

CENTRAL SERICULTURAL RESEARCH AND TRAINING INSTITUTE, MYSURU

No. CSB/RTI/PMCE/RC/E-03/2019-20/38 .

08.05.2019

OFFICE NOTE

Please find herewith the minutes of the 62<sup>nd</sup> Research Council meeting held on 02<sup>nd</sup> and 03<sup>rd</sup> May 2019 at CSRTI Mysuru. In this regard, the concerned are here by advised to initiate the necessary follow up action and action taken report be submitted to PMCE.



DIRECTOR

To  
All the Heads of the section/Nested units/Scientists

## **Minutes of the 62nd Research Council Meeting held on 02.05.2019 and 03.05.2019 at CSRTI-Mysuru**

The 62<sup>nd</sup> meeting of Research Council of CSRTI-Mysuru was held on 2<sup>nd</sup> & 3<sup>rd</sup> May 2019 to review the new project proposals/concept notes, progress of on-going project/programmes and concluded research projects of the Main Institute and its nested units. The list of the participants is appended at Annexure - I.

Dr. B. T. Sreenivasa, Scientist D welcomed the Director and all other scientists to the meeting. Dr. R.S. Teotia, Director, CSRTI-Mysuru welcomed the scientists of the Institute and nested units for the RC meeting. Director in his opening remarks informed that, Central office has advised for submission of Research Project concept notes on thrust areas. In this regard all PIs should submit the revised concept notes by 07.05.2019 after incorporating suggestions given during the RC meeting. He requested the scientists and other research staff to actively participate in the RC deliberations.

### **I. CONFIRMATION OF THE MINUTES OF THE 61<sup>st</sup> MEETING HELD ON 11<sup>th</sup> SEPTEMBER 2018**

As no comments were received from any of the member, the minutes of the 61st RC meeting were confirmed.

### **II. REVIEW OF FOLLOW UP ACTION TAKEN ON DECISIONS OF PREVIOUS MEETING**

Dr. Vineet Kumar, Sc-D, PMCE presented the follow up action taken on the decisions of previous meetings of RC and RAC and committee made following observations.

#### **1. Comprehensive analysis of molecular epigenetic mechanisms associated with silk production and immune responses in silkworms**

**Decision:** The Committee discussed in detail the decision given by central office and suggested the PI to submit the proposal to DBT funding.

[Action: Dr. Ranjini M S, Sci.-B, BBL]

#### **2. Surface sterilization of Silkworm seed through Vaporization Technique**

**Decision:** The Committee discussed on the status of new formulation by M/s Bhopal Bleach Pvt Ltd and suggested to develop detailed methodology for surface sterilization of silkworm egg. Further, suggested to go for a pilot study with 5 to six alternative chemicals to finalise the methodology.

[Action: Dr. Mary Josepha, Sc-D, S.W. Path]

#### **3. Popularization of G4 mulberry variety in South India**

**Decision:** The Committee has suggested the SEEM division to issue direction to all RSRs to meet the concerned DoS officials and obtain state wise data on existing G4 acreage and the information to be obtained by May 20, 2019.

[Action: SEEM Division]

#### **4. Development of multivoltine breeds with improved silk quality utilizing bivoltine breeds**

**Decision:** The Committee advised the PI to follow up with SBRL, Bangalore for expediting the progress.

[Action: Dr. K.B. Chandrashekar, Sc-D, MBL]

#### **5. On the incidence of non-spinning larvae at the field level**

**Decision:** The committee discussed the issue and observed that such incidences are by and large due to insecticide toxicity. It was decided that no further study is required on this aspect. The field problems needs to be addressed by the Silkworm Pathology and RSRS scientists whenever the incidence occurs by building awareness on the harmful impacts of insecticide spray sprays and their residual toxicity.

[Action: SW Pathology and all RSRSs.]

**6. Developing silkworm rearing house models suitable for all seasons:** The committee suggested that Mr. Shivakumar Hukeri of SED to take up the validation of the concept by involving the engineering students who register for dissertation work for innovative designs to deal with temperature and humidity requirement in rearing house and fine tune the approach. The final proposal may be sent to CO.

[Action: S. M. Hukkeri, SED ]

7. The Committee discussed regarding involvement of KVKs, in conducting extension communication and farmers training programmes and suggested SEEM to develop database of KVKs and action plan for involving the KVK scientists for extension activities and training programmes in clusters.

[Action: Sc-D, SEEM, CSRTI-Mysuru]

#### **8. MOE-3562 MOE-3564, MOE-3565:: Impact of CPP in bivoltine seri farmers in Tamil Nadu, Karnataka and Andrapradesh**

**Decision:** The committee advised SEEM division to involve all the PIs to make a comprehensive report with set of parameters and analyze the data for the entire South India including North Karnataka Clusters. The compiled report to be submitted by June 2019 and the outcome of the study to be published. Further, Mr. Sanath Kumar was advised to provide the inputs related to Karnataka to SEEM division. Director advised the RSRSs to expedite publication of the impact of the CPP for production of bivoltine in different states.

[Action: Head, SEEM Division, RSRS Salem, ,RSRS, Anathapur, Sanath Kuma, Sci-C, FMS]

#### **9. MOE 3595 - Development of business models for enterprises in pre-cocoon sector of Sericulture**



**Decision:** The committee advised to take follow up action on the suggestion of RC/RAC to publish the reports/pamphlets in local languages and to conduct workshops /seminars with the Bankers and stakeholders. A such seminar/workshop may be planned during June/July 2019. SEEM division to take lead for organising the workshop.

[Action: Head SEEM]

**10. TOT Project: Large Scale Testing and Training of Modified Loop Mediated Isothermal Amplification (M-LAMP) Assay**

**Decision:** The committee suggested to standardize the sampling techniques for chawki/larval stages through in-house studies. Also suggested to standardize the sampling techniques for egg/moth stages through TOT and transfer the technology to NSSO

[Action: Dr. Mallikarjuna, Sci-B, SW Path]

**11. PPA-3552: Development of Technology for Production of Organic Silk**

**Decision:** The committee discussed the progress of the project and suggested to consult the concerned tasar institution to know how they have registered for organic tasar silk and complete the analysis of soil, leaf and cocoons. Expedite certifications of the garden and submit report.

[Action: V. K. Yadav, Scientist-C, Agronomy]

**12. PPS-3553: Carbon sequestration in mulberry cultivation and strategies to enhance carbon sequestration.**

**Decision:** The committee suggested the PI to make a comparative table of treatments and submit final report.

[Action: V. K. Yadav, Scientist-C, Agronomy ]

**III. REVIEW OF NEW CONCEPTS/PROJECTS PROPOSED FOR CONSIDERATION**

As per agenda, the review of concept notes was taken up. PIs presented the concept notes and the project wise decisions taken by the committee are as follows:

**1. Mulberry leaf production through hydroponics.**

**Decision:** Committee approved the concept note with a suggestion to revise the proposal by reducing the budget requirement and period to two years. Further it is advised to maintain the pH of the water and the leaf produced from the experiment can be used for commercial silkworm rearing to produce organic silk. The project can be clubbed with the project - Protocol for production of silk for biomaterial for clinical purpose.

[Action: Divya Singh, Sci-B, Mulberry Physiology]

**2. Assessment of chromium tolerance in different varieties of mulberry**

**Decision:** Committee discussed the concept note and felt that the study proposed is not in the thrust area and not approved

[Action: Vipin Kumar, Sci-B, Mulberry Physiology]

**3. Development of suitable nutrient management package of practices for mulberry tree plantation under protective irrigation**

**Decision:** Committee discussed the concept note and suggested the PI to submit the revised proposal after interacting with the farmers of tree plantation in Mandya, Kolar and Ananthapur areas with ready questionnaire by May 30, 2019. He should take atleast three spacings, three varieties and three fertilizer regimes for tree cultivation.

[Action V.K. Yadav, Sc-C, Agronomy]

**4. Evaluation of performance of MSG2 and development of package of practices for its cultivation under high bush plantation**

**Decision:** Committee critically discussed the concept note and suggested the PI to club the study with the study of tree plantation by including three varieties viz., V1, MSG2, G4 by taking up new plantation with different spacings.

[Action Dhaneshwar Padhan, Sc-B, Agronomy]

**5. Assessment of potential use of sewage/waste water irrigation on soil health, mulberry growth and silkworm rearing**

**Decision:** Committee discussed the concept note and approved to take up as pilot study with a suggestion to collect data/samples of water, soil, leaf and cocoon from sewage irrigated plot and normal water irrigated plot from exsitu plantations raised by the farmers. Further, decide the location of the treated plots to be considered and also revise the budget.

[Action S.Sen , Sc-C,SSC ]

**6. Maintenance of Bivoltine Genetic Resources**

**Decision:** Committee discussed the concept note and suggested to continue as regular activity of the section. Programme code can be sought from CO.

[Action : C.M. Kishor Kumar, Sci-D, BBL]

**7. Evaluation of bivoltine silkworm hybrids developed from the concluded projects during 12th plan period.**

**Decision:** Committee discussed the concept note and suggested to go for OST with nine bivoltine hybrids with detailed action plan.

[Action : R.Meenal, Sci-D, BBL]

**8. Study on the impact of oxidative stress challenges and trade-offs at genetic and molecular levels in bivoltine silkworm breeds**

**Decision:** Committee discussed the concept note and suggested to suitably revise the proposal and submit to CO.

[Action : Ranjini M.S, Sci-B, BBL]

**9. A Pilot study: Preliminary field evaluation of two new cross breeds NDV6 x CSR51 and HB4 x S8 for cocoon productivity and silk quality.**

**Decision:** Committee discussed the concept note and suggested to club the field evaluation of two new cross breeds with the OST of bivoltine breeds.

[Action : P.V.Soudaminy, Sci-D, MBL]



**10. Development of multivoltine foundation crosses to produce multi x bi double hybrid with high shell percentage and improved productivity**

**Decision:** Pilot study to be taken up for two generations and revise the concept..

[Action : P.V.Soudaminy, Sci-D, MBL]

**11. Identification of potential parasitoids of *Maconellicoccus hirsutus* (Green, 1908) (Hemiptera: Pseudococcidae) and augmentation for Biological control in mulberry**

**Decision:** The committee discussed the concept in detail and recommended the proposal. However the budget to be reduced to 50%.

[Action : S. Mahiba Helen, Sci-D, RSRS, Salem]

**12. Utilization and diversification of silkworm pupae products for human and animal consumption (In Collaboration with CTRTI (Ranchi) and CMERTI lahdoigarh & CFTRI, Mysuru)**

**Decision:** The committee discussed the concept in detail and recommended the proposal with a suggestion to reduce the budget.

[Action : Thirupathaiah, Sci-B, S.W. Physiology]

**13. Protocol for Production of silk biomaterials (cocoon, sericin & fibrion) for clinical purposes “**

**Decision:** The committee while recommending the proposal, advised the PI to grow other crops to reduce the heavy metals/toxicity of the soil with the existing organic mulberry plot. Include detailed action plan, how the chemical contaminations shall be avoided in water used for irrigation, vermicompost to be applied, silkworm rearing and reeling protocol. Title to be renamed as **Protocol for Production of silk biomaterials (cocoon, sericin & fibrion) for clinical purposes** and submit to CO.

[Action : Ravindra, Sci-C, SSC]

**14. Regeneration of silk fibroin for commercial exploitation**

**Decision:** The committee approved the proposal.

[Action : Dr. Satish, Sci-B, BBL]

**15. Shallow genome sequencing for identification of virulence specific genes in microsporidia isolated from silkworm, *Bombyx mori* L and other lepidopterans**

**Decision:** The committee critically discussed the proposal and advised the PI to reduce the budget by 50%. Not to propose JRF.

[Action: Mallikarjuna, Sci-B, S.W. Pathology]

**16. Validation of Chawki feed supplement formulation in commercial chawki rearing centres of Andhra Pradesh, Karnataka and Tamil Nadu**

**Decision:** The committee critically discussed the proposal and advised to take up some more trails in institute and farmer CRCs before going to the field trial. PI has to mention the number of CRCs and number of dfls to be covered for field trails. Revise the budget.

[Action: E. Bhuvaneshwari, Sci-B, S.W. Physiology]

**17. Development of a knowledge base on the silkworm diseases and their management**

**Decision:** The committee critically discussed the proposal and advised to restrict the period to 18 months with a budget of one lakh as most of the information on disease/incidence of pests is available and can be extracted. A web based model to be developed.

[Action: Mary Josepha, Sci-D, S.W.Pathology]

**18. Purification and characterization of chitosan isolated from silkworm pupal shell for biomedical and textile applications**

**Decision:** The committee appreciated the concept and felt that it is useful to the industry as a value added proposal. However the role of Deikin University needs to be specified and details of Indian part of budget to be explained. The issue of heavy metal needs to be addressed. Recommended with certain modifications.

[Action: Madhusudhan.K.N., Scientist-C]

**19. Development of silkworm breeds/hybrids with superior silk quality through genome editing and marker assisted breeding**

**Decision:** The committee while approving the concept felt that the silk quality parameters that are targeted needs to be mentioned.

[Action: Kusuma L]

**20. Development of productive mulberry hybrids with functional traits associated with WUE and NUE for obtaining optimized leaf yield**

**Decision:** The committee approved the proposal with a suggestion to change the title. JRF to be taken from III year, during initiation of data collection stage only.

[Action: S. G.Doss]

Director advised all the scientists to relook the budget proposed for equipments in the project. Equipments already available in the institute should not be proposed. Role of PI and CI to be explained in the project concept.

**IV REVIEW OF CONCLUDED AND ONGOING PROJECTS**

The committee suggested the PIs of the concluded projects to present the concluded project by incorporating the suggestions of the Technical Audit Team in the next RAC. The complete report of concluded projects should be submitted by 20<sup>th</sup> May 2019.

**General Decisions:**

Regarding "Waste Decomposer", Dr. Vinod Kumar Yadav, Sci-C, Agronomy Section was advised to stop the ongoing trials and to redesign the trial by detailed plan of action

Director advised the scientists to publish more research articles and record success stories and video films on various aspects/approaches that make impact on the sericulturists.

The meeting ended with vote of thanks.

  
Director & Chairman, Research Council