

## **Minutes of 50<sup>th</sup> Meeting of Research Advisory Committee (11<sup>th</sup> July, 2019 at CSR&TI, Berhampore, West Bengal)**

50<sup>th</sup> Research Advisory Committee meeting of CSRTI-Berhampore was held on 11<sup>th</sup> July, 2019 under the Chairmanship of Dr. Chirantan Chattopadhyay, Vice Chancellor, Uttar Banga Krishi Viswavidyalaya, Coochbehar, West Bengal.

At the outset, Dr. D. Pandit, Scientist-D (PMCE) welcomed Dr. Chirantan Chattopadhyay (RAC-Chairman), Dr. V. Sivaprasad (Director), distinguished RAC members, invitees, scientists and other participants. Dr. Chirantan Chattopadhyay, Chairman, RAC in his opening remarks expressed that he is happy to lead the meeting with dedicated & dynamic team. He complimented Director and his team for bringing out crisp & focused agenda for the meeting as well as urged the scientists to focus their work in improving the livelihood of farmers. Further, he congratulated the scientists for their promotions, doctorates and various awards achieved and advised to make continuous efforts for the development of the sericulture industry.

Dr. V. Sivaprasad, Director, CSRTI-Berhampore in his presentation highlighted outcome of R&D projects, new concept proposals, action plan for 2019-20, scientist's achievements and other institutional activities.

List of participants is appended in **Annexure – I**. Thereafter, agenda-wise items were taken up for discussion.

### **ITEM NO.1: Confirmation of the minutes of 49<sup>th</sup> meeting of RAC held on 15<sup>th</sup> Jan., 2019 at CSRTI-Berhampore.**

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

### **ITEM NO. 2: Review of follow-up action taken on the recommendations/ decisions of 49<sup>th</sup> meeting of RAC held on 15<sup>th</sup> Jan., 2019.**

With regard to development of Souro Neer & Suvarna (motorized Charka & solar power water supply system), RAC suggested the PI to explore the possibility of integrating solar power modules in Suvarna to improve efficiency that would also entails availing government subsidies.

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

### **ITEM NO. 3: REVIEW OF CONCLUDED PROJECTS**

Three projects were concluded during the period as per the time schedule. The following suggestions were made:

1. **PPA 3588:** Evaluation of low cost drip fertigation systems on yield and quality of mulberry leaves

RAC advised the PI to estimate the quantity of water & nutrients (NPK) saved per unit area (acre/hectare) as well as costs involved for adopting the improved system against existing method. Further, the PI was advised to formulate ToT programme for the utilization of outcome.

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

2. **AIB-3577:** Evaluation of multivoltine germplasm to identify potential parents for developing cross breeds suitable for Southern and Eastern India

RAC advised the PI to analyze crop-wise data (rearing & reeling traits) and estimate the stability/consistency of breed to identify breeds with stable performance across seasons.

**[Action: Shri G.C. Das, Scientist-D, SWPhy & RTI and BV Cell]**

3. **PPA 3560:** Studies on High Bush mulberry plantation under rainfed condition of Odisha. RAC advised the PI to highlight the quantum of improvement in leaf yield over other spacing(s) and recommend the outcome (8ft x 8ft spacing & high bush plantation) through suitable extension programmes in Odhisa.

[Action: Mr. Kasru Alam, RSRS-Koraput]

#### **ITEM NO. 4: APPROVAL OF NEW RESEARCH PROJECT PROPOSALA**

The following new research proposal was presented by the PI and RAC critically reviewed the proposal. The decisions are as follows:

**Title: Optimization of spacing and nutrient dose for newly developed high yielding mulberry variety (C-2038) under irrigated condition.**

**Duration:** 4 years

**Observation/Suggestion:**

- Include the outcome of project PPA-3588 [75% RDF with drip fertigation] as treatment
- While evaluating yield levels of C2038 with proposed fertilizer dosages, the current yield level of C2038 (55 MT) with existing RDF should be taken as bench mark.

**Decision:** Approved and PI was advised to revise the proposal as per the suggestions & submit to Central Silk Board, Bangalore for necessary approval.

[Action: Dr. R. Mahesh, Scientist-C, Agronomy & Soil Sci. Section]

#### **ITEM NO. 5. REVIEW OF PROGRESS OF ON-GOING PROJECTS**

The progress of following on-going research projects (22 nos.) of nested units and main institute were reviewed by the RAC and suggestions were made are as follows:

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

The thorough review of the project shows that project was not implemented as per envisaged methodology and materials, milestones were not achieved and the progress remains unsatisfactory as of today. The data from single mulberry garden (S1635) might not be useful to draw any logical conclusion. Hence, the PI was advised to submit the midterm closure report and also to popularize flood tolerant mulberry variety, C-2028 at Majuli region in co-ordination with DoS-Assam.

**PRE02001SI: Management of Pink Mealy Bug *Maconellicoccus hirsutus* of Mulberry with barrier system.**

PI was advised to make barrier combinations with Spinosad instead of Chloropyriphos and conduct experiments to achieve the proposed milestones.

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

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

PI was advised to draw inferences from the analysed data; speedup the progress as per milestones and conclude the project by Nov., 2019.

**AIB 3614: Studies Evaluation and Identification of Suitable Bivoltine Hybrid for Odisha.**

PI was advised to analyse crop-wise data (rearing & reeling traits) with help of Dr. V. Lakshmanan, Scientist-D, SBG (CSRTI-Berhampore) for identifying the suitable hybrids.

[Action: Mr. Kasru Alam, RSRS-Koraput]

**PIB 3505: Development of drought tolerant mulberry variety for rainfed sericulture.**

The progress was found to be satisfactory, however the PI was advised to highlight crop-wise yield data.

**PIB 3610: Preliminary evaluation of newly evolved mulberry genotypes for mulberry improvement.**

PI was advised to present the observations utilizing principle component analysis.

**PIB 3576: Evaluation of new mulberry genotypes for improvement in productivity and quality.**

PI was advised to reframe the objectives as per the proposed methodology and conduct stability analysis (AMMI model).

**PIB 3627: Development of superior mulberry (*Morus* spp.) genotypes through Polyclonal Seed Orchard.**

The project progress was found to be satisfactory.

**PIE 02002 SI: Evaluation of performance of mulberry genotypes C-9 under red and laterite soils.**

PI was advised to study the phosphate uptake & utilization by C-9 as laterite soils are usually low in phosphorous.

**PRP 08002MI: Identification of candidate genes based powdery mildew resistance for utilization in disease resistance breeding in mulberry.**

The project was initiated recently and the progress was found to be satisfactory.

[Action: Shri K. Suresh, Sci-C and Shri D. Chakravarty, Sci-D MBG Section]

**PPS 3600: Soil health card preparation for mulberry growing soils in E & North-Eastern India.**

The PI was advised to continue for further soil-mapping with the guidance of Dr. S. Mukhopadhyay, Principal Scientist, ICAR-NBSS&LUP, Kolkata from the data available.

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

**PRP 02003 SI: Studies on the management of mulberry root rot disease in E & NE India.**

The project was initiated recently and the progress was found to be satisfactory.

**AIB-3602: Development of thermo-tolerant Bivoltine Hybrids of Silkworm through MAS.**

The Shell content in the thermo-tolerant lines was on lower side and the PI was advised to adopt appropriate methods to improve the shell.

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

**AIB 3617: Identification of region specific bivoltine hybrids suitable for highly fluctuating and seasonally variable climatic conditions of E & NE India (Phase-II).**

The PI was advised analysing the reasons for low quantitative traits in the identified lines and suggested to resort to outcross method without sacrificing the survival. The manifestation of hybrid vigour should be evident in the proposed new combinations.

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

**AIB 3616: OFT of the MV silkworm hybrids developed for high shell % & neatness of silk filament.**

The PI was advised to provide the details of quantum of dfls distributed for understanding the implications of evaluation.

**AIB 3619: Development of silkworm congenic breeds from a gene pool with higher genetic plasticity.**

The PI was advised to maintain RBL3 lines as such since the targeted traits were already achieved and plan a separate set for further back crossing (RBL4).

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

**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, Bangalore; CSRTI-Mysore & Pampore]**

The RAC suggested for through internal review of the available data and analyse the data as the presentation was not up to the mark.

**AIB-3578: Evaluation of exotic bivoltine silkworm breeds to identify promising parental genetic resources. [Coll. CSGRC, Hosur]**

The RAC suggested for through internal review of the available data and present crop-wise raw data as per the direct and reciprocal crosses. PI was advised for analyse the data as the presentation was not able to convey logical information.

**[Action: Shri Gopal Chandra Das, Sci-D, Silkworm Physiology & RTI and BV cell]**

**PRE-3589: Assessment of designed antimicrobial peptides for mulberry protection against brown leaf spot and root rot: a biotechnological approach.**

The project progress was found to be satisfactory and as per milestones.

**AIC 02004CN: Molecular characterization and assessment of the efficacy of low molecular weight peptides isolated from mulberry leaf against flacherie disease of silkworm.**

The project was initiated recently and the progress was found to be satisfactory.

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

The project progress was found to be satisfactory and as per milestones.

**ARP 3630: Evaluation of new room and silkworm bed disinfectants.**

The PI was advised to utilize the expertise of Dr. Najam Akhtar Shakil, Principal Scientist, Division of Agril. Chemicals, IARI, New Delhi to identify better disinfectant chemicals/substances.

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

**General Comments of RAC Members & Chairperson:**

**Md. Samsul Haque** was happy about participating in the meeting and requested the scientists for intensifying efforts to ensure supply of disease free eggs and develop technologies to enhance income. He pointed out that adoption of shelf rearing improved production of quality cocoons in the field.

**Md. Ebarat Ali** expressed his concerns over dwindling number of reelers and stressed on increasing income of stakeholders.

**Mr. Zakir Hossain** expressed his happiness for participation in the meeting.

**Mr. M.N. Saikia** happy about lot of improvement made to address the gaps for growth and suggested to analyse quality of water used in Souroneer & Suvarna.

**Shri H.K. Hazarika** expressed his happiness for participation and assured DoS-Assam support for the development of sericulture in Assam.

**Smt. Madhumita Choudhury** expressed her happiness in involving R&D discussions & congratulated the Director for [decentralizing CBT programmes of CSRTI-Berhampore](#). She suggested [studying the possibility of recycling the reeling waste water](#).

**Shri Arun Narayan Jaiswal** expressed his happiness to take part in the R&D discussion and appreciated the Scientists efforts. He suggested utilizing more Audio-Video aids for the extension activities.

**Mr. Sourav Majumder** expressed his concerns over the disturbing trend of procuring Nistari seed cocoons at higher prices by industrialists and depriving quality cocoons for seed production.

**Dr. D.C. Ghosh** complimented the scientists for lengthy deliberations and expressed happiness for active discussions between the presentations. He expressed that necessary steps should be taken to maintain quality and quantity of silk production through integrated approach.

**Dr. Somnath Bhattacharya** appreciated the scientists for their deliberations and suggested to present objective-wise outcome in each project.

**Dr. Nirmal Kumar** congratulated the scientists for crisp and focussed presentations. While reflecting on the improvement in yield, monetary benefits of the same should be highlighted. Analysis of concluded projects should be streamlined.

**Dr. V. Sivaprasad** expressed his pleasure in convening the RAC meeting and thanked everyone for smooth conduct of the RAC meeting.

**Dr. Chirantan Chattopadhyay** expressed his happiness for improved and focused presentation with following:

- Focus on improving the livelihood of farmers
- Assess the R&D impact, technology-wise
- Motivate youngsters for innovative ideas
- Focus on value-chain analysis

**[Action: Concerned scientists]**

The meeting was ended with the vote of thanks.

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**Approved**

(Dr. Chirantan Chattopadhyay)  
Chairperson, RAC  
CSRTI-Berhampore

Date:

**ANNEXURE -I****LIST OF PARTICIPANTS IN THE 50<sup>TH</sup> MEETING OF RESEARCH ADVISORY COMMITTEE (RAC)  
HELD ON 11.07.2019 AT CSRTI-BERHAMPORE, WEST BENGAL**

#	Name	Designation
1.	Dr. Chirantan Chattopadhyay, Chairman, Vice Chancellor, Uttar Banga Krishi Viswavidyalaya, Pundbari, Coochbehar, West Bengal.	<b>Chairman</b>
2.	Dr. V. Sivaprasad, Director, CSR&TI, Berhampore	Convenor
3.	Dr. S. Nirmal Kumar, Former Director, CSR&TI, Berhampore	Member
4.	Dr. Dulal Chandra Ghosh, Former Prof. of Agronomy, Viswa Bharati University, WB	Member
5.	Dr. Somnath Bhattacharya, Professor, B.C.K.V. Mohanpur, Nadia	Member
6.	Shri Sourav Majumder, Sc-D, SCST, Malda.	Member
7.	Smt Madhumita Choudhuri, Commissioner, DoS , <b>West Bengal</b>	Member
8.	Shri M.N. Saikia, ACS, Director & Shri H.K. Hazarika, DD, DoS- <b>Assam</b>	Member
9.	Shri Zakir Hossain, Rep. DoS- <b>Bihar</b>	Member
10.	Shri Arun Narayan Jaiswal, Rep. DHS&H- <b>Jharkhand</b>	Member
11.	Md. Samsul Haque, <b>Rearers</b> representative, Nabagram, Murshidabad, WB	Member
12.	Md. Ebarat Ali, <b>Reelers</b> representative, Kajigram, Malda, WB	Member

<b>Absentee:</b>		
1.	Dr. S. Mukhopadhyay, Principal Scientist, ICAR-NBSS&LUP, WB	Member
2.	Director (Tech.) CO, CSB, Bangalore	Member
3.	Director, DOS, <b>Odisha</b>	Member
4.	Director, Directorate of Sericulture, DoS, <b>Mizoram</b>	Member
5.	Director, Directorate of Sericulture, DoS, <b>Chattisgarh</b>	Member
6.	Director, Directorate of Sericulture, DoS, <b>Manipur</b> , Imphal	Member
7.	Director, DoS, Gangtok, <b>Sikkim</b>	Member
8.	Director of Sericulture & Weaving, Government of <b>Meghalaya</b> , Shillong	Member
9.	Director of Handloom, Handicrafts & Sericulture, Govt. of <b>Tripura</b> , Agartala, Tripura	Member
10.	Director of Textiles and Handicrafts, Government of <b>Arunachal Pradesh</b> , Itanagar	Member
11.	Director of Sericulture, Government of <b>Nagaland</b> , Kohima	Member
12.	Director of Sericulture, <b>BTC Assam</b>	Member

**LIST OF SCIENTISTS/ PARTICIPANTS ATTENDED THE MEETING**

#	Name	Designation	Address
1.	Dr. T. Dutta (Biswas)	Scientist-D, Extension & Pub. Division	CSR&TI, Berhampore
2.	Dr. V. Lakshmanan	Scientist-D, SBG Section	
3.	Dr. S. Chattopadhyay	Scientist-D, Biotechnology Division	
4.	Dr. A. K. Verma	Scientist-D, SBG Section	
5.	Dr. Dipesh Pandit	Scientist-D, PMCE Division	
6.	Shri D.Chakravarty	Scientist-D, Moriculture Division	
7.	Shri Gopal Ch. Das	Scientist-D, SW Phy& RTI and BV- Cell	
8.	Shri Gautam Mitra	Scientist-D, R & S	
9.	Mr. Zakir Hossain	Scientist-D, RSRS	Kalimpong, WB
10.	Dr. P.Kumaresan	Scientist-C, RSRS	Jorhat, Assam
11.	Dr. Manjunatha, G. R	Scientist-C, PMCE Division	CSR&TI, Berhampore
12.	Dr. N. Chandrakanth	Scientist-C, SBG Section	
13.	Dr. Suresh K.	Scientist-C, MBG Section	
14.	Dr. V. Vijay	Scientist-C, Agronomy and Soil Sci. Section	
15.	Dr. R. Mahesh		
16.	Dr. Pooja Makwana	Scientist-C, Biotechnology Division	
17.	Dr. Anil Pappachan	Scientist-B, Mulberry Pathology Section	
18.	Dr. K. Rahul	Scientist-B, Silkworm Pathology Section	
19.	Dr. Mihir Rabha		
20.	Dr. Aparna Kopparapu	Scientist-B, Biotechnology Division	
21.	Dr. Parameswara Naik.J.	Scientist-B, Extension Division	
22.	Dr. Raviraj V.S.	Scientist-B, SBG Section	
23.	Dr. Thangjam Ranjita Devi		
24.	Dr. Deepika Kumar Umesh	Scientist-B, MBG Section	
25.	Mr. Yallappa Harijan		
26.	Ms.Immanuel C. Haokip	Scientist-B, Agronomy and Soil Sci. Section	
27.	Mrs. Radha, M. B.	Scientist-B, Entomology Section	
28.	Sri Chandan Maharana	Scientist-B, RSRS	
29.	Dr. Harish Babu		Kalimpong, WB
30.	Shri Khasru Alam		Koraput, Odisha
31.	Shri P.K.Prasad	Dy. Director (Comp.)	CSR&TI, Berhampore
32.	Shri Subrata Sarkar	Technical Assistant, PMCE Division	
33.	Smt. S. Karmakar		
34.	Smt. M. Chattopadhyay		
35.	Smt. Pampa Ghosh		
36.	Ms. T. Naga Teja Shirisha	Steographer, PMCE Division	
37.	Shri Maloy Laskar	JRF, MBG Section	
38.	Shri Sayantan Manna	JRF, Soil Science Section	
39.	Ms. Arunima Banerjee		
40.	Shri Sahadeb Roy	JRF, SBG Section	