

Minutes of 55th Meeting of Research Council (3rd Sept 2020 at CSRTI-Berhampore, West Bengal)

55th Research Council meeting of CSRTI-Berhampore was held on 3rd Sept 2020 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. Later, agenda-wise items were discussed. List of participants is appended in **Annexure – I**.

ITEM NO.1: Confirmation of the minutes of 54th meeting of Research Council (RC) held on 7th July 2020 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 54th meeting of Research Council (RC) held on 07-07-2020

Regarding the project proposal titled **Final Yield Trial of newly identified mulberry genotypes**, the PI was advised to present in the Next RAC based on the recommendation of referees.

The RC approved concept entitled **Development of *Morus* mutants for resistance to Thrips & Whiteflies**, the PI was advised to submit the full concept to PMCE (CSRTI-BHP) on or before **30.09.2020** for further approval from CO.

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

With regard to concept note **CSB/BER/RCN017: 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 take necessary action accordingly.

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

The approved pilot study entitled **Biology and feeding efficacy studies of *Cheilomenes sexmaculatus* and *Chrysoperla zastrowi sillemi* predator for the eco-friendly management of mulberry whitefly**, the PI was advised to submit the final copy on or before **19.09.2020** & initiate the work on BCA for whiteflies management in mulberry.

[Action : Smt. Radha, MB, Sci-B, Entomology; on transfer to SSPC-Ramanagaram]

Regarding concept note entitled **Development of IFS model for livelihood security of farmers in the hilly regions of Kalimpong District**, the PI was advised to recast & submit the full concept to the PMCE (CSRTI-BHP), but the same has not been submitted by concerned scientist. Hence, once again it is advised to submit on or before **30.09.2020**, positively.

[Action : Dr. Harish Babu S., Sci-B & Mr. Zakir Hossain, Sci-D, RSRS-KPG]

The conclude projects **PIB-3610 & AIB-3619**, the PIs were advised to submit the concluded report in RMIS-10 format on or before **30.09.2020**.

[Action: Dr. K Suresh, Sci-C, MBG & Dr. A K Verma, Sci-D, SBG]

The concluded projects during 2019-20 & 2020-21 like **ARP-3590, PPS-3600, PPA-3622, AIB-3614, PPA-3613, AIB-3616, PIB-3505, AIB-3617, AIB-3619, PIB-3610, PIB-3576** and **pilot studies**, the PIs were advised to publish their results in peer reviewed Journals on priority basis.

[Action : Concerned Scientists]

Routine programme on mulberry pest & disease survey and silkworm diseases monitoring, the incharge(s) are/were advised to send letters to the concerned units on regular basis to submit the incidence (pest/disease) data.

[Action : Concerned Scientists, Mulberry & Silkworm Protection]

ITEM NO. 3: Review of Concluded Projects/ Activities

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

1. ARP 3605: 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. (Coll. of SBRL-Kodathi),

Suggestions: The PI was advised to present the results with details on frequency distribution [crop-wise including sample size of farmer per crop, % deviation from control breed, % crops failed etc.] for logical conclusion. Further, reeling parameters should be included while inferring the results. Also advised to submit the concluded report in RMIS-10 format at the earliest and present the project outcome in 52 RAC for review & recommendation.

[Action: Mr. G C Das, Sci-D, SEEM & Dr. Chandrakanth, Sci-C, SBG]

2. PIB 3576: Evaluation of New Mulberry Genotypes for Improvement in Productivity & Quality improvement

Suggestions: The PI was suggested to evaluate the identified genotypes (best two) further under OFT at high altitude regions viz., Kalimpong, Pampore etc, as they are more suitable to temperate conditions. Further, advised to submit the final report in RMIS-10 format at the earliest. Present the project outcome in 52 RAC for review & recommendation.

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

ITEM NO. 4a: APPROVAL OF NEW RESEARCH PROJECTS/ CONCEPTS FOR CSB FUNDING

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

1. Title: FYT of high yielding mulberry genotypes for E & NE India

Observation/Suggestion: Approved; the PI was advised to execute the proposal with top most genotypes identified in the concluded projects PIB-3505 & PIB-3610 using PCA index, as presented. Further, one more genotype for FYT may be considered as its yield potential observed >19%. FYT should be executed under 3'x3' spacing only. Submit the full proposal as per the RMIS format to PMCE within a month for further course of approval.

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

2. Title: Prototype for developing biodynamic preparation using silkworm feculae

Observation/Suggestion: Approved & re-present; the PI was advised to attend the following suggestions and re-present the same for consideration in the next monthly meeting.

- Highlight the composition of silkworm feculae/moth/pupae with others dungs/wastes (pre & post decomposition) for better understanding
- Various sources of legumes should be considered as a variable for standardization process of biodynamic preparation
- Objectives and title should be modified with clarity on expected outcome

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

3. Title: Development of general prophylactic fungicidal and insecticidal application for mulberry protection

Observation/Suggestion: Approved; the PI was advised to attend the following suggestions and submit the CN to CSB for approval.

- Modify the title as "Recommendation of novel fungicidal & insecticidal applications for mulberry crop protection"
- In-depth study on bio-compatible fungicides already under use in other crops may be necessary
- Modify the objective as suggested in the RC

[Action: Dr. Anil Pappachan, Sci-C, Mulberry Pathology]

4. Title: Microbial Technology for Management of Mealybug in Mulberry Ecosystem

Observation/Suggestion: Approved & re-present; the PI was advised to attend the following suggestions and re-present the same for consideration in the next monthly meeting.

- List out wax degrading bacteria & sources
- Justify, how the wax degrading bacteria will not affect the epicuticular wax coating on mulberry leaf
- Refer pertinent studies on bee wax formation in apiculture

[Action: Mr. Aparna K, Sci-B, Biotech]

5. Title: Comparative Economics of Mulberry Silkworm and Major Agricultural crops in West Bengal

Observation/Suggestion: Approved; the PI was advised to attend following suggestions and submit the CN to CSB for approval.

- Modify the title as "Comparative Economics of Mulberry Sericulture with Major Agricultural crops in WB"
- Roles and Budget details should be clearly highlighted with CSRTI-BHP & BCKV-Mohanpur

[Action: Dr. Manjunatha G R., Sci-C, PMCE]

ITEM NO. 4b: APPROVAL OF NEW RESEARCH PROJECTS/CONCEPTS FOR EXTERNAL FUNDING

The following six concepts/proposals were critically discussed and are ratified (as ex-post facto as they were already discussed in the July monthly meeting) to explore funding from external agencies, as the last date of submission of these proposals/concepts were on last week of Aug 2020.

DST-JSPS:

- Characterization of Mulberry Silkworm Mutants for Tolerance to Flacherie Syndrome Through Genome Editing Tools - Dr. Sivaprasad V/Dr. Rahul K, Sci-C & Collaboration with Tokyo University and Yamaguchi University (Japan)

DBT-BIRAC:

- Popularization of NIRMOOL- An Eco-friendly and Economical General Disinfectant for Sericulture in E & NE India - Dr. Rahul K., Sci-C
- Antifungal peptide AFP-2 mediated suppression of *Myrothecium* leaf spot and *Fusarium* root rot of mulberry: a field level assessment - Dr. Pooja Makwana, Sci-C
- A novel, rapid and inexpensive soil microbial activity test for soil health monitoring - Dr. Aparna K, Sci-B

DBT-NE:

- Seri Entrepreneurship Development in Aspirational districts of North Eastern India
- Dr. Parameshwarnaik J., Sci-B

NABARD:

- Sericulture-Chawki business in Murshidabad (West Bengal) : Development of Seri-Entrepreneurship
- Dr. Shafi Afroz, Sci-C

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:

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

- **PIE 02002SI:** Evaluation of performance of mulberry genotypes C-9 under red and laterite soil
- **PIB 02007 SI:** Improvement of mulberry leaf longevity in eastern & north eastern states of India
- **PPA 02005SI:** Optimization of spacing and nutrient dose for newly developed high yielding mulberry variety C-2038 under irrigated condition
- **AIB-3602:** Development of thermo-tolerant Bivoltine Breeds / Hybrids of Silkworm, through MAS
- **AIB01009MI:** Evaluation of New Bivoltine Double Hybrid, TT21 X TT56 at Farmers Level for Authorization for Commercial Exploitation (*Coll. Project of CSRTI-Mysore*)
- **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)
- **AIT 08005MI:** Development and evaluation of Bidsenovirus resistant silkworm hybrids developed from marker assisted breeding lines-Phase II (Coll. of SBRL- Kodathi)
- **TOT/OFT:** Mass multiplication and maintenance of biocontrol agent – *Scymnus pallidicollis* and its popularization at farmers' level / Demonstration of BCA
- **OFT:** Popularization of newly authorized mulberry variety C-2038
- **OFT:** Evaluation of BHP double hybrids along with check
- **OFT:** Popularization of Collapsible Plastic Mountages & shoot feeding
- **OFT:** Popularization of chawki rearing

- **OST:** Evaluation of Thermo-tolerant Double hybrids along with check
- **OST:** Evaluation of high yielding & bacterial leaf spot resistant varieties along with check
- **OST:** Validation of eco-friendly disinfectant NIRMOOL
- **OST:** Low cost drip fertigation for mulberry

AICEM-Phase IV, the PI/co-ordinator was advised to facilitate establishment of drip irrigation at Boswa farm (DoT-WB) and also at Ambarifalkatta (NSSO) as per the guidelines of AICEM-IV without any deviation. Further, fund may be transferred through RSRS-Kalimpong for the purpose at Ambarifalkatta. Besides, experimental garden at all the centres should be maintained proper shape & keep minimum crown height of mulberry plantation at 1 feet.

[Action: Dr. Soumen Chattopadhyay, Sci-D, Moriculture & Mr. Zakir Hossain, Sci-D, RSRS-KPG]

Pilot Study: Development of mulberry crop schedule for optimal silk productivity in West Bengal, the PI was advised to present at least two seasons' data for logical conclusion.

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 maintain mapping population for powdery mildew & infection studies as per the milestones of the project.

PIB 3627: Development of superior mulberry genotypes through Polyclonal Seed Orchard, the PI was advised to develop a protocol for selection of mulberry seedlings raising from PSO seeds. Also present the number of days required to transfer from seedlings to main field. The new in-charge should decide & allot project activity appropriately to the concerned scientist after relief of existing in-charge, Mr. Debhashis Chakravorty, Sci-D from CSB service (VRS).

[Action: Dr. K Suresh, Sci-C, MBG/ Dr. Soumen Chattopadhyay, Sci-D, Moriculture]

PRP 02003SI: Studies on the management of mulberry root rot disease in E & NE India, the PI was advised to execute the project work paused at field without further delay.

[Action: Dr. Anil P, Sci-C, Mulberry Pathology]

AIB 02006 MI: Improvement of Nistari lines for survival and Silk productivity, the PI was advised to put more efforts to discriminate existing Nistari GRs for MAS. Also, re-sequencing of Nistari lines should be undertaken at the earliest.

[Action: Dr. T. Ranjita Devi, Sci-B, SBG/Dr. Rahul K, Sci-C, Silkworm Pathology]

AIE06002MI: Evaluation of Bivoltine Silkworm Genetic Resources for Tolerance to Abiotic Stress in Selected Hotspots (*Coll. Project of CSGRC-Hosur*), the RC decided to consider Dr. Raviraj, Sci-B (SBG) as CI in place of Mr. G C Das, Sci-D (Extension). Accordingly, the PI (CSRTI-BHP) was advised to inform the same to collaborator at an earliest and initiate the work as committed in the project.

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

AIT 02008 SI: Identification of high humidity tolerant silkworm breeds/hybrids for E & NE India, the PI was advised to present an inheritance pattern of the high humidity marker and also linkage/associated characters with it. Further, advised to identify the markers status (Py3 & TT) in existing BV and MV GRs along with BFC2 by pool sampling technique.

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

OFT: Popularization of new silkworm hybrids, the concerned scientist is advised to indent for Uzi traps (10 nos.) either from CSRTI-Mysore or ICAR-NAIB-Bangalore for management of uzi-fly incidence and keep ready in stock as Uzi infestation was observed in Shravani crop of West Bengal.

[Action: Dr. A K Verma, Sci-D, SBG/ Dr. Anil Pappachan, Sci-C]

ARP 3630: Evaluation of new room and silkworm bed disinfectants, the PI was advised to present the results of ERR% by performing % improvement over control along with ANOVA for arriving logical conclusion among bed-disinfectant formulations.

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

OFT: Demonstration of modifies charka (Suvarna) + Souroneer, the concerned was advised to initiate the OFT activity without much delay.

[Action : Mr. G. Mitra, Sci-D, PCT]

Training & Extension activities, in-charge(s) were advised to initiate the activities to achieve the set targets of the concerned for the year 2020-21 immediately strictly adhering to the statutory guidelines for the prevention of COVID-19. The trainees may be provided with mask and sanitizer for attending the programme to prevent spread of COVID.

**[Action : Dr. S. Sarkar, Sci-D, Training
& Dr. T D Biswas, SEEM]**

General Points:

- The Co-investigators are advised to involve more actively with regard to execution of project activities and set targets. Co-PI should present the results of their works in the concerned projects in the next monthly meeting.
- The Scientists were advised to implement the R&D project and Approved programmes with due diligence to budgetary aspects; also advised to minimize the expenditure on non-essential items
- More qualitative and subject-oriented monthly progress reports were solicited
- The field trials/OFT/OST should contain the frequency distribution of yields over the control and maintain the individual data farmer-wise/crop-wise

[Concerned Scientists]

Dr. V. Sivaprasad, in his closing remarks, appreciated the efforts of scientists in submitting the new concepts for external funding as well as CSB. Further, Chairperson advised the scientists to publish actively in the form of research articles/book chapters on quarterly basis. Besides, the scientists were also advised to apply for **Research Internship Programme** being offered by SERB (ABHYAS)-DST under the Skill Development Programme for the benefit of academic students in Eastern & North-Eastern states.

The meeting ended with the vote of thanks.

Date: 16th Sept 2020

VMS 16/09/20
(Dr. V. Sivaprasad)
Director & Chairperson
Research Council
CSRTI-Berhampore

ANNEXURE -I**LIST OF SCIENTISTS/PARTICIPANTS IN THE 55TH MEETING OF RESEARCH COUNCIL (RC) HELD ON
03.09.2020 AT CSRTI-BERHAMPORE, WEST BENGAL**

#	Name	Designation
1.	Dr. V. Sivaprasad	Director
2.	Dr. T. Dutta (Biswas)	Scientist-D, Extension
3.	Dr. V. Lakshmanan	Scientist-D, SBG
4.	Dr. S. Chattopadhyay	Scientist-D, Biotechnology
5.	Dr. A K Verma	Scientist-D, SBG
6.	Dr. Dipesh Pandit	Scientist-D, PMCE
7.	Mr. Gautam Mitra	Scientist-D, PCT
8.	Dr. S. Sarker	Scientist-D, Training
9.	Dr. Manjunatha, G. R	Scientist-C, PMCE
10.	Dr. N. Chandrakanth	Scientist-C, SBG
11.	Dr. V. Vijay	Scientist-C, Agronomy & Soil Science
12.	Dr. Mahesh R	Scientist-C, Agronomy & Soil Science
13.	Dr. Shafi Afroz	Scientist-C, Extension
14.	Dr. P. Makwana	Scientist-C, Biotechnology
15.	Dr. K. Rahul	Scientist-C, Silkworm Pathology
16.	Dr. Anil Pappachan	Scientist-C, Mulberry Pathology
17.	Dr. Mihir Rabha	Scientist-B, Silkworm Pathology
18.	Dr. Raviraj V.S.	Scientist-B, SBG
19.	Dr. Thangjam Ranjita Devi	Scientist-B, SBG
20.	Dr. Deepika Kumar Umesh	Scientist-B, MBG
21.	Mr. Yallappa Harijan	Scientist-B, MBG
22.	Mrs. Radha MB	Scientist-B, Entomology
23.	Dr. Aparna K	Scientist-B, Biotechnology
24.	Dr. P Naik J	Scientist-B, Training
25.	Ms. Shirisha T N	Steno, PMCE
26.	Ms. Suravi Ghosh	JRF (Biotech)