROJECTS FOR APPROVAL

1. Integrated approach in dissipating pesticide effect on silkworm crop

Decision: Dr. Satish L, Sci-C presented the concept note and it was approved with few suggestions. Committee suggested to test the feasibility of green manuring/ sunflower and maize application to reduce pesticide residue. The budget provision for outsourcing charge should be enhanced. In addition to paper strip method, widely accepted method of pesticide detection must be included in the activities of the concept note. The second objective need to be dropped as it is.

Methodology for application of microbial consortia and biochar need to be elaborated. Care need to be taken the microbes in the consortia should not be pathogenic to silkworm.

(Action: Dr. Satish L, Sci-C, Silkworm Pathology)

2. A study on the physiological changes and disease incidence leading to non-spinning syndrome in mulberry silkworm *Bombyx mori*

Decision: Dr. Bhuvanewari E, Sci-C, presented the concept note and it was approved with few suggestions. Reasons for non spinning syndrome causative factors need to be analyzed through the study. There should be one PI in the project. The study can be carried out with one parent of FC1xFC2 hybrids. Metabolomic approach can be dropped down from the concept note.

(Action: Dr. Bhuvanewari E, Sci-C, Silkworm Physiology)

3. Identification of a new male component for Pure Mysore replacing CSR2 (PM×CSR2) for better crop stability and silk quality

Decision: Dr. Shivakumar, Sci-C presented the concept note and it was approved with few suggestions. Only first objective need to be taken in the concept note with 2 years of project duration and CSR16 and CSR26 breeds should be evaluated.

(Action: Dr. Shivkumar, Sci-C, MBL)

4. Postharvest shelf life enhancement of common fruits and vegetables with Sericin of silkworm *Bombyx mori* L.

Decision: Dr. Ravindra Sci-C presented the concept note and it was not approved as it is not mandate and CSTRI, Bengaluru already has a DBT funded project in the same line.

(Action: Ravindra, Sci-C, SSC)

5. Development of bivoltine silkworm hybrids for robustness and high productivity through genome re-sequencing and utilizing Japanese genetic resources

Decision: N. Chandrakanth, Sci-C presented the concept note and it was approved. One co-Investigator may be included from CSRTI, Mysuru in the project.

(Action: N. Chandrakanth, Sci-C, BBL)

6. Mulberry Hi-tech Nursery: Production of Disease Free Saplings and Certification

Decision: Arunakumar G. S, Sci-C presented the concept note and it was approved with few suggestions. Title need modification ommiting the term “Hi-tech”. The economics for raising of healthy saplings through this technique need to be ascertained. One JRF and one skilled-worker can be engaged. A thorough review of literature need to be done for incorporating the possibility of already identified endomycorhiza from CSRTI, Mysore.

(Action: Arunakumar G. S, Sci-C, Mul Pathology)

7. Evaluation of newly developed improved crossbreed - MAS3 with gradable silk quality

Decision: K.B. Chandrashekar, Sci-D presented the concept note and it was approved. Title need to be modified.

(Action: K.B. Chandrashekar, Sci-D, MBL)

8. Rotating model of shoot rearing system - An approach for better cocoon quality, disease management and reducing drudgery-Pilot study

Decision: K.B. Chandrashekar, Sci-D presented the concept note. The committee not approved as a Pilot study/project since the same was dropped by 47th RAC.

(Action: K.B. Chandrashekar, Sci-D)

9. Estimation of the mulberry leaf yield and carbon sequestration potential in tree and bush agro-ecosystem under tropical environment through UAV image analysis

Decision: Dr. Divya Singh, Sci-C presented the concept note. The concept note was approved with a few suggestions. The title needs modification with high and low bush planting system. The committee also advised to incorporate experimental details with relevant review of literature. Methodology should be elaborated. Model need to be developed. Correlation between photosynthetic efficiency and leaf yield need to be established using the system.

(Action: Divya Singh, Sci-C, Mul Physiology)

2. REVIEW ON CONCLUDED PROJECTS

1.AIB 01011 SI - Development of multivoltine foundation crosses for productivity and high silk percentage- K.B. Chandrashekar.

2.BPS 01013 CN: Utilization and diversification of silkworm pupae products for human & animal consumption and composting - Y. Thirupathaiah

3.PIE-01014SI- Development of Distinctiveness, Uniformity and Stability (DUS) Descriptors for Mulberry (Morus spp.) and their Validation - Phase III - Bhavya M. R.

4.PPF01017SI: Economics of mulberry sericulture in South India - Raveendra M Mattigatti

5.MOE 01021 SI: Evaluation and popularization of improved technologies developed in the field of mulberry sector for South India

Component 1: Evaluation of Chawki Feed Supplement Formulation in Commercial chawki rearing centers - E. Bhuvaneshwari

Component 2: Popularization of G11x G19 double hybrid in kolar region of Karnataka - K.N. Madhusudhan.

Component 3: Evaluation of productive double hybrid, DHP5 at farmers' level - Meenal R.

Component 4: Evaluation of newly developed multiviral diseases tolerant bivoltine hybrid RDIN1 - Satish L.

Component 5: Evaluation of Cauvery Gold (MV1 × S8): An improved crossbreed for cocoon productivity and silk quality - K.B. Chandrashekar

Component 6: Evaluation of robust bivoltine silkworm hybrids suitable for different regions of high temperature and high humidity conditions - Meenal R.

Decision: The above lists of concluded projects were presented by concerned PIs and the committee noted the output.

PROGRESS OF ON-GOING PROJECTS

1. PIB-3632: Evaluation of superior triploid genotypes for yield and adaptability under varied agro-climatic conditions

Decision: Dr.M.K. Raghunath, Sci-D, presented the progress and the committee noted the progress

(Action: M.K. Raghunath, Sci-D, MBG)

2. PIE 13001 MI : All India Coordinated Experimental Trials for Mulberry (AICEM) –Phase-IV

Decision: Dr.Manjappa, Sci-C presented the progress and the committee advised that, Plot yield need to be expressed in terms of Kg/ha/year or crop.

(Action: Manjappa, Sci-C, MBG)

3. PIE01022SI: Evaluation of promising mulberry genotypes for higher leaf yield and resistance to root rot and root knot diseases in Primary Yield Trial

Decision: Dr. Manjappa, Sci-C, presented the progress and the committee noted the progress.

(Action: Manjappa, Sci-C, MBG)

4. 5. PIB-3633- Development of highly productive and widely adapted mulberry using exotics and wild germplasm

Decision: Dr.G. S. Arunakumar, Sci-C presented the progress and the committee noted the progress. The committee advised that Visual observations (phenotypes) data of the hybrids also need to be provided.

(Action: G. S. Arunakumar, Sci-C, Mol.Bio.I)

5. PRP-01015 SI: Identification, evaluation and inclusion of potential antagonistic microbes in Integrated Root Rot Disease Management in Mulberry

Decision: Dr.G. S. Arunakumar, Sci-C presented the progress and the committee advised to take up field evaluation of microbial formulation at each RSRSs. The concerned RSRSs should be intimated before taking up the field evaluation.

(Action : G. S. Arunakumar, Sci-C, Mol. Bio. I)

6.MOE 01021 SI: Evaluation and popularization of improved technologies developed in the field of mulberry sector for South India.: Impact of drip fertigation technology on mulberry productivity.

Decision: Dr. Mahesh R., Sci-C, presented the progress and the committee noted the progress.

(Action : Mahesh R., Sci-C, Agronomy)

7.AIB 01009 MI: Evaluation of new bivoltine silkworm double hybrid TT21xTT56 at farmers level for authorization and commercial exploitation

Decision: Dr. K.N. Madhusudhan, Sci-D, presented the progress and the Committee advised to complete the milestones/activities within the extended duration of the project.

(Action : Dr. K.N. Madhusudhan, Sci-D, BBL)

8.AIT-01019-SI: Screening of drugs/Inhibitors to inhibit the PI3K-Akt pathway in *Bombyx mori* for controlling Nuclear Polyhedrosis Virus infection.

Decision: Dr. K.N. Madhusudhan, Sci-D, presented the progress and the committee noted the progress. The PI sought for extension of six months but committee informed that, the PI has to approach for the same six months before completion of the project.

(Action : Dr. G. Mallikarjuna, Sci-C, S.W.Pathology)

9.AIC01023SI: Development of Spectroscopic Tests for Insecticide Resistant Biomarkers in silkworm, *Bombyx mori*

Decision: Dr. Sathish L, Sci-C, presented the progress and the committee suggested that, mortality percentage of silkworm larva upon exposure to pesticides needs to be specified. Confirmation and determination of the effects of insect growth regulators on larva also to be ascertained through chemical analysis and suggested to go for pesticide residual analysis in soil, water, leaf and larvae. Avoid use of commercial name of agro chemicals in the presentations. The committee also advised to file patent for the development of paper strip method for detection of pesticides.

(Action : Dr. Sathish L, Sci-C, S.W.Pathology)

10.AIB 01024 MI: Development of productive, auto sexing silkworm breeds/ hybrids of *Bombyx mori* L. in egg stage and separation of male silkworm population by optical sorting

Decision: PI presented the progress and committee noted the progress. Also advised to visit to the company at Coimbatore to finalize the protocol of optical safety machine for separation of male silkworm population in egg stage.

(Action : Dr. Kusuma L, Sci-C, BBL)

11.MTL01025MI -Life cycle assessment of mulberry silk: A National Assessment Amit Kumar

Decision: Amith Kumar, presented and committee noted progress.

(Action : Dr. Amith Kumar, Sci-C, SSC)

12. AIE 01026 MI: Evaluation of new bivoltine double hybrid, BFC1xBFC10 at farmers level for authorization for commercial exploitation

Decision: Dr. K.B. Chandrashekar, Sc-D, presented and committee noted progress.

(Action : Dr. K.B. Chandrashekar, Sci-D, BBL)

13. BPS 01027 CN: Immunomodulatory and Adjuvant effects of Chitosan Nanoparticles Extracted from Bombyx mori

Decision: Dr. Madhusudhan K.N, presented and committee noted progress. Committee suggested to present the quantified data on seedling growth of green gram upon exposure to nano particles.

(Action : Dr. Madhusudhan K.N, Sci-D, BBL)

14. BPS 01028 CN: Value Addition of Cellulose and Chitin Isolated from Sericulture Waste for Advanced Packaging Applications

Decision: Dr. Madhusudhan K.N presented and committee noted the progress.

(Action : Dr. Madhusudhan K.N, Sci-D, BBL)

15. ARE01029 MI : Recommendations of novel fungicidal and insecticidal applications for mulberry

Decision: Dr. S. Mahiba Helen, presented and committee noted progress. Committee advised to take care of biosafety of silkworm while evaluating fungicides/ insecticides. Before recommendation fungicides/ insecticides should be evaluated in lab and field with the help of RSRs with proper documentation.

(Action : Dr. S. Mahiba Helen, Sci-D, PML)

16. PRE01030 CN : Development of an integrated management package for the broad mite, Polyphagotarsonemus latus (Acari: Tarsonemidae), in mulberry

Decision: Dr. Prakya Sree Ram Kumar, Collaborator, NBAIR, presented the progress of the project. The committee advised PI/ CI to visit NBAIR and collect culture of conidia of *Hirsutella* when culture is ready and do the toxicological study. Bioassay needs confirmation at lab, followed by field evaluation with REC/RSRS and results should be presented in RC/RAC.

(Action : Dr. S. Mahiba Helen, Sci-D, PML)

17. MOE01031 CN Technology Demonstration and Evaluation of Rearing Performance of Bivoltine Mulberry Sericulture In Navasari District (Gujarat)

Decision: Jadhav Ashok Limbaji presented the progress and committee noted. Committee suggested to establish rearing house within three months and to speed up the process to achieve milestones within the stipulated duration of the project.

(Action : Dr. Jadhav Ashok Limbaji, Sci-C, REC, Parbhani)

18.AIB 01032 SI: Validation of silk regulators - ubiquitin and mannosidase among silkworm breeds

Decision: Dr. Kusuma presented the progress and committee noted the progress.

(Action : Dr. Kusuma L, Sci-C, BBL)

19.ARP 01033CN: Mulberry Silkworm Disease Monitoring and Management in Southern States of India.

Decision: Mallikarjuna presented the progress and committee noted the progress.

(Action : Dr. Mallikarjuna G, Sci-C, S.W.Path)

20.PPA01035SI: Studies on natural farming in mulberry for sustainability

Decision: Dr. Mahesh has presented and committee noted the progress.

(Action : Dr. Babu C.M., Sci-D, FMS)

21.PPA01034 SI: Development of customized fertilizer for higher mulberry productivity

Decision: Dr. Mahesh R. presented and committee noted the progress.

(Action : Dr. Mahesh R., Sci-C, Agronomy)

PILOT STUDIES

1.Isolation, identification and characterization of drought tolerant plant growth promoting microbes- Decision: Presented and committee noted the progress.

(Action : Dr. Divya Singh., Sci-C, Mul Physiology)

2.Development of process for production of Biorefinaries from silkworm rearing waste-

Decision: Presented and committee noted the progress.

(Action : Dr. Y.Thirupathaiah, Sci-C, SWPhysiology)

SEEM division

Dr.R.Bhagiya, Sci-D, presented the progress and the committee noted the progress

Training Division

Dr.R.Meenal, Sci-D presented the progress and the committee noted the progress

Sericulture engineering section

Dr.R.Mahesh , Sci-C presented the progress and demonstrated the newly developed rechargeable battery operated dusting equipment for chawki rearing. The committee advised to take the feedback from farmers before releasing the technology to the farmers.

(Action : Dr. R.Mahesh, Sci-C, SED)

PROGRESS OF RSRS/P4 HASSAN/SSBS COONOOR**RSRS Salem**

Dr. Dhahira Beevi, Scientist D presented the progress.

RSRS Kodathi

Dr. V. Lakshmanan presented the progress. The committee noted the progress.

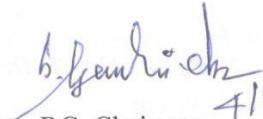
P4 BSF Hassan

Dr. Dayananda presented the progress and the committee noted the progress.

SSBS Coonoor

Dr.V.Vijay presented the progress and the committee noted the progress

The meeting ended with vote of thanks to Chair.


RC, Chairman, 4/7/23
Dr.S.Gandhi Doss
Director

Annexure-I

List of participants attended Research Council meeting held on 14.06.2023 and 17.6.2023

#	Name & Designation		Name & Designation
1	S. Gandhi Doss, Director and Chairperson RC	32	N. Chandrakanth Sci-C, CSRTI, Mysore
2	Mary Josepha A.V, Sci – D, CSRTI Mysore	33	Divya Singh Sci- C CSRTI, Mysore
3	K.B.Chandrashekar, Sci - D, CSRTI Mysore	34	Dhaneswar Padhan Sci-C CSRTI, Mysore
4	Raghunath M.K. Sci-D, CSRTI, Mysore	35	Rekha M DD(Stats) CSRTI Mysore
5	S. Balasaraswathi, Sci-D, CSRTI, Mysore	36	H.M.Munikrishnappa,AD, CSRTI Mysuru
6	R. Bhagya, Sci-D, CSRTI, Mysore	37	Nisarga N.R, JRF, CSRTI Mysuru
7	R. Meenal, Sci-D, CSRTI, Mysore	38	Sheela N. SRF, NBAIR
8	V. Lakshmanan, Sci-D, RSRS Kodathi	39	Prarthana M.S. JRF, CSRTI Mysuru
9	Dayananada, Sci-D, P4 Hasan	40	Veeraj C.K. JRF, NBAIR
10	Babu C.M, Sci-D, CSRTI, Mysore	41	Gowtham K. JRF, CSRTI Mysuru
11	Ravindra Mattigatti, Sci-D, CSRTI, Mysore	42	Rashmitha R, PA, CSRTI Mysuru
12	M.N.Chandrashekar, Sci-D, CSRTI Mysore	43	Shruthi R. PA, CSRTI Mysuru
13	M. Muthulakshmi, Sci-D, CSRTI, Mysore	44	Sindhu B.C. PA, CSRTI Mysuru
14	K.P. Kiran Kumar, Sci-D, RSRS Ananthpur	45	Keerthana Varshini S. PA, CSRTI Mysuru
15	K.N. Madhusudhan, Sci–D, CSRTI, Mysore	46	Harshitha R. PA, CSRTI Mysuru
16	S. Mahiba Helen, Sci –D, CSRTI, Mysore	47	Angelene Mathew Student, CSRTI Mysuru
17	G.S. Geetha, SRA, CSRTI Mysuru	48	Anusha N. Student, CSRTI Mysuru
18	Gayatri T, Sci-C, CSRTI Mysore	49	Anuja A.M. Student, CSRTI Mysuru
19	Kusuma L. Sci-C, CSRTI, Mysore	50	Veeraj C.K. Student, CSRTI Mysuru
20	Ranjini M.S, Sci-C, CSRTI Mysore	51	Pragya Shree Ram Kumar, Collaborator, NBAIR
21	Mahesh R. Sci-C, CSRTI, Mysore		On-line participation
22	Bhuvaneswari E. Sci-C CSRTI, Mysore	1	Dhahira Beevi, Sci-D, RSRS Salem
23	Shivakumar, Sci-C, CSRTI, Mysore	2	Sreenivasulu. Sci-D, REC Chitradurgha
24	Manjappa, Sci-C CSRTI, Mysore	3	Vinodkumar Yadav, Sci-C, RSRS Mulugu
25	Arun kumar, Sci-C CSRTI, Mysore	4	S. Rajadurai, Sci-D, REC Vikarabad
26	Tanmoy Sarkar. Sci-C CSRTI, Mysore	5	Narendra Kumar JB, Sci-D, REC Madivala
27	Satish L Sci-C CSRTI, Mysore	6	Vijay V, Sci-C, SSBS Conoor
28	Ravindra Sci-C CSRTI, Mysore	7	Jadhav Ashik Limabaji, Sci-C, REC Parbhani
29	Thirupathaiyah Y. Sci-C, CSRTI, Mysore	8	Kulkarni, Sc-D, RSRS, Kodathi
30	Mallikarjuna G, Sci-C, CSRTI Mysuru	9.	N.Balachandran, Sci-D, RSRS, Kodathi
31	Amit Kumar Sci-C, CSRTI, Mysore		