

**MINUTES OF THE 49th RESEARCH COUNCIL MEETING HELD DURING 15th - 16th,
NOVEMBER, 2018 AT CSR&TI, BERHAMPORE, WEST BENGAL**

The 49th Research Council meeting of CSR&TI, Berhampore was held during 15th - 16th November 2018 to review the progress of on-going, concluded research projects/ programmes of the Main Institute and considering new research project/ programme proposals submitted by the scientists. The meeting was presided over by Smt. Chandana Maji, Director (I/C), and the Chairperson, Research Council (RC), CSR&TI, Berhampore.

At the outset, Dr. D. Pandit, Scientist-D (PMCE) welcomed Director (I/C) & the Chairperson, RC, Scientists and other participants of the Institute. He requested the Chairperson to address the scientists and take up the agenda for discussion.

Smt. Chandana Maji, Director (I/C), welcomed all participant scientists & staff in the meeting. She requested all the scientists to interact freely for better implementation of research activities in the Institute. Then, agenda-wise discussions were taken-up for discussion.

The list of the participants is appended in **Annexure - I.**

ITEM NO. 1: CONFIRMATION OF THE MINUTES OF THE 48th RESEARCH COUNCIL MEETING HELD DURING 26-28th JUNE, 2018.

Since no comments received, the minutes were confirmed.

ITEM NO.2: REVIEW OF THE FOLLOW UP ACTION TAKEN ON THE DECISION OF THE 48th RESEARCH COUNCIL MEETING HELD DURING 26-28th JUNE, 2018.

Regarding the **quality control analysis of the developed products** of the Institute, the concerned sectional in-charges were advised to test the quality control parameters' of the developed products once in a year by out sourcing. Further, purchasing and maintaining high end equipment like HPLC and GCMS for this purpose may be dropped at this level as it will not be cost effective. In addition, concerned in-charges were also directed to identify the new parties/agencies and negotiate with them for commercialization of the developed products by this Institute.

[Action: Shri Rahul. K., Sci-B, Silkworm Pathology and Dr. A. Pappachan, Sci-B, Mul. Pathology]

Regarding long pending of **procurement of farm machineries** for Agronomy & Soil Sci. Section, Shri. S. Ghosh, AD (Store) assured to execute the purchase of the same immediately. In this context, the house also advised Dr. Mahesh to pursue the matter with the In-charge, Store for procurement of the same.

[Action: Dr. R. Mahesh, Sci-B, Agronomy & Soil Sci. Section and In-charge, Store Section]

Regarding the II-phase of **concluded project AIB 3547: "Development of high temperature and high humidity tolerant bivoltine breeds of silkworm (*Bombyx mori* L.)"**, the PI was advised to submit the project proposal immediately and present the same in forthcoming RAC for further necessary action.

[Action: Dr. N. Chandrakanth, Sci-B, SWPhy & RTI Section]

Regarding the II-phase of **concluded project AIB 3514: "Development of multivoltine based congenic/ NIL breed of silkworm (*Bombyx mori* L.) through introgression of "Id" gene and its uses"**, the PI was advised to submit the project proposal immediately and present the same in forthcoming RAC for further necessary action.

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

Regarding “**Seri Model Village**” and “**Adarsh Resham Gram**”, the concerned PI(s) were advised to submit the details of published/ communicated success stories under these programmes in New & Views/ Resham Barta / Indian Silk/ others.

[Action: Dr. T. Dutta (Biswas), Sci-D, Extn. Division]

For the **concluded project AIT 3557**: “*Multi locational field Trial on transgenic Bm NPV resistant Silkworm strains to establish their efficacy and generate data for their regulatory Approval*” (Project Period : Jan., 2016 to Aug., 2017), the PI directly submitted concluded report to Central Office, Bangalore without routing through PMCE division. He was requested to submit the copy of the concluded report to PMCE Division for record purpose. The same was again intimated to the PI vide letter No. CSB / CSRTI / PMCE/ C-2/2018-19/1197-1199 dt.09.10.2018 requesting to submit a copy. The house advised him to submit a copy within 10 days to the PMCE, Division, as PI committed.

The concerned section did not organize the bio-safety meeting so far. After a long discussion, the house and concerned section l/cs were decided to drop the organization of a bio-safety meeting at institute level.

[Action: Shri G.C. Das, Sci-D, SWphy RTI & Bv. Cell]

Regarding **two new project proposals** (approved at CO level) such as 1. *Validation of management of mulberry root rot caused by Fusarium solani (II Phase)* and 2. *On-farm evaluation of foliar application of seaweed extract for improvement of quality and yield of mulberry (II Phase)*, the PI was advised to present in the forthcoming RAC and initiate these projects along with code number within March 2019, positively, for achieving RFD score of the institute in this aspect.

On the basis of **approved concept note** of the project entitled “*Identification of mulberry phylloplane microbes and leaf endophytes for management of leaf spot diseases*”, the PI was advised to submit full proposal for obtaining referee comments and follow the other protocol for final implementation of the project.

[Action: Dr. Anil Pappachan, Sci-B, Mul. Patho. Sec]

Regarding **new project proposal** entitled, “Evaluation of spacing and Fertilizer levels on Yield and Quality of Newly Developed Mulberry Variety (C-2038)”, the PI was advised to reply to the comments made by RCS, CO, Bengaluru at the earliest.

[Action: Dr. R. Mahesh, Sci-B, Agro. & Soil Science Sec.]

Regarding **new project proposal (concept note)** entitled “Evaluation of *Morus Sp.* S-1635 shoot water extract for prophylactic activity in silkworm B.Con.1 x B.Con.4”, the PI was expressed his limitations as follows:

- ✓ As mulberry shoot extract contains compounds with insecticidal activity (Eg. Saponins, which also have antiviral activity) and many other unwanted or unknown compounds, therefore, for analyzing the components, purification of desired compounds and to maintain the quality, equipments like GC-MS, HPLC-MS would be required, in which I don't have expertise.
- ✓ Besides that it would be very costly and perhaps won't serve the purpose of developing low cost product for sericulture farmers.

On this, after threadbare discussion, the house was decided to drop the proposal at this level. Further, the house suggested Dr. Vijay to submit a new research proposal related to soil microbiology. He was advised to consider utilizing the facilities of Biotechnology lab while framing the proposals.

[Action: Dr. V. Vijay, Sci-B, Agro. & Soil Science Sec.]

Regarding concluded project “**ARP 3522**: Isolation, Cloning and Characterization of Antibacterial Protein (s) from Silkworm, *Bombyx mori*”, the PI was advised to expedite to take II phase of this project for the utilization of its outcome (Culturing of *Pichia pastoris* for large scale production) in consultation with the collaborator at SBRL.

[Action: Shri. K. Rahul, Sci-B, SW Patho. Section]

ITEM No.3: CONSIDERATION OF NEW PROJECTS:

No new project proposals were placed for discussion.

ITEM No.4: REVIEW OF CONCLUDED PROJECTS:

No concluded projects/ programmes/ pilot study were placed for discussion.

ITEM No. 5: REVIEW OF THE PROGRESS OF THE ONGOING RESEARCH PROJECTS/ PROGRAMMES OF THE MAIN INSTITUTE:

Progress of ongoing research projects/ prog./ pilot study of different sections of the Institute was reviewed critically and suggestions/ recommendations were as follows:

MULBERRY BREEDING & GENETICS SECTION:

Progress of following **05** ongoing research projects and **01** program was reviewed.

- **PIB 3505**-Development of Drought Tolerant Mulberry variety for Rainfed Sericulture [*Collaborative project with CSGRC, Hosur*],
- **PIC 3554**-Candidate gene based molecular marker(s) for screening promising recombinants in mulberry,
- **PIB 3576**-Evaluation of New Mulberry Genotypes for Improvement in Productivity and Quality
- **PIB 3610**-Preliminary evaluation of newly evolved mulberry genotypes for mulberry improvement
- **PIB-3627**-Development of superior mulberry (*Morus* spp.) genotypes through polyclonal seed orchard.
- **BPI (P) 025**- Maintenance of Mulberry Germplasm Bank at CSR&TI, Berhampore (WB)

Regarding **PIB 3505**, as existing photosynthetic system (electronic scientific instrument for non-destructive measurement of *photosynthetic* rates in the field) is not repairable; the house suggested to procure a new instrument following necessary purchase procedure for the record of photosynthetic related parameters in the project. Further, the house agreed to go with ARBD in place of proposed lattice design, as requested by the PI.

Regarding **PIC 3554**, the PI was advised to conclude the project within stipulated time and present the same in the forthcoming RAC. As per the request of SBRL Kodathi, the chairperson nominated Shri. K. Suresh, Scientist-B as Mulberry breeder for the part of this work under the new project proposal entitled "*Identification of candidate genes based powdery mildew resistance for utilization in disease resistance breeding in mulberry*". Accordingly, Shri. Suresh is advised to take necessary action in relation to the same.

[Action: Shri. K. Suresh, Sc-B]

Regarding **BPI (P) 025**, the PI was advised to conclude the routine programme as per its milestones and propose a new program to initiate from Jan., 2019.

[Action: Shri. D. Chakravarty, Sc-D]

Otherwise, the progress of projects/programme was found as per the milestones.

AGRONOMY AND SOIL SCIENCE SECTION:

Progress of following **03** ongoing research projects was reviewed.

- **PPF 3585**- Application of Growing Degree Days as a model driver for developing mulberry yield weather model
- **PPA 3588**- Evaluation of Low Cost Drip Fertigation Systems on Yield and Quality of Mulberry Leaves
- **PPS 3600**- Soil health card preparation for mulberry growing soils in Eastern and North-Eastern India.

Regarding the project **PPF 3585**, the PI was advised as follow:

- ✓ To arrange low cost fencing to avoid damage of drip laterals by Jackals in the experimental plot.

- ✓ Use appropriate terminology as stem yield in place of shoot yield because the data reflects only stem weight and not leaf & stem.
- ✓ Final inference from the project under the period of study should be reflected in line with the objectives proposed.
- ✓ Conclude as per the milestones of the project and present in the forthcoming RAC.

Regarding the project **PPA 3588**, the PI was advised to make necessary efforts to bring the existing drum kit drip irrigation system into working condition at RSRS Jorhat.

[Action: Dr. Mahesh. R., Sci-B]

Otherwise, the progress of projects found as per the milestones.

MULBERRY PATHOLOGY SECTION:

Regarding routine programme **B-PRP(P) 45**, the PI was advised to make efforts to obtain data (mulberry disease and weather parameters) from other units involved in the programme. Besides, the programme found as per the milestones.

[Action: Dr. Anil Pappachan, Sci-B]

SILKWORM BREEDING AND GENETICS SECTION:

Progress of following **04** ongoing research projects and **01** ongoing programme was reviewed.

- **AIB 3602-** "Development of thermo-tolerant bivoltine breeds / hybrids of silkworm, *Bombyx mori* L through marker assisted selection"
- **AIB 3617-** "Identification of region specific bivoltine hybrids suitable for highly fluctuating and seasonally variable climatic conditions of eastern and North-Eastern India (Phase-II)"
- **AIB 3616-** "On farm trail of the multivoltine silkworm breeds/hybrids developed for high shell percentage and neatness of silk".
- **AIB 3619-** "Development of silkworm *Bombyx mori* L. Congenic breeds from a gene pool with higher genetic plasticity (Phase-II)
- **BAI(RP) 003-** "Maintenance of multivoltine and bivoltine germplasm", were reviewed and progress was as per the milestones.

Regarding the project **AIB 3616**, the PI was advised to increase the number of dfls under study for better comparison between farmers and sub units' data using statistical analysis.

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

Progress of remaining projects and programme was found as per the milestones.

SILKWORM PHYSIOLOGY & RTI AND BV CELL*:

Progress of following **03** ongoing collaborative research projects was reviewed.

- **ARP 3605-** "Validation of the DNA markers in silkworm breed developed by introgression of DNA markers associated with NPV resistance using Marker Assisted Selection breeding and large scale field trial of the breed" [DBT funded Collaborative Project with Seri biotech Research Laboratory (SBRL), Bangalore, CSR&TI, Mysore & CSR&TI, Pampore]
- **AIB 3577-** "Evaluation of multivoltine germplasm to identify potential parents for developing cross breeds suitable for Southern and Eastern India."
- **AIB 3578-** "Evaluation of exotic bivoltine silkworm breeds to identify promising parental genetic resources"

Regarding the project **AIB 3605**, the PI was advised that

- ✓ Before testing dfls of any new hybrids at field level, prior consultation / discussion should be made with the Director.

- ✓ Before distributing dfls of any new hybrids, mulberry leaf of the farmers should be assessed, accordingly dfls to be supplied to him/her.
- ✓ During testing of new hybrids, the concerned PI must ensure proper monitoring/ survey of the crop at every starting from incubation of dfls.
- ✓ Depending upon the actual performance at the field level, further decision may be taken up for continuation of the project (distribution of dfls in subsequent crops).

Regarding the project **AIT 3577**, the PI was advised to consider both rearing and reeling data for suitable Indexing. Further, PI was again advised to consider the local M x B silkworm hybrid N x (SK6 X SK7) as a control for comparison with other M X B silkworm hybrid.

Regarding the project **AIB 3578**, the PI was advised to consider the local bivoltine silkworm hybrid B.Con1 x B.Con4 as a control for comparison with other bivoltine silkworm hybrids.

In addition, the in-charge was advised to make effective efforts to achieve the target of BvCPP of E & NE zone of India for 2018-19, otherwise the progress of the projects and programme was found to be as per the milestones.

(*Note:: The progress of above projects and BvCPP was reviewed on 19.11.18 (A/N) as the in-charge was on tour for audit during 15-16.11.18.)

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

SILKWORM PATHOLOGY SECTION:

Progress of following **02** ongoing research projects and **01** ongoing routine programme was reviewed.

- **ARP 3590**- "Studies on the efficacy of phototrophic bacterial extracts as feed supplement for management of diseases in silkworm, *Bombyx mori* L"
- **ARP 3630**- "Development of room and silkworm bed disinfectant through screening of potential chemicals"
- **BAR (RP) 021**- "Survey, surveillance and monitoring of silkworm diseases in seed and commercial crops in Eastern and North Eastern India. (*In collaboration with RSRSSs, RECs, DoS and NSSO*)"

Regarding routine programme **BAR (RP) 021**, the PI was advised to take necessary steps to obtain data of silkworm disease along with weather parameters timely from other units (CSB & DoS) involved in the programme. Otherwise, the programme was found to be as per the milestones.

[Action: Mr. K. Rahul, Sci-B]

ENTOMOLOGY SECTION:

Progress of following **01** ongoing routine programme and **01** ToT programme was reviewed.

BAR (RP) 022- "Survey and Surveillance of Mulberry Pests in the Eastern and North Eastern regions of India"

TOT Prog.- "Mass multiplication and maintenance of biocontrol agent – *Scymnus pallidicollis* and its popularization at farmers' level"

Regarding routine programme **BAR (RP) 022**, the PI was advised to make necessary efforts to obtain data of mulberry pest along with weather parameters timely from other the units involved in the programme. Besides, the programmes were found to be as per the milestones.

[Action: Dr. S. Chanda, Sci-D]

BIOTECHNOLOGY DIVISION:

Progress of following **02** ongoing research projects was reviewed.

- **PIB-3548**- Evaluation of bacterial leaf spot resistant improved progenies of mulberry for field utilization
- **PRE 3589**- Assessment of designed antimicrobial peptides for mulberry protection against brown leaf spot and root rot: a biotechnological approach

Regarding the project **PIB 3548**, the PI was advised to conclude as per milestones and present in the forthcoming RAC.

Beside, progress of the projects was found to be as per the milestones.

[Action: Dr. Soumen Chattopadhyay, Sci-D]

REELING AND SPINNING DIVISION:

Progress of **Pilot study**: "Studies on the effect of preservation of dried cocoon on reeling efficiency and yarn quality parameter" was reviewed and found to be as per the milestones.

[Action: Mr. N. B. Kar, Sci-D]

EXTENSION AND PUBLICITY DIVISION:

Progress of extension activities and following **02** ongoing extension programmes was reviewed.

- **B-MOE(P)-44**: Adarsh Swachh Resham Gram Project at Mallickpur-Diara Village
- **BMOE(P)-043**: Seri Model Village

The In-charge of Extension Division was advised to take necessary action to achieve the target of all the extension related activities for the period 2018-19. Further, it was suggested to submit brief compiled report on extension activities for ensuing RAC meeting.

[Action: Dr. T. Dutta (Biswas), Sci-D]

TRAINING DIVISION:

The activities of HRD under structured and non-structured courses found to be as per the milestones.

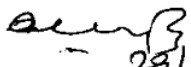
[Action: Smt. C. Maji, Sci-D]

General comments:

1. All the PIs of the Project / Programmes / Pilot Study should maintain a register for different project activities (results, expenditure in detail etc).
2. Concluded reports of the Project / Programmes / Pilot Studies should be submitted in the prescribed format *with RAC & Directors comments* immediately after completion of the same for onward transmission to Central Office, Bangalore.
3. All PIs of the Project / Programmes / Pilot Studies were advised to submit the progress reports (monthly / quarterly / yearly) and concluded report in quantifiable forms.
4. The PIs may not present the routine programmes (not coded by C.O.) [e.g. Germplasm maintenance, Survey Surveillance etc] in RAC meeting.
5. Before placing any new concept notes to the RC, it should be routed through PMCE for obtaining comments of RC committee. Thus, both hard and soft copy of same has to be submitted atleast before 20 days before RC meeting.
6. All Scientist are advised to participate in all Research forum meetings/ discussions without fail.
7. Change of PI or CI in the project(s) should be placed before the RC/RAC for necessary perusal and approval.

[Action: Scientists / P.I. / In-charges and All concerned]

Meeting ended with a vote of thanks to the Chair and all the participants.


 Director (I/C) & Chairperson,
 Research Council
 CSR&TI, Berhampore

Annexure - I**List of the participants attended the Research Council meeting held during 15-16, Nov., 2018 at CSR&TI, Berhampore**

1. Smt. C. Maji, Scientist-D, Director (I/C), CSR&TI, Berhampore – **Chairperson, Research Council**
2. Mr. B. C. Ray, Scientist-D, Silkworm Pathology Section, CSR&TI, Berhampore
3. Dr. (Mrs.) S. Chanda, Scientist-D, Seri. Division (Entomology Section), CSR&TI, Berhampore
4. Mr. Gautam Mitra, Scientist-D, R & S Division, CSR&TI, Berhampore
5. Dr. (Mrs.) T. Dutta (Biswas), Scientist-D, Extn. and Pub. Division, CSR&TI, Berhampore
6. Dr. Lakshmanan Velusamy, Scientist-D, SBG Section, CSR&TI, Berhampore
7. Dr. S. Chattopadhyay, Scientist-D, Biotechnology Division, CSR&TI, Berhampore
8. Dr. A. K. Verma, Scientist-D, SBG Section, CSR&TI, Berhampore
9. Dr. D. Pandit, Scientist-D, PMCE Division, CSR&TI, Berhampore
10. Shri. D. Chakravarty, Scientist-D, Mori Division, CSR&TI, Berhampore
11. Shri Gopal Chandra Das, Scientist-D, RTI & BV Cell, CSR&TI, Berhampore
12. Dr. V. Vijay, Scientist-B, Agronomy & Soil Sci. Section, CSR&TI, Berhampore
13. Dr. Manjunatha G.R., Scientist-B, PMCE Division, CSR&TI, Berhampore
14. Dr. R. Mahesh, Scientist-B, Agronomy & Soil Sci. Section, CSR&TI, Berhampore
15. Shri Suresh, K, Scientist-B, MBG Section, CSR&TI, Berhampore
16. Dr. Anil Pappachan, Scientist-B, Mul. Pathology Section, CSR&TI, Berhampore
17. Dr. N. Chandrakanth, Scientist-B, SBG/ RTI & BV Cell Section, CSR&TI, Berhampore
18. Shri Rahul, K, Scientist-B, Silkworm Pathology Section, CSR&TI, Berhampore
19. Shri. Ghosh Subhasis, AD (Store), CSR&TI, Berhampore
20. Shri. Sasanka Sekhar Das, Superintendent(Store) , CSR&TI, Berhampore
21. Shri. Kishalay Bhadury, Asst. Superintendent(Store) , CSR&TI, Berhampore
22. Shri. Uttam Kumar Mandal, Tech. Asst, Store, CSR&TI, Berhampore
23. Shri Pradip Banerjee, Tech. Asst, PMCE, CSR&TI, Berhampore