Minutes of the 69th meeting of Research Council held on 18th & 19th October, 2024 at meeting room of CSB-CSR&TI, Berhampore

The 69th RC meeting was convened on 18th & 19th October 2024, chaired by Dr. T. Selvakumar, Director, CSB-CSR&TI, Berhampore. Dr. K. Rahul, Scientist D welcomed all the scientists at the beginning of the session. The meeting commenced with remarks from the Chairperson, Dr. T. Selvakumar, who pointed out that, despite a target of 10 new projects for the year, none had been initiated. He emphasized the necessity for scientists, especially those without active projects, to formulate new proposals that directly address the challenges faced by farmers.

As no comments were received, the minutes of the 68th RC meeting were confirmed.

List of participants is appended in *Annexure-I.*

Subsequently, agenda wise items were taken up for discussion.

New Concepts

A total of four new concepts were comprehensively deliberated during the meeting.

New Concept 1: Breeding mulberry for higher yield and resistance to Myrothecium leaf spot

Objectives

i. To map gene(s) or QTLs for MLS resistance in mulberry
ii. Development of MLS resistant high yielding variety

Expected Outcome and Utilisation

- Identification of resistant or moderately resistant accessions for future breeding programmes
- Identification of putatively linked markers for the trait of interest
- Development of Myrothecium resistant high-yielding genotype

Investigators: PI- Ms. Harshitha B S (Scientist-B, Mulberry Breeding & Genetics)
CI's- Dr. Suresh K. (Scientist-D, Mulberry Breeding & Genetics)
Ms. Sanghmitra Aditya (Scientist-B, Mulberry Pathology)

PA: 01
Duration: 4 years
Proposed Budget: 27 lakhs [Includes equipment: PCR and Submarine gel electrophoresis system with power pack; and facilities for glass house: Evaporative cooling pad, ventilating cooling pad, exhaust fans (for temperature and humidity maintenance) equipped with electric sockets]

RC comments

The concept was approved with minor modifications. RC recommended including a comprehensive review of MLS severity at the National and International level. The methodology for mapping genes or QTLs associated with MLS resistance in mulberry must be elaborately defined, along with detailed information on the parents and breeding program.

[Action: Ms. Harshitha B S, Sci-B]

New Concept 2: Development of Actinomycete based formulation for the management of fungal foliar diseases of mulberry

Objectives

i. Isolation and screening of native actinomycetes against mulberry foliar fungal pathogens
ii. Evaluation of potential actinomycete strains *via* silkworm bioassays and development of formulation with suitable carrier material

Expected Outcome and Utilisation

- The isolation of potent native actinomycetes exhibiting strong antifungal activity against mulberry foliar pathogens
- Development of a stable and effective actinomycete-based formulation that reduces the incidence of fungal diseases in mulberry

Investigators: PI- Ms. Sanghmitra Aditya (Scientist-B, Mulberry Pathology)
CI- Dr. Khasru Alam (Scientist-C, Mulberry Pathology)

PA: 01; **Semi skilled worker:** 01
Duration: 2.5 years
Proposed Budget: 21.84 lakhs [Includes equipment: BOD incubator; facilities for glass house: Evaporative cooling pad, ventilating cooling pad, exhaust fans (for temperature and humidity maintenance) equipped with electric sockets and Greenhouse with shade net]
RC comments
The concept was approved with minor modifications. RC recommended strengthening the methodology by including specific criteria for selecting the best-performing actinomycete strains. Additionally, when evaluating combinations of actinomycete strains under glasshouse, it would be useful to specify how potential synergistic interactions will be identified. The detection of bioactive compounds produced by the actinomycete strains should also be incorporated in the work plan. The duration of the project may be increased to 3 years.

[Action: Ms. Sanghmitra Aditya, Sci-B]

New Concept 3: Development of superior hybrid(s) suitable for West Bengal

Objectives

i. To identify superior Multi x Multi hybrid for improved survival and silk productivity
ii. To evaluate (Multi x Multi) x Bi crossbreeds for survival and productivity traits

Expected Outcome and Utilisation

- New Multi x Multi hybrid with improved survival and productivity traits for unfavourable season of West Bengal
- (Multi x Multi) x Bi crossbreeds for improved survival and productivity traits

Investigators: PI- Dr. Thangjam Ranjita Devi (Scientist-C, SBG)
CI- Mr. Arun Kumar (Scientist-B, R&S)
PA: 01
Duration: 3 years
Proposed Budget: 12.30 lakhs
RC comments
The concept was approved with a few modifications. It was suggested to discontinue the aim on developing a multi x multi hybrid. Instead, the PI could obtain breeds from other breeding stations across India and utilize those breeds in the project, alongside the germplasm resources at CSRTI-Berhampore, to develop a superior crossbreed with improved survival and productivity traits. Additionally, the PI may add a newly joined scientist specialized in animal breeding and genetics to the investigation team.

[Action: Dr. Thangjam Ranjita Devi, Sci-C]

New Concept 4: Uzifly (*Exorista sorbillans* (Diptera: Tachinidae) management using microbial secondary metabolites

Objective

i. Identification of suitable microbial strains for the pre and post-infection management of uzifly in silkworm

Expected Outcome and Utilisation

- The study results in the identification of a potential compounds that act as repellents/inhibitors of respiration/larvicides
- It also enables to find new isolates or strains of immense industrial and pharmaceutical importance

Investigators: PI- Dr. Y. Nagaraju (Scientist-B, Microbiology)
Duration: 1 year
Proposed Budget: 2 lakhs
RC comments
The RC did not approve the concept, as Uzifly management practices are already established. However, the PI may explore this area on a pilot basis to assess the feasibility of the concept.

[Action: Dr. Y. Nagaraju, Sci-B]

Review of concluded projects

AIT02012CI: Characterization of mulberry silkworm, *Bombyx mori* L. mutants for tolerance to flacherie syndrome through genome editing tools (DST-JSPS project)

The PI was recommended to include the sequencing data in the final report and update the IBSC and RCGM accordingly. The PI should follow RCGM guidelines when maintaining the developed mutants and submit the final report to DST and CO, CSB.

[Action: Dr. Pooja Makwana, Sci-D]

While reviewing the follow-up action based on the suggestions from the previous meeting regarding the concluded project **PIB02007SI**, the PI presented data on expression analysis of genes associated with senescence. However, questions arose, as although a number of primers related to genes associated with senescence were procured, the results were shown for only four key genes. It is recommended that expression analysis of additional genes be conducted to draw more meaningful conclusions and to corroborate the other results presented.

[Action:Dr. Deepika KU, Sci-C]

The ongoing projects and programs are progressing according to the set targets.

The progress in the activities of SEEM & Training Division must be expedited to meet the set targets for 2024-25.

The PIs of the concluded projects are advised to submit their final project reports for onward transmission to the Central Office (CO).Further, it is advised that the progress of the ongoing projects must be regularly updated in the e-Submis portal.

Furthermore, some of the concept notes approved in the previous RC meetings have not yet been submitted. The PIs are advised to follow the timeline and submit these concept notes without delay.

Meeting ended with vote of thanks

Minutes approved

(Dr.T. Selvakumar)
Director

Annexure-I

List of participants in the 69th Meeting of Research Council (RC) held on 18.10.2024 & 19.10.2024 at CSRTI-Berhampore, West Bengal

#	Name	Designation
1	Dr. T. Selvakumar	Director
2	Dr. Satadal Chakrabarty	Scientist-D, Sericulture Division, Farm Management & RST
3	Dr. K. Suresh	Scientist-D, Host Plant Division
4	Dr. Pooja Makwana	Scientist-D, Biotechnology Division
5	Dr. K. Rahul	Scientist-D, PMCE & Silkworm Protection
6	Dr. Parameshwara Naik J.	Scientist-C, SEEM
7	Dr. Yallappa Harijan	Scientist-C, Farm Management
8	Dr. Deepika Kumar Umesh	Scientist-C, Host Plant Physiology
9	Dr. Thangjam Ranjita Devi	Scientist-C, SBG
10	Dr. Mihir Rabha	Scientist-C, Silkworm Protection
11	Dr. Raviraj V.S.	Scientist-C, Training & Biotechnology
12	Dr. Khasru Alam	Scientist-C, Mulberry Pathology
13	Dr. Y. Nagaraju	Scientist-B, Microbiology
14	Ms. Harshitha BS	Scientist-B, MBG
15	Ms. Sanghmitra Aditya	Scientist-B, Mulberry Pathology
16	Ms. Reshma R.	Scientist-B, Entomology
17	Dr. Javid Ur Rahman	Scientist-B, SBG