केन्द्रीय रेशम उत्पादन अनुसंधान एवं
प्रशिक्षण संस्थान
केन्द्रीय रेशम बोर्ड
वस्त्र मंत्रालय, भारत सरकार
गालंदर, पाम्पोर - 192 121

CENTRAL SERICULTURAL RESEARCH &
TRAINING INSTITUTE
CENTRAL SILK BOARD
Ministry of Textiles, Govt. of India
Galander, Pampore - 192 121

सं: केरेबो CSB / केरेउअवप्रसं पां CSR&TI /09(TECH-08) /2022-23/ दिनांक Date: 29.03.2023
(e-mail only)

परिपत्र / CIRCULAR

Sub: Meeting Minutes of 45th Research Advisory Committee (RAC) meeting-reg

With reference to the subject and communication above, please find enclosed herewith a copy of approved Minutes of 45th Research Advisory Committee (RAC) meeting of CSR&TI, Pampore held on 24th & 25th March, 2023 for information and reference.

As such, all the concerned are advised to initiate necessary follow up action on the recommendations / decisions of the said meeting and furnish the action taken report to this office within 01 week.

Encl.: As above.

29/3/23
निदेशक /Director

सूचना व आवश्यक कार्रवाई हेतु प्रति **Copy for information & needful action to:**

1. All the Members of RAC.
2. The Scientist-D, SEEM Division, CSR&TI, Pampore.
3. The Scientist-D & In charge, RSRS, Sahaspur, Dehradun.
4. The Scientist-D, Sericulture Division, CSR&TI, Pampore.
5. The Scientist-D, Biotechnology Division, CSR&TI, Pampore.
6. The Scientist-C & In charge, RSRS, Miransahib, Jammu.
7. The Scientist-C, Host Plant Division, CSR&TI, Pampore.
8. The Scientist-C, Training Division, CSR&TI, Pampore
9. The Scientist-D, PMCE Division, CSR&TI, Pampore.

MINUTES OF THE 45th RESEARCH ADVISORY COMMITTEE (RAC) MEETING OF CSR&TI, PAMPORE HELD ON 24th & 25th March, 2023 THROUGH HYBRID MODE

Dr. N. K. Bhatia, Director, CSR&TI, Pampore extended a warm welcome to Prof. (Dr.) Nazeer Ahmed, Chairman (Former-Vice Chancellor, SKUAST-K) & Members of the RAC and other participants to the 45th RAC meeting of the institute. After a welcome address, RAC Chairman in his opening remarks briefed the house about significance of sericulture & its requirements and future approaches in the North West India.

Dr. Sardar Singh, Scientist-D, presented the highlights with regard to various Research & Developmental activities carried by CSR&TI, Pampore and its nested units. The Chairman appreciated the R&D, ECP/CB&T and other activities initiated by the institute. Thereafter the 45th RAC meeting was initiated with agenda wise discussions.

AGENDA NO. 1: CONFIRMATION OF LAST RAC MEETING MINUTES

As no comments were received, the house confirmed the minutes of 44th RAC.

AGENDA NO. 2: FOLLOW UP ACTION ON THE GENERAL RECOMMENDATIONS/ DECISIONS OF THE LAST RAC MEETING:

Dr. Muttanna, Scientist-C, PMCE Division presented the follow-up actions on the general recommendations/decisions of the Last RAC Meeting. House expressed satisfaction over the follow up made by the institute on the general recommendations made by RAC members.

AGENDA NO. 3: FOLLOW UP ACTION TAKEN ON THE PROJECT SPECIFIC RECOMMENDATIONS/ DECISIONS OF THE LAST RAC MEETING

Dr. Muttanna, Scientist-C, PMCE Division presented the follow up action taken on the project specific recommendations/decisions of the Last RAC Meeting & house expressed satisfaction over the follow-up made by the Institute.

AGENDA NO. 4: REVIEW ON CONCLUDED PROJECTS:

1. **AIB-03002SI: Development of sustainable bivoltine silkworm double hybrids suitable to North West India.**

Shri. Bharath Kumar N., Scientist-C, CSR&TI, Pampore presented the concluded report of the project.

Suggestion/Decision(s):

- House expressed satisfaction on the overall outcome of the project and approved the concluded report.
- One remaining OST for temperate region may be conducted during ensuing spring season.
- DOS may be requested to provide list of progressive farmers for conduct of OFT.

(Action: Shri. Bharath Kumar N, PI of AIB-03002SI)

2. **AIB-03004SI: Evaluation and identification of high yielding bivoltine Silkworm (*Bombyx mori* L.) hybrids for temperate region of Jammu & Kashmir.**

Suggestion/Decision(s):

- House expressed the satisfaction and approved the concluded project.
- Advised to plan meticulously for the conduct of OFT in consultation with DOSs

(Action: Dr. Kiran R., PI of AIB-03004SI)

AGENDA NO. 5: NEW PROJECTS PROPOSALS FOR APPROVAL:

#	Project Code and Title	Decision / suggestion of RAC
01	**Biophysical and socio-economic evaluation of Mulberry forage integrated system in Kashmir valley**	➢ House approved the project for coding by CSB for the year 2022-23. ➢ IGFRI regional station, Srinagar may also develop a demo plot in their campus. **(Action: Dr. Pawan Saini, PI, CSR&TI, Pampore)**
02	**Primary yield trial (PYT) of newly evolved mulberry hybrids under temperate conditions of Kashmir valley**	➢ House approved the project for coding by CSB for the year 2022-23. ➢ Multiplication of Progenies may be carried- out at Jammu and Sahaspur also. **(Action: Dr. Pawan Saini, PI, CSR&TI, Pampore)**
03	**Evaluation of drought tolerance mulberry genotypes through Preliminary Yield Trail (PYT)**	➢ House approved the project for coding by CSB for the year 2022-23. ➢ Experimental plot may be taken up at both rain out shelter and main field for the comparison of drought stress. **(Action: Dr. Santoshkumar Magadum, PI, RSRS, Jammu)**

AGENDA NO. 6: REVIEW OF THE PROGRESS OF ON-GOING PROJECTS

Institute as PI:

#	Project Code and Title	Decision / suggestion of RAC
1.	**AIB03006CI:** Indo-Uzbekistan Collaborative Research Project on Improvement of Mulberry and Silkworm Breeding in Temperate Regions of India and Uzbekistan.	➢ Expressed satisfaction on the invitation of SRIS Uzbekistan for collection of genetic material and steps taken to clear Govt. regulation for import & export of genetic resources. ➢ Speed up the work on quarantine procedures and other necessary clearance for sharing the genetic material. **Action: Dr. Sardar Singh, PI**
2.	**AIB03007SI:** Development of autumn specific bivoltine silkworm (*Bombyx mori* L.) hybrids suitable for temperate region of Jammu and Kashmir.	➢ House expressed satisfaction on the shortlisting of Autumn specific hybrid ASH-14. ➢ Advised to plan OST meticulously at all the stations. **Action: Sh. Bharath Kumar Neelaboina, PI**
3.	**AIB03008SI:** Development of Nutrigenetic Hybrids of Bivoltine silkworm, *Bombyx mori* L. under Subtropical condition of North West India.	➢ House suggested to shorlist crop specific nutrigenetic hybrids. ➢ OST & OFT may be planned for better expression of the shortlisted hybrids. **Action: Dr. Rita Singh, PI**
4.	**PIE03009SI:** Evaluation of mulberry genotypes for improvement in productivity and quality under sub-tropical conditions of Jammu.	➢ Expressed satisfaction on the progress so far. ➢ A evaluation trail under conditions of UP and Uttarkhand may also be initiated. **Action: Dr. Santosh Kumar Magadum, PI**
5.	**MOE03010SI:** Evaluation of improved mulberry silkworm hybrids and technologies for North & North West India.	
	Component-I: *Large scale farmer trial of summer crop and its impact on autumn crop in selected areas of North West India (outcome of MOE-03001SI)*	➢ Summer crop trail may also be initiated in Uttrakhand , Punjab and Haryana as well. ➢ SH6xNB4D2 hybrid trial may be continued. **Action: Dr. Vinod Singh, Co-PI**
	Component-II: *Cocoon production*	➢ Trial may be continued by RSRS Jammu during ensuing

improvement during Autumn rearing through fortification of mulberry leaf (outcome of PIN-3608)		Summer and autumn conditions. **Action: Sh. Bharath Kumar Neelaboina, Co-PI**
Component-III: *Revalidation of induction of water stress tolerance in mulberry under rainfed condition by application of triazole compound (Paclobutrazol) [outcome of PIP-3543]*		➢ Data may be statistically analysed and presented in the next RAC **Action: Dr. Santosh Kumar Magadum, Co-PI**
Component-IV: *Evaluation of identified Bivoltine Silkworm hybrids for temperate region of North West India (outcome of AIB-3626)*		➢ House suggested to study grainage behavior of the shortlisted lines/hybrids during upcoming crop and put before next RAC for final decision on for further trial of the shortlisted hybrids - CSR27 x PAM117 & Line7 & N5. **Action: Sh. Bharath Kumar Neelaboina, Co-PI**
Component-V: *Soil health based fertilizer recommendation for DOS farms in North India (Outcome of PPS-3603)*		➢ House suggested to speed up the Soil samples analysis and present the data during next RAC. **Action: Dr. Santosh Kumar Magadum, Co-PI**
Component-VI: *Popularization of CRC concepts & its strengthening at selected DoS CRC locations in North India.*		➢ House suggested to complete the remaining surveys at the left over locations and compile the data before next RAC. **Action: Dr. Vinod Singh, CI**
Component-VII: *On farm trial of BmNPV tolerant silkworm hybrids in North & North West India (outcome of AIB-3569)*		➢ House expressed satisfaction on the outcome of the trail conducted in UP. ➢ DOS may be requested to provide suitable farmers for hybrid evaluation in all locations. **Action: Dr.P. Kumaresan, Scientist-D, CI**
6.	**MOT03011MI:** Popularization of mulberry sericulture in Kargil. (Ladakh U.T)	➢ House expressed satisfaction on the progress made under the project. ➢ Issue of demonstration plot may be worked out in consultation with KVK Kargil. **Action: Dr. Muttanna, PI**
7.	**PIE03012SI:** Evaluation of mulberry somatic hybrids.	➢ House expressed satisfaction on the progress. ➢ A digital microscope may be procured for further study. ➢ Progress found as per milestones and ppt appreciated. **Action: Dr. Gulab Khan Rohela, PI**
8.	**PIB03013SI:** Development of high yielding quality mulberry (*Morus* spp.) genotypes under sub-tropical conditions of Northern India.	➢ Fresh seeds may be collected from CSRTI, Berhampore as suggested earlier. ➢ Sufficient number of seedlings may be raised for better screening & selection under PRT. **Action: Dr. Santosh Kumar Magadum, PI**
9.	**PIC03014SI:** Evolving superior mulberry varieties for temperate region through *in vitro* mutagenesis.	➢ House appreciated timely purchase of instruments and chemicals to complete scheduled activities in time. ➢ Progress found as per milestones. **Action: Dr. Gulab Khan Rohela, PI**
➢ **Institute as CI**		
10.	**PIE03001MI:** All India Coordinated Experimental Trials for Mulberry (AICEM) –Phase-IV	➢ Bioassay may be initiated as per milestones. ➢ Progress found satisfactory. **Action: Zonal Coordinator, Co-PI & all CI's**
11.	**MOE02015MI:** Evaluation of promising mulberry varieties, Bed disinfectant and low cost drip fertigation system for Eastern & North Eastern India *[Component II: Evaluation of high yielding and low stress tolerant mulberry varieties C-01 & C-11]*	➢ Data recording may be ensured as per milestones at all the locations and present data during next RAC. **Action: Dr. Santosh Kumar Magadum, CI (for RSRS, Jammu site & Sh. Chattarpal, CI (for RSRS, Sahaspur)**
12.	**MTL01025MI:** Life cycle assessment of Mulberry silk	➢ Project assistant may be recruited as per guidelines. ➢ Timely procurement of instruments appreciated.

		➢ Progress may be ensured as per milestones **Action: Dr. Kiran R, CI**
13.	**ARE01029MI:** Recommendations of novel fungicidal and insecticidal applications for mulberry	➢ Progress may be ensured as per milestones. ➢ Re-check the list of new insecticide/fungicide from Central Insecticide Board website in consultation with PI institute. **Action: Dr. Pawan Saini, CI / Sh. Chattarpal, CI**
14.	**AIB02019MI:** Development of bivoltine hybrids with higher productivity and high temperature & humidity tolerance through Marker assisted selection.	➢ Progress found satisfactory. ➢ Presentation may be restricted to the work plan of CSR&TI Pampore as CI Institute. **Action: Dr. Kiran R, CI Dr. Rita Singh, CI**
15.	**MTS13002MI:** Impact assessment of mulberry sericulture technologies in India	➢ Sample size may be workout as representative size of population per se total population of the sericulture farmer in North India. ➢ Survey work may be initated in other parts of the region from each state. ➢ Interview schedule may be vetted by Institute. **Action: Dr. K. Ashok kumar, CI**

AGENDA NO. 7: R&D HIGHLIGHTS OF THE INSTITUTE UPTO MARCH 2023

Dr. Sardar Singh, Scientist-D, CSRTI, Pampore presented the R&D highlights of the institute for the period November to March 2023. The Chairman appreciated the R&D activities initiated by the institute and innovative step taken for development of Mulberry plantation on the highways and assistance being provided to state sericulture departments of North India for the implementations of Silk Samagra-2 schemes and national & international coordination by CSR&TI Pampore.

AGENDA NO. 8: Trial of Technologies (OSTs/ OFTs)

The suggestions/recommendations related to OSTs/OFTs have been mentioned under ongoing research project entitled "Evaluation of improved mulberry silkworm hybrids and technologies for North & North West India (**MOE03010SI)**" at Item No. 6.

AGENDA NO. 9: EXTENSION (ECP) AND OTHER PROGRAMMES

- Impact of ECP programmes may be assessed
- Target for the year 2022-23 may be completed as per action plan.

(Action: Incharge, SEEM Division and RSRS Jammu/Sahaspur)

AGENDA NO. 10: TRAINING (CBT) AND OTHER PROGRAMMES:

- Target for the year 2022-23 may be completed as per action plan.

(Action: Incharge, Training Division and RSRS Jammu/Sahaspur)

AGENDA NO. 12: CONCLUDING REMARKS FROM RAC MEMBERS

1. Sh. Manzoor Ahmad Qadri , Director General DOS J& K

- SDD is facing issue related to FC2 for grainage operations. Institute may workout suitable solutions for the same.
- Appreciated the efforts of CSR&TI Pampore for helping SDD for various R&D activities including preparation of the project document for UT of J&K under holistic development of Agri and allied sectors.

2. **Dr. M.A. Khan, Ex-Director, Central Silk Board**

- Institute should work-out a suitable extension model for the region.
- Institute must regularly have technology assessment & feedback.

3. **Director (Tech), CSB, Bengaluru**

- Appreciated the efforts made by Institute on R&D collaboration with National and International Institutes.
- Suggested to take up the R&D outputs to the sericulture farmers of the region.
- Acknowledged the support extend by SDD, J&K for transfer of technologies.

4. **Prof. (Dr.) Nazeer Ahmed, Chairman, RAC**

- In view of degradation of genetic base and changing climate scenario, he suggested for strong pre breeding approaches involving diverse silkworm races & regular meeting of breeders.
- Emphasized for upgradation of existing races through new innovative approaches like gene therapy, gene editing, transgenics etc.
- High mortality of Silkworm during rainy season/rearing and low productivity is becoming a concern. It needs immediate technological intervention both by Research Institutes and state Extension Departments.
- Expressed disappointment on non participation of some of the members & heads of DOSs. However, he appreciated the commitment of DG Sericulture J&K in promoting sericulture in the region.
- Appreciated R&D development of CSR&TI Pampore specially for developing first ever DH and a promising single hybrid as an alternative to ruling single hybrid SH6xNB4D2.
- Shortlisted hybrids may be tested at other locations of North West India including North East India.
- Appreciated the Pilot study "**Development of adaptive bivotine silkworm (Bombyx Mori L.) mori) hybrid through Introgression wild gene for temperate sericulture**" Taken by Institute and suggested to formulate a full length breeding programme.
- A backup temperate germplasm bank of both Silkworm & Mulberry may be established in Pampore.
- CSR&TI Pampore may plan a workshop with Universities & other Insitutes for developing package of practices of Sericulture for North Western India.
- Impact assessment of technologies/breeds may be done regularly.
- Breeders meet for Silkworm and Host plant may be planned preferably at CSR&TI Pampore.
- CSB may be requested for permission for conduct of RAC meetings alternatively at its associated centres.

Meeting ended with vote of thanks to the chair and all the distinguished RAC members.

Date: 27.03.2023

Prof. (Dr.) Nazeer Ahmed
Chairman, RAC
CSR&TI, Pampore

Annexure-I

List of participants attended 45th RAC meeting of CSR&TI, Pampore

1. Prof. (Dr.) Nazeer Ahmed, Chairman & Former VC, SKUAST-Kashmir.
2. Dr. B. T. Sreenivasa, Director (Tech.), CSB, Bengaluru.
3. Shri Manzoor Ahmad Qadri, Director General, SDD, J&K.
4. Dr. M.A. Khan, Ex-Director, CSB, Bengaluru.
5. Dr. N.K. Bhatia, Director & Member Convenor, CSR&TI Pampore.
6. Dr. Sardar Singh, Scientist-D CSR&TI, Pampore
7. Smt Shivani Chagti, Representative, DoS, Punjab (Online)
8. Shri Surendra Singh Chauhan, Scientist-D & I/c, RSRS, Sahaspur
9. Dr. Ashok Kumar Kasukurthi, Scientist-D, CSR&TI, Pampore
10. Dr. P Kumaresan, Scientist-D, CSR&TI, Pampore
11. Dr. Santosh Kumar Magadum, Scientist-C, RSRS, Jammu (Online)
12. Dr. Pawan Saini, Scientist-C, CSR&TI, Pampore
13. Dr. Gulab Khan Rohela, Scientist-C, CSR&TI, Pampore
14. Shri Chattar Pal, Scientist-C, RSRS, Jammu (Online)
15. Dr. Vinod Singh, Scientist-C, RSRS, Jammu (Online on 24-03-2023)
16. Dr. Muttanna, Scientist-C, CSR&TI, Pampore
17. Dr. Kiran R., Scientist-C, CSR&TI, Pampore
18. Dr. Rita Singh, Scientist-B, RSRS, Jammu (Online)
19. Smt. Nida Mushtaq, Field Assistant, CSR&TI, Pampore
20. Smt. Jameela Akhther, Field Assistant, CSR&TI, Pampore