

## **Minutes of 52<sup>nd</sup> Meeting of Research Council (6<sup>th</sup> Dec 2019 at CSRTI-Berhampore, West Bengal)**

52<sup>nd</sup> Research Council meeting of CSRTI-Berhampore was held on 6<sup>th</sup> Dec 2019 under the Chairmanship of Dr. V. Sivaprasad, Director, CSRTI-Berhampore.

At the outset Dr. D. Pandit, Scientist-D, PMCE welcomed Chairperson of the RC, scientists and other participants. Dr. V. Sivaprasad, in his introductory remarks, expressed his happiness about the achievement of number of projects taken up against the target assigned. He also hopes that similar trend will remain in other R&D activities. He further requested the scientists to make needful efforts in proposing R&D action plan for next year. Later, agenda-wise items were taken up for discussion. List of participants is appended in **Annexure – I**.

### **ITEM NO.1: Confirmation of the minutes of 51<sup>st</sup> meeting of Research Council (RC) held on 3<sup>rd</sup> Sept, 2019 at CSRTI-Berhampore**

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

### **ITEM NO. 2: Review of follow-up action taken on the recommendations / decisions of 51<sup>st</sup> meeting of Research Council (RC) held on 03-09-2019**

Powder form of Morizyme-B, the scientist was advised to test the developed formulation as discussed in the house and present the results in next RC.

**[Action: Dr. Deepika, K. U, Sci-B]**

Regarding two concept notes entitled **Final Yield Trial of newly identified mulberry genotypes** and **Identification & improvement of resistance against whitefly in mulberry**, the PI was advised to wait for the CO response and take necessary action accordingly.

**[Action: Shri Yallappa H., Sci-B, MBG]**

**Improvement of leaf longevity of mulberry in E & NE India**, the PI was advised to follow-up to obtain referees comments and present the same in the 51<sup>st</sup> RAC to be scheduled on Jan 2020.

**[Action: Dr. Deepika K. U., Sci-B, MBG]**

**Improvement of Nistari lines for survival & silk productivity**, the PI was advised to present full proposal with referees' comments in 51<sup>st</sup> RAC.

**[Action : Dr. T. Ranjita Devi, Sci-B]**

**Identification of high humidity tolerant silkworm breeds for E & NE India**, the PI was advised to present full proposal with referees' comments in 51<sup>st</sup> RAC.

**[Action : Dr. Raviraj V.S., Sci-B]**

Regarding the concept note **Development of an Aptamer based technique for the detection of *Nosemabombycis* infection in silkworm**, the PI was advised to speed up the action in submitting the proposal to CSB as international collaboration cum extra-mural funding.

**Silkworm disease monitoring of seed and commercial crop rearing of Eastern & North Eastern states**, the PI was advised to expedite the process in submitting the detailed proposal to CSB for necessary approval & initiation of the project.

**[Action: Dr. K. Rahul and Dr. M. Rabha, Sci- B, SW. Pathology]**

Regarding the concept note **Reclamation of acidic soils for improved leaf & cocoon productivity in Assam**, the PI was advised to request the CO to offer latest comments in response to CSRTI-Berhampore for re-consideration of concept note and take necessary action accordingly.

**[Action : Ms. Immanuel C H, Sci-B, Agronomy & Soil]**

The concept note entitled **A Novel rapid, simple and inexpensive method for assessment of soil biological health**, the PI was advised to request the CO to offer latest comments in of CSRTI-Berhampore re-consideration of CN and take necessary steps accordingly.

[Action : Dr. Aparna Kopparapu, Sci-B, Biotechnology]

The concept note entitled **Empirical analysis on disparities of sericulture development in E & NE India**, the PI was advised to wait for the CO response and do accordingly.

[Action :Dr. P. Naik J., Sci-B, Training]

**AIB3577: Evaluation of multivoltine germplasm to identify potential parents for developing cross breeds suitable for S & E India**, the PI was advised to prepare concluded report with help of Dr. V. Lakshmanan, Scientist-D and submit the final report in the prescribed format on 25<sup>th</sup> Dec 2019, as committed by PI in the meeting.

[Action: Mr. G C Das, Sci-D, Extension]

**Continuous activities of SBG (germplasm) and Entomology (pest survey) sections**, the concerned in-charge/ PIs are advised again to submit the concluded/final report on or before 30<sup>th</sup> Dec 2019 for further necessary action.

[Action: Smt. Radha, MB, Sci-B, Entomology,  
Dr. A K Verma, Sci-D and Dr. V. Lakshmanan, Sci-D, SBG]

**Adarsh Swachh Resham Gram at Mallikpur-Diara**, the PI / concerned was advised to submit the final report immediately in the prescribed format for further necessary action.

[Action : Dr. N. Chandrakanth, Sci-C, SBG & Dr. Shafi Afroz, Sci-C, Extension]

**Identification of superior Bivoltine foundation cross as a male component to improve productivity in E & NE India**, the PI was advised to wait for the CO response and accordingly take necessary action.

[Action : Dr. V. Lakshmanan, Sci-D, SBG]

**Biology and feeding efficacy studies of *Cheilomenes sexmaculatus* and *Chrysoperlazastrowi sillemi* predator for the eco-friendly management of mulberry whitefly**, the PI was advised to finalise the concept in consultation with NBAIR experts, Bangalore and accordingly submit the concept note to CO for necessary approval.

[Action : Smt. Radha, MB, Sci-B, Entomology]

**Development of Seri-Extension Model for West Bengal**, the PI was advised to revise and apprise the RC again for needful suggestions and action.

[Action : Dr. Shafi Afroz, Sci-C, Extension]

### ITEM NO. 3: APPROVAL OF NEW RESEARCH PROJECTS

The following concepts were critically re-reviewed. The decisions are as follows:

**1. Title:** Isolation and evaluation of mulberry endophytes against brown leaf spot

**Observation/Suggestion:** Considering the results of pilot study, the PI was advised to work further as exploratory study until any novel endophyte is isolated. Further, virulence of whitefly & its association with endophytes may be explored.

[Action: Dr. Anil Pappachan, Sci-B, Mulberry Pathology  
& Smt. Radha, M B, Sci-B, Entomology]

**2. Title: Development of Integrated Farming System Model for Livelihood Security of Farmers in the hilly regions of Kalimpong District;**

**Observation/Suggestion:** The PI was advised to collect base data from the farmers pertaining to current farming activities in detail and take willingness of farmers to adopt the proposing IFS model/s; Accordingly fine-tune the IFS component shares in the models & execution plans (cropping pattern/sequence; distribution of inputs across the years); Model-wise budget for each farmer should be depicted clearly; the clear-cut roles & budget share should be highlighted between collaborators. With this suggestions, the concept requires to be prepared and submitted.

**[Action :Dr. Harish Babu S., Sci-B, RSRS-KPG]**

**ITEM NO. 4: Review of Concluded Projects/ Activities**

The following research projects / activities which have been concluded during the period were discussed.

**1. AIB3578:**Evaluation of exotic bivoltine silkworm breeds to identify promising parental GRs India

**Suggestions:** The PI was advised to finalise the results with help of Dr. V. Lakshmanan, Scientist-D & propose logical conclusion, as the presented project conclusion could not be substantiated. Accordingly, concluded report should be submitted immediately in the prescribed format (MIS-10) for further necessary action.

**[Action : Mr. G C Das, Sci-D, Extension]**

**2.PRE3589:** Assessment of designed antimicrobial peptides for mulberry protection against brown leaf spot and root rot: a biotechnological approach

**Suggestions:** The PI was advised to explore the procedure for registration of developed synthetic AMP/ sequence in Nation level centre(s). Further, publish the results of the study in the peer reviewed Journal(s). Advised to submit the concluded report in the prescribed format (MIS-10) immediately for further necessary action.

**[Action : Dr. S Chattopadhyay, Sci-D, Biotechnology]**

**3.ARP 3590:** Studies on the efficacy of phototrophic bacterial extracts as feed supplement for management of diseases in silkworm

**Suggestions:** The PI was advised to make thorough literature search pertaining to antimicrobial activity of metabolites' profile which were detected in the artificial diet. Further, the PI was advised to highlight antimicrobial activity noticed due to feed supplement/ artificial diet. Submit the concluded report in the prescribed format (MIS-10) immediately for further necessary action.

**[Action : Dr. Rahul K, Sci-B, Silkworm Pathology]**

**4.PPS 3600:** Soil health card preparation for mulberry growing soils in E and NE India

**Suggestions:** The PI was advised to prepare the soil mapping using data-base of the project in consultation with Dr. B. N. Ghosh, Principal Scientist, NBSS & LUP-Kolkata and make suitable logical conclusion. Submit the concluded report in the prescribed format (MIS-10) immediately for further necessary action.

**[Action : Dr. V Vijay, Sci-C, Agronomy & Soil Science]**

**5.PPA 3622:** Popularization of high bush mulberry plantation technology in Majuli, river island of the Brahmaputra, Assam

**Suggestions:** The PI was advised to submit the status of plantation C-2028 (flood tolerant) in the Majuli region on periodical basis to the In-charge, Moriculture Division, CSRTI-Berhampore, which are covered under ToT mode. Further, present the mid-term closure report in 51<sup>st</sup> RAC.

**[Action : Dr. P. Kumaresan, Sci-C, RSRS-Jorhat]**

**6.AIB 3614:** Evaluation and identification of suitable bivoltine hybrids for Odisha

**Suggestions:** The PI was advised to analyse the data & interpret the results by considering reeling parameters. Submit the final report in the prescribed format (MIS-10) immediately for further necessary action.

**7.PPA 3613:** Studies on drum kit drip irrigation with Hydrogel on yield and water use efficiency of mulberry

**Suggestions:** The PI was advised to cross-check the data presented. Further, finalize the results in consultation with Shri. Debashish Chakravarty, Sci-D, Moriculture (*wrt* mulberry growth parameters) & Dr. Manjunatha, G. R., Sci-C (*wrt* Economics). Submit the final report in the prescribed format (MIS-10) immediately for further necessary action.

**[Action : Dr. K Alam, Sci-B, RSRS-Koraput]**

**Others:**

In-charge were advised that

- ✓ With the available infrastructure, make the facility for shoot rearing to rear mulberry silkworm dfls of capacity 200 per crop atleast.
- ✓ SBG scientists must plan to utilize the facility available at RSRS-Koraput for any OFT trials
- ✓ Before brushing of any new dfls (Mulberry or non-mulberry), pebrine testing should be conducted, if found any, the dfls should be burnt and the same is recorded.
- ✓ As few new farmers have established mulberry garden in Odisha, the concerned in-charge was advised to arrange four sets of shoot rearing & mountages under TOT program by following guidelines.

**[Action : Dr. K Alam, Sci-B, RSRS-Koraput /Scientists, SBG & Extension]**

**8.Pilot Study:** Studies on the effect of preservation of dried cocoon on reeling efficiency and yarn quality parameters

**Suggestions:** The RC observed that cocoon reeling in Bhaduri crop is not at-all economical as Rendita was very high. In such circumstances, the PI was advised to suggest suitable alternatives or use such cocoons to produce spun silk. Submit the final report in the prescribed format (MIS-10) immediately for further necessary action.

**[Action : Mr. G Mitra, Sci-D, R&S]**

**9.PPF-3585:** Application of GDD as a Model Driver for Developing Mulberry Yield Weather Model

**Suggestions:** The PI was advised to present the above in 51<sup>st</sup> RAC clearly, as suggested in the last RCC meeting.

**[Action : Dr. R Mahesh, Sci-C, Agronomy & Soil Science]**

#### **ITEM NO. 5: REVIEW OF PROGRESS OF ON-GOING PROJECTS/PILOT STUDIES/ ACTIVITIES:**

Following on-going projects/pilot studies/ TOT/ other R&D activities of the main institute & its nested unit were discussed and the suggestions are:

**PIB 3576:** Evaluation of new mulberry GRs for improvement in productivity & quality, the PI was advised to modify/ reframe the objective as suggested in 50<sup>th</sup> RAC.

**PIB 3505:** Development of drought tolerant mulberry variety for rainfed sericulture, the PI was advised to quantify the % improvement over control for appropriate interpretation.

**PRP 08002MI:** Identification of candidate genes based powdery mildew resistance for utilization in disease resistance breeding in mulberry [Coll. of SBRL, Kodathi], the PI was advised to screen the parents submitted to collaborative institute for PM & BLS resistance by employing markers that were validated by Biotechnology section.

**Pilot study:** Development of mulberry crop schedule for optimal silk productivity in WB, the PI was advised to depict the photographs of garden across the season or schedule.

The progress of following projects/ activities was observed to be as per milestone:

- **PIB 3610:** Preliminary evaluation of newly evolved mulberry genotypes for mulberry improvement
- **PIB 3627:** Development of superior mulberry genotypes through Polyclonal Seed Orchard
- **PIE 02002SI:** Evaluation of performance of mulberry genotypes C-9 under red and laterite soil
- All India Co-ordinated Experimental Trial for Mulberry Varieties **AICEM-Phase IV**

**[Action : Dr. K Suresh, Sci-C, MBG]**

**PRP 02003SI:** Studies on the management of mulberry root rot disease in Eastern and North Eastern India, the PI was advised to highlight the number of samples taken into consideration for isolation of root rot pathogen and also highlight pH of solution employed for treating root rot.

**Routine programme** on mulberry pest & disease survey, the incharge(s) are/were advised to send letters to the concerned units to submit the report on periodical basis.

**[Action : Dr. Anil P, Sci-B, Mulberry Pathology & Smt. Radha M B, Sci-B, Entomology]**

**AIB3602:** Development of thermotolerant Bivoltine Breeds / Hybrids of Silkworm through MAS, the PI was advised to complete the work of double hybrids and present the data in 51<sup>st</sup> RAC meeting.

**[Action: Dr. N. Chandrakanth, Sci-C, SBG]**

**AIB 3617:** Identification of region specific bivoltine hybrids suitable for highly fluctuating and seasonally variable climatic conditions of E & NE India, the PI was advised to undertake outcrossing or directional selection to improve SCW of hybrid. Also advised to consider the reeling parameters and finalise the laboratory data.

**[Action: Dr. V. Lakshmanan, Sci-D, SBG]**

**AIB 3616:** On farm trial of the multivoltine silkworm breeds/ hybrids developed for high shell percentage and neatness of silk filament, the PI was advised to maintain the stock of 12Y & M6DPC to supply for P1 rearing, according to the schedules of the indenter from nested units.

**AIB 3619:** Development of silkworm congenic breeds from a gene pool with higher genetic plasticity, the PI was advised to present the breed-wise performance across seasons in all the centers with details of dfls brushed. Breed 12Y & 21Y needs to be challenged for diseases resistance (NPV, IFV, DNV) in association with Silkworm Pathology lab.

**[Action: Dr. A.K. Verma, Sci-D, SBG]**

**ARP3605:** Validation of the DNA markers in silkworm breed developed by introgression of DNA markers associated with NPV resistance using MAS breeding and large-scale field trial of the breed [*DBT funded Coll. SBRL, B'lore, CSR&TI-Mysore & Pampore*], the PI was advised to provide the farmers-wise data/ progress across the crops before finalising the results.

**[Action: Shri G. C. Das, Sci-D & Dr. A.K. Verma, Sci-D, SBG]**

**ARP 3630:** Evaluation of new room and silkworm bed disinfectants, the PI was advised to present clear pictures of physical disintegration upon treatment with new-formulation in comparison with control. Present the data of rearing pertaining to the formulation being employed as bed-disinfectant through spread experiments. The shelf-life of the disinfectant should be determined as advised in the meeting. The IPR process may be started *wrt* formulation identified. Also advised to propose the unique trade name for new formulation to be developed as disinfectant(s).

**[Action : Dr. Rahul K, Sci-B, Silkworm Pathology]**

**AIC 02004CN:** Molecular characterization and assessment of the efficacy of low molecular weight peptides isolated from mulberry leaf against flacherie disease of silkworm (in coll. with UNB Siliguri), the PI was advised to hunt suitable alternative technique to capture low molecular peptides as desalting with phenol method might result in de-proteinization.

**[Action : Ms. Pooja M, Sci-C, Biotechnology]**

**PRE02001SI:** Management of Pink Mealy Bug *Maconellicoccus hirsutus* (Green) of Mulberry with barrier system, the PI was advised to maintain experimental area properly and use spinospad chemical as suggested in 50<sup>th</sup> RAC and procure the same following rule GFR-154 for immediate action.

**[Action : Dr. P. Kumaresan, Sci-C, RSRS-Jorhat]**

**Training**, in-charge was advised to organise the SRC training programmes through SRC owners to achieve the target of CBT for the year 2019-20.

**[Action : Dr. S. Chattopadhyay & Dr. S. Sarkar, Sci-Ds, Training]**

**CPP progress**, the in-charge was advised to take necessary steps/ measures in clusters where the target of 60% could not be achieved.

**[Action : Dr. T D Biswas, & Mr. GC Das, Sci-Ds, Extension]**

The in-charges/ scientists were advised to make necessary efforts to achieve the target under following ToTs for the year 2019-20:

- Mass multiplication and maintenance of bio-control agent – *Scymnus pallidicollis* and its popularization at farmers' level
- Popularization of newly authorized mulberry variety, C-2038/BC<sub>2</sub>59/any
- Popularization of New Silkworm Hybrids
- Demonstration of bio-control agents (*Chrysoperla* & *Scymnus beetles*)
- Popularization of chawki rearing
- Popularization of Collapsible Plastic Montages & shoot Feeding (Shelf Rearing)

[Concerned Scientists]

**General Suggestions:**

- ✓ SRF/JRF/ Project Assistant should be invariably attend monthly & RC meeting.
- ✓ Before presenting the concluded reports to the Director for obtaining comments, the expert evaluation in the form of remarks (within institute) should be presented.

[All Scientists]

The meeting ended with the vote of thanks.

Date: 20<sup>th</sup> Dec 2019

VTV, 20/12/19  
(Dr. V. Sivaprasad)  
Director & Chairperson  
Research Council  
CSRTI-Berhampore

**ANNEXURE -I**

**LIST OF SCIENTISTS/PARTICIPANTS IN THE 52<sup>ND</sup> MEETING OF RESEARCH COUNCIL (RC) HELD ON 06.12.2019 AT CSRTI-BERHAMPORE, WEST BENGAL**

#	Name	Designation
1.	Dr. V. Sivaprasad	Director
2.	Dr. T. Dutta (Biswas)	Scientist-D, Extension & Pub. Division
3.	Dr. V. Lakshmanan	Scientist-D, SBG Section
4.	Dr. S. Chattopadhyay	Scientist-D, Biotechnology/Training Division
5.	Dr. Dipesh Pandit	Scientist-D, PMCE Division
6.	Shri D. Chakravarty	Scientist-D, Moriculture Division
7.	Shri Goutam Mitra	Scientist-D, R & S Division
8.	Dr. S. Sarker	Scientist-D, Training Division
9.	Shri G.C.Das	Scientist-D, Extension & Pub. Division
10.	Dr. Z. Hossain	Scientist-D, RSRS-Kalimpong
11.	Dr. P. Kumaresan	Scientist-D, RSRS-Jorhat
12.	Dr. Manjunatha, G. R	Scientist-C, PMCE Division
13.	Dr. N. Chandrakanth	Scientist-C, SBG Section
14.	Dr. Suresh K	Scientist-C, MBG Section
15.	Ms. P. Makwana	Scientist-C, Biotechnology Division
16.	Dr. R. Mahesh	Scientist-C, Agronomy&SoilSci. Section
17.	Dr. ShafiAfroz	Scientist-C, Extension & Pub. Division
18.	Dr. Anil Pappachan	Scientist-B, Mulberry Pathology Section
19.	Dr. K. Rahul	Scientist-B, Silkworm Pathology Section
20.	Dr. Mihir Rabha	Scientist-B, Silkworm Pathology Section
21.	Dr. Raviraj V.S.	Scientist-B, SBG Section
22.	Dr. ThangjamRanjita Devi	Scientist-B, SBG Section
23.	Dr. Aparna Kopperapu	Scientist-B, Biotechnology Division
24.	Dr. Parameswara Naik.J.	Scientist-B, Training Division
25.	Dr. Deepika Kumar Umesh	Scientist-B, MBG Section
26.	Smt. Radha M B	Scientist-B, Entomology Section
27.	Dr. Harish Babu S	Scientist-B, RSRS-Kalimpong
28.	Mr. K Alam	Scientist-B, RSRS-Koraput