MINUTES OF 62nd RC MEETING HELD ON 18.02.2022 AT CMERTI LAHDOIGARH

The 62nd Research Council meeting of CMER&TI, Lahdoigarh was held on 18th February 2022 under the Chairmanship of Dr. K.M. Vijayakumari, Director at conference hall of the institute. The list of participants is enclosed as Annexure-I (Scientists from nested units participated and presented the progress through online mode). The meeting was conveyed as per the agenda and explanatory notes.

AGENDA NO. 1: CONFIRMATION OF PREVIOUS RC MEETING MINUTES

The minutes of the 61st RC meeting held on 10th August, 2021 were circulated to all the scientists of main institute and its Nested Units. Since, no comments were received, the minutes were considered confirmed.

AGENDA NO. 2: REVIEW OF ACTION TAKEN ON THE RECOMMENDATION/ DECISIONS OF THE LAST RC MEETING

Project wise actions taken report on the decisions/ recommendations of last RC meeting were presented by the Concerned Scientists.

#	NEW RESEARCH	DETAILS
	PROPOSAL	
1.	Project title :	Impact of SAMARTH – a NSQF aligned courses for
		generation of sustainable income through gainful
•	I	
A	Investigators involved	Sn. Bitupan Das
	(PI & Co-I's)	
B	Objectives:	To assess the extent of skill enhancement after training and
		increased level of income
C	Expected outcome	The findings of the study will indicate the level of skill and
	and utilization:	adoption of technologies among the trained and non-trained
		farmers for enhancement of productivity/income.
D	Budget:	-
Е	Suggestions of RCS	-
	(only for approved	
	concept notes)	
F	Follow up action	-
	taken on suggestion of	
	RCS	
G	62 nd RC Suggestions	• Modify the title, objectives and discuss the concept with
		statistician to reformulate the project accordingly.
		• Project duration maybe extended to 2 years and a scientist
		to be included from PCT section.
		• Include the entry level assessment and percentage of
		adoption to be estimated (6 months) post training.
		• Regular survey to assess the impact of the training and sustainable income generation among the

AGENDA NO.3: NEW CONCEPT NOTES FOR APPROVAL

		trainees/entrepreneurs to be included.
		• Re-submit the modified concept and present in next RC
2.	Project title :	A study on assessment of silk loss during eri pre pupal
		stage
		(Proposed as pilot study)
A	Investigators involved (PI & Co-I's)	Dr. Mahesh D S, Dr. Arunkumar K P, Dr. Manjunath R N
В	Objectives:	 Analysis of loss of silk during pre-pupal stage to matured pupal stage of eri. To study the row spup silk recovery from one pupal
		2. To study the raw spun shk recovery from pre-pupal cocoons to and matured pupal cocoons of eri
С	Methodology & work plan:	 The cocoons will be harvested after 2 days, 3 days, 4 days, 5 days, 6 days and 7 days of spinning and used for assessment of cocoon shell percentage, pupal weight and raw silk recovery. Minimum of three trials will be conducted to study the loss of silk content and raw silk recovery from pre pupal stage to matured pupal stage. The resultant data will be analysed statistically to find out loss of silk and raw silk recovery from each stage. <u>1-3 months</u> A minimum of two experiments will be conducted and analysis will be carried out. <u>4-6 months</u> Another set of experiments will be conducted and analysis will be carried out. Final report writing and submission will be addene in the lost month.
D	Expected outcome and utilization:	- Recommended day for harvesting of eri cocoons after spinning that will be helpful for farmers to reduce the raw spun silk recovery.
Е	Budget:	0.25 Lakhs
F	Suggestions of RCS (only for approved concept notes)	-
G	Follow up action taken on suggestion of RCS	-
H	62 nd RC Suggestions	 The title to be modified and "silk loss" to be replaced with "silk content". Concept note approved for pilot study.
		· · ·
3	Project title :	Use of plastic mountage to increase silk recovery in eri and muga culture (Pilot study)
A	Investigators involved (PI & Co-I's)	Dr. Arun Kumar K P, Dr. Mahesh D S, Dr. KhSubadas Singh and Dr. Manjunath RN
В	Objectives:	 Analysis of cocoon characteristics in plastic mounted muga and eri cocoons Comparison of silk recovery between plastic mounted and Jali mounted eri and muga cocoons

С	Methodology & work	Work plan
	plan:	1) Separate experiments have to be carried out for muga and
		eri silkworms.
		2) The collected matured larvae have to mounted on plastic
		collapsible mountage placed in 2'x 3' plastic trays as
		described above.
		3) A total of 10 plastic trays will be mounted with matured
		larvae and same number of Jali will be prepared and about
		250 larvae per Jali will be mounted with matured larvae.
		4) The cocoons will be harvested after 7 days from both Jali
		and plastic mountages and the analysis will be carried out as
		below.
		5) Observation and data analysis
		- Cocoon weight (per 50 cocoons) will be taken for cocoons
		harvested from both the types of mountages.
		- Number of good cocoons per tray and per Jali will be
		counted.
		- Cocoon characteristics (filament length, SR%, silk
		recovery, etc.) will be ascertained for the cocoons harvested
		from both types of mountages.
		- The resultant data will be analyzed statistically to find out
D	Evenente d'autoane	the best mounting device among the two.
	expected outcome	• Improved mounting device that reduces labor, time and
	and utilization.	• Improved mounting device that is reveable
		 Improved mounting device that is reusable. Increased silk recovery from the coccord harvested
		from plastic mountage
		Standard package of practice for mounting muga and eri
		silkworms on plastic mountage
F	Budget.	Consumable budget of 0.50 lakhs for purchase of plastic
	Dudget.	mountages.
F	Suggestions of RCS	The pilot study has been suggested by Member Secretary
	(only for approved	during the JCC meeting held on 29.11.2021 at Guwahati.
	concept notes)	
G	Follow up action	-
	taken on suggestion of	
	RCS	
H	62 nd RC Suggestions	• Include Sh. Bitupan Das, Sc-D as CI & add one more
		treatment with bamboo/nylon net based prototype.
		Concept note approved for pilot study.
	CONCEPT NOTES	PRESENTED IN THE PREVIOUS RC MEETING
1.	Project title :	Impact of adoption of improved technologies on cocoon
		production in oak tasar culture $(C_{\text{concent}}, \sigma_{\text{concent}}, \sigma_{concen$
•	Investigators involved	Dr. Sinom Subharani Davi (DI) Dr. V. Dabarai (Co. DI)
A P	Objectives:	1. To find out the knowledge and adoption level of improved
В	Objectives.	technologies among farmers
		2 To find out the specific reasons behind non-adoption or
		partial adoption of improved technology by farmers
C	Methodology & work	1. 100 sericulture farmers will be identified from different
	0,	

	nlan:	districts of Manipur. The results of the adopted farmers
	pian.	will be compared with the results of the same number of
		will be compared with the results of the same number of
		non-adopted farmers at each location in each crop for last
		nve years.
		2. To study the constraints viz , biological and socio-
		economic factors for non-adoption of recommended
		technologies by the farmers.
		3. To understand the existing gap between recommended
		technologies and actual adoption by the farmers.
		4. To study the impact of adoption of improved technologies
		by the farmers through questionnaires, extension staffs.
		5. Compilation of data and statistical analysis.
D	Expected outcome	1. The proposed project will help in understanding the
	and utilization:	knowledge and adoption level of technologies among the
		farmers.
		2. The factors influencing the adoption of technologies by the
		farmers will be identified.
		3. More number of rural people would be motivated to take
		up oak tasar culture as an enterprise.
E	Budget:	7.06 lakhs
F	Suggestions of RCS	The revised concept note yet to be submitted by the
	(only for approved	investigators
	concept notes)	
G	Follow up action	Revised concept note submitted as suggested.
	taken on suggestion of	
	RCS	
H	62 nd RC Suggestions	• PI has requested to keep the project in abeyance due to her
		present involvement in multiple projects. Hence, the
		project is kept in abeyance.
	1	
2	Project title :	Selection of superior Soalu (Litsaea monopetala) accession
		for muga silkworm (Antheraea assamensis) rearing
	T (' 1 1	(Concept note presented in previous RC)
A	Investigators involved	Dr. D K Jigyasu, PI; Dr. Aftab A Shabham, CI; Dr. Amit
	(PI & Co-I's)	Kumar, Cl
В	Objectives:	To evaluate and characterize the available Soalu accessions
0		towarde varietal development
C		
	Methodology & work	-
D	Methodology & work plan:	-
D	Methodology & work plan: Expected outcome	 Evaluation of the existing and enriched gene pool will
D	Methodology & work plan: Expected outcome and utilization:	 Evaluation of the existing and enriched gene pool will consequently lead to identifying the most suitable accessions
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D	Methodology & work plan: Expected outcome and utilization:	 Evaluation of the existing and enriched gene pool will consequently lead to identifying the most suitable accessions of Soalu (the primary host plant of Muga silkworm). Molecular characterization will lead to removal of duplicates in existing Soalu accessions and will give an estimate of genotypic variability in the accessions.
D	Methodology & work plan: Expected outcome and utilization:	 Evaluation of the existing and enriched gene pool will consequently lead to identifying the most suitable accessions of Soalu (the primary host plant of Muga silkworm). Molecular characterization will lead to removal of duplicates in existing Soalu accessions and will give an estimate of genotypic variability in the accessions. It is expected to identify most suitable Soalu accession for

		productivity.
		• This study will also support to identify base material for
		future breeding program.
E	Budget:	Total budget Rs. 32.35 lakh
		(SBRL= Rs. 12.00 lakh + CMER&TI= 20.35 lakh)
F	Suggestions of RCS	Suggestions of RCS, CO received on 9 th Feb 2022:
	(only for approved concept notes)	 i. Current concept note prepared in connection to the existing germplasm available at CMERTI-Landoigarh which are planted at GCC-Chenijan. Passport data, morphometric, biochemical and bioassay data of previously carried out work by institute need to be incorporated for assessment of the value of the Soalu for taken up such activity. ii. The collaborating scientist from SBRL-Kodathi and fund requirement for proposed activity need to be incorporated in the revised concept note. iii. Review of literature to be enriched with appropriate works carried out by the other researchers working in northeast India / muga host plants. iv. Submit the revised concept note incorporating the above observation for further consideration
G	Follow up action	Follow-up action on RCS suggestions:
	taken on suggestion of	i. 22 Soalu germplasm resources were collected during 2005-
	RCS	 06 and are maintained at GCC- Chenijan, CMER&TI. These accessions have not been evaluated till date. Passport data of these accessions is available with CMER&TI. Characterization of 10 soalu accessions based on morphometric, biochemical and bioassay traits reported by Tikader <i>et al.</i> (2013) has been carried out in 2004-05 prior to the collection of existing 22 accessions. Hence, there are no reports on characterization data of the existing 22 soalu accessions. ii. Dr. Rajal Debnath, Scientist-C is proposed as Co-PI from SBRL, Kodathi. The fund requirement for proposed activity of SBRL-Kodathi is incorporated in revised concept note. iii. Review of literatures has been enriched in revised concept note. iv. Suggestions noted and revised concept note will be submitted earliest.
Н	62 nd RC Suggestions	• Modify the concept as per suggestions RCS suggestions
	02 110 × 18805000	intering the concept as per suggestions free suggestions

AGENDA NO. 4: REVIEW ON CONCLUDED PROJECTS

No project was concluded since last RAC/RCC.

#	ON-GOING	DETAILS
1	PROJECTS Project code and	APR05018MI- Effect of various host plants separately and
1.	title:	in combination on Rearing and grainage performance of
		Muga silkworm, Antheraea assamensis Helfer
Α	Investigators	Dr. Kh. Subadas Singh(PI), Sri S. A. S. Rahman (CI), Dr. DK
	involved	Jigyasu (CI), Dr. Vikram Kumar (CI)
В	Project period :	3 Years (March, 2021 to Feb, 2024)
C	Objectives:	1. To study the effect of various host plants separately and in combination on rearing performance of muga silkworm.
		2. To study the effect of various host plants separately and in combination on grainage performance of muga silkworm.
D	Progress achieved:	Rearing of muga silkworm on four different food plants viz., Som (<i>Persea bombycina</i>), Soalu (<i>Litsea monopetala</i>), Dighloti (<i>Litsea salicifolia</i>) and Mejankori (<i>Litsea cubeba</i>) both solo and combinations had been conducted. Parameters viz. hatching%, moulting rate, larval growth, larval duration, larval weight of male and female silkworm reared on different host plants had been conducted. Larval duration was found shorter in solo rearing (20-22 days on Som and Soalu; 25 days on Mejankori; 30-32 days on Dighloti during Summer and Autumn crop. Longer larval duration was observed in case of combination rearing with host plants Mejankori and Dighloti (28-32 days) in Summer and Autumn crop. Chawki worms reared on mejankori, dighloti and combination with other host plants showed less mortality ascompared to solo rearing on Som and Soalu. It was also observed that there was reluctant in feeding of chawki worms initially reared on the food plants Som and Soalu, and transfrerred to Mejankori. However, Mejankori to Som and Saolu did not have any problem in feeding behaviour
E	Specific outcome:	In respect of rearing performance in different season on different host plants, Soalu exhibited better results in terms of larval weight, cocoon weight and fecundity. Som exhibited better results in terms of short larval duration (22 days in summer and 40 days in winter), shell weight, shell ratio%, ERR% as compared to other food plants. Best rearing performance was observed in the combination of Soalu with Som in terms of fecundity and ERR%.
F	Budget and	Rs. 1.18583/- lakhs
	expenditure :	
G	RC/RAC meeting:	 61 KC suggestions It is observed that, Digloti and Majankari plantations are not available with the collaborating units. The PI should clearly specify, how the proposed activities under the project can be taken-up in absence of host plants 39th RAC comments Conduct experiments in proper statistical design and present statistically analyzed rearing data

AGENDA NO. 5: PROGRESS OF ON-GOING PROJECTS

		• Continue the project as per milestone
Н	Follow-up action	Compliance on 61 RC comments
	taken on last	As there is no dighloti and mejankori host plants at the
	RC/RAC meeting:	collaborating units, exploration had been conducted at the
		nearby places for finding dighloti and mejankori host plants
		for muga rearing. As these host plants are not available even at
		the nearby places, rearing of muga silkworm on four different
		host plants and their combination is being conducted at
		CMER&TI. Lahdoigarh.
		Compliance on 39 th RAC comments
		Suggestion complied. Experiment is being conducted in proper
		meeting Project is continuing as per milestone
T	Suggestions of RCS	
J	Follow up action	-
	taken on suggestion	
	of RCS	
K	62 nd RC Suggestions	• The PI has reported that all the four host plants are not
		available at the collaborating institutes. Hence, it is
		suggested to explore the availability of all four host plants
		in nearby areas and modify the target/milestones
		accordingly with due infimation to RCS.
		• As budget utilization is poor, the PI is advised to
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2.	Project code and	 As budget utilization is poor, the PI is advised to effectively utilise the budget. MOE 05004EF (DST-07):Adoption of improved sustainable technologies of muga culture for elevation of
2.	Project code and title:	 As budget utilization is poor, the PI is advised to effectively utilise the budget. MOE 05004EF (DST-07):Adoption of improved sustainable technologies of muga culture for elevation of cocoon production in the tribal belt of Assam
2. A	Project code and title: Investigators	 As budget utilization is poor, the PI is advised to effectively utilise the budget. MOE 05004EF (DST-07):Adoption of improved sustainable technologies of muga culture for elevation of cocoon production in the tribal belt of Assam Dr. Vijav N, Sc-C. (PI), Dr. Dip Kumar Gogoi, Sc-D. (Co-PI).
2. A	Project code and title: Investigators involved	 As budget utilization is poor, the PI is advised to effectively utilise the budget. MOE 05004EF (DST-07):Adoption of improved sustainable technologies of muga culture for elevation of cocoon production in the tribal belt of Assam Dr. Vijay N, Sc-C, (PI), Dr. Dip Kumar Gogoi, Sc-D, (Co-PI), Dr. D .Mech, Sc-D, (Co-PI)
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2. A B C	Project code and title: Investigators involved Project period : Objectives: Progress achieved:	 As budget utilization is poor, the PI is advised to effectively utilise the budget. MOE 05004EF (DST-07):Adoption of improved sustainable technologies of muga culture for elevation of cocoon production in the tribal belt of Assam Dr. Vijay N, Sc-C, (PI), Dr. Dip Kumar Gogoi, Sc-D, (Co-PI), Dr. D .Mech, Sc-D, (Co-PI) Dr. S A S Rahaman, Sc-D, (Co-PI), Dr .Sathyanarayana, Sc-D, (Co-PI) August 2019 to July 2022 To promote adoption of improved Muga rearing technologies among tribal rearers through sustainable NGO-rearer linkages facilitated by CMER&TI, Lahdoigarh. To improve the socio-economic status of tribal population by enhancing cocoon production through improved muga culture.
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2. A B C	Project code and title: Investigators involved Project period : Objectives: Progress achieved:	 As budget utilization is poor, the PI is advised to effectively utilise the budget. MOE 05004EF (DST-07):Adoption of improved sustainable technologies of muga culture for elevation of cocoon production in the tribal belt of Assam Dr. Vijay N, Sc-C, (PI), Dr. Dip Kumar Gogoi, Sc-D, (Co-PI), Dr. D .Mech, Sc-D, (Co-PI) Dr. S A S Rahaman, Sc-D, (Co-PI), Dr .Sathyanarayana, Sc-D, (Co-PI) August 2019 to July 2022 To promote adoption of improved Muga rearing technologies among tribal rearers through sustainable NGO-rearer linkages facilitated by CMER&TI, Lahdoigarh. To improve the socio-economic status of tribal population by enhancing cocoon production through improved muga culture. Conduct awareness program on pre brushing care to the beneficiary farmers of Lakhimpur and Dhemaji districts.
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Field survey conducted for rearing performances. Prepare demo videos of chainsaw regarding pruning pollarding of host plant for the farmers and distribu videos through electronic media. A Total of 11 programs conducted <i>i.e.</i> , 7 nos Award programs, 2 nos Group discussion, 1 no field day, 1 Technology demonstration and 3 nos training prograconducted at study area. E Specific outcome: F Budget and expenditure : G Suggestion of last RC/RAC meeting: RC/RAC meeting: 61 st RC: • The project is running behind the schedule due to restrictions The PI should pacify the work and cor left over milestones as per schedule as soon as th restrictions are eased out. • The Project as per milestones. H Follow-up action taken on last RC/RAC meeting: I Suggestions of RCS J Follow up action taken on suggestion of RCS J Follow up action taken on suggestion of RCS J Follow up action taken on suggestion of RCS J Follow up action taken on suggestion of RCS J Follow up action taken on suggestion of RCS J Follow up action taken on suggestion of RCS J Follow up action taken on suggestion of RCS J Follow up action taken on suggestion of RCS J Follow up ac		
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3. Project code and title: AIB 05012–SI: Inter and intra–Specific Hybridiza Main Investigators Improvement of Eri Silkworm, Samia ricini Donov A Investigators Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad SI Sc – D (CI) B Project period : 04 years (March, 2020 – February, 2024) C Objectives: To develop improved cross breeds/hybrids of Eri with higher fecundity and silk yield for completion. D Progress achieved: Selfed F5 generation rearing performance showed	 Complete the left over target as per the milestones in the 	RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions
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title: Improvement of Eri Silkworm, Sania ricini Donov A Investigators Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad SI involved Sc – D (CI) B Project period : 04 years (March, 2020 – February, 2024) C Objectives: To develop improved cross breeds/hybrids of Eri with higher fecundity and silk yield for convertion. D Progress achieved: Selfed F5 generation rearing performance showed	 Data was recliced and presented. Complete the left over target as per the milestones in the project. 	RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions
A Investigators Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad SI involved Sc – D (CI) B Project period : 04 years (March, 2020 – February, 2024) C Objectives: To develop improved cross breeds/hybrids of Eri with higher fecundity and silk yield for convertation. D Progress achieved: Selfed F5 generation rearing performance showed	Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for	RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions
Involved Sc – D (CI) B Project period : 04 years (March, 2020 – February, 2024) C Objectives: To develop improved cross breeds/hybrids of Eri with higher fecundity and silk yield for conception. D Progress achieved: Selfed F5 generation rearing performance showed	 Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, <i>Samia ricini</i> Donovan 	RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions
B Project period : 04 years (March, 2020 – February, 2024) C Objectives: To develop improved cross breeds/hybrids of Eri with higher fecundity and silk yield for convertion. D Progress achieved: Selfed F5 generation rearing performance showed	 Data was recliced and presented. Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, Samia ricini Donovan Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad Shabnam, Sc – D (CI) 	RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions . Project code and title: . Investigators
C Objectives: To develop improved cross breeds/hybrids of Eff with higher fecundity and silk yield for constraints exploitation. D Progress achieved: Selfed F5 generation rearing performance showed	 Data was recliced and presented. Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, Samia ricini Donovan Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad Shabnam, Sc – D (CI) 	RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions . Project code and title: . Investigators involved
With higher fecundity and slik yield for constraintsDProgress achieved:Selfed F5 generation rearing performance showed	 Data was recliced and presented. Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, Samia ricini Donovan Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad Shabnam, Sc – D (CI) 04 years (March, 2020 – February, 2024) 	RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions Investigators involved Project period :
D Progress achieved: Selfed F ₅ generation rearing performance showed	 Data was recliecked and presented. Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, Samia ricini Donovan Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad Shabnam, Sc – D (CI) 04 years (March, 2020 – February, 2024) To develop improved cross breeds/hybrids of Eri silkworm with higher formation of the project. 	RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions Investigators involved Project period : Objectives:
D Flogress achieved. Selled 15 generation rearing performance showed	 Data was recliced and presented. Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, Samia ricini Donovan Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad Shabnam, Sc – D (CI) 04 years (March, 2020 – February, 2024) To develop improved cross breeds/hybrids of Eri silkworm with higher fecundity and silk yield for commercial avalation 	RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions Investigators involved Project period : Objectives:
82,66% purity among the accraces against C2 bread	 Data was rechecked and presented. Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, Samia ricini Donovan Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad Shabnam, Sc – D (CI) 04 years (March, 2020 – February, 2024) To develop improved cross breeds/hybrids of Eri silkworm with higher fecundity and silk yield for commercial exploitation. 	RC/RAC meeting: RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions . Project code and title: Investigators involved Project period : Objectives:
Therefore 61^{st} PC suggested continuing selfing for	 Data was rechecked and presented. Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, Samia ricini Donovan Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad Shabnam, Sc – D (CI) 04 years (March, 2020 – February, 2024) To develop improved cross breeds/hybrids of Eri silkworm with higher fecundity and silk yield for commercial exploitation. Selfed F₅ generation rearing performance showed 72.66% - 82 66% purity among the ecoraces against C2 breed (07 33%) 	RC/RAC meeting: RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions Investigators involved Project period : Objectives: Progress achieved:
generations to achieve more than 00% purity for se	 Data was rechecked and presented. Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, <i>Samia ricini</i> Donovan Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad Shabnam, Sc – D (CI) 04 years (March, 2020 – February, 2024) To develop improved cross breeds/hybrids of Eri silkworm with higher fecundity and silk yield for commercial exploitation. Selfed F5 generation rearing performance showed 72.66% - 82.66% purity among the ecoraces against C2 breed (97.33%). Therefore 61st BC suggested continuing selfing for 2 more 	RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions Investigators involved Project period : Objectives: Progress achieved:
pureline parents	 Data was rechecked and presented. Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, <i>Samia ricini</i> Donovan Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad Shabnam, Sc – D (CI) 04 years (March, 2020 – February, 2024) To develop improved cross breeds/hybrids of Eri silkworm with higher fecundity and silk yield for commercial exploitation. Selfed F₅ generation rearing performance showed 72.66% - 82.66% purity among the ecoraces against C2 breed (97.33%). Therefore 61st RC suggested continuing selfing for 2 more generations to achieve more than 90% purity for selection of 	RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions Investigators Project code and title: Description Project period : Objectives: Progress achieved:
Grainage activities of selfed F ₂ -F ₂ cocoons were c	 Data was rechecked and presented. Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, Samia ricini Donovan Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad Shabnam, Sc – D (CI) 04 years (March, 2020 – February, 2024) To develop improved cross breeds/hybrids of Eri silkworm with higher fecundity and silk yield for commercial exploitation. Selfed F₅ generation rearing performance showed 72.66% - 82.66% purity among the ecoraces against C2 breed (97.33%). Therefore 61st RC suggested continuing selfing for 2 more generations to achieve more than 90% purity for selection of pureline parents. 	RC/RAC meeting: RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions Investigators involved Project period : Objectives: Progress achieved:
generations to achieve more than 90% purity for se pureline parents.	 Data was rechecked and presented. Complete the left over target as per the milestones in the project. AIB 05012–SI: Inter and intra–Specific Hybridization for Improvement of Eri Silkworm, Samia ricini Donovan Dr. Reeta Luikham, Sc – D (PI), Dr. Aftab Ahmad Shabnam, Sc – D (CI) 04 years (March, 2020 – February, 2024) To develop improved cross breeds/hybrids of Eri silkworm with higher fecundity and silk yield for commercial exploitation. Selfed F5 generation rearing performance showed 72.66% - 82.66% purity among the ecoraces against C2 breed (97.33%). 	RC/RAC meeting: RC/RAC meeting: Suggestions of RCS Follow up action taken on suggestion of RCS 62 nd RC Suggestions Investigators involved Project period : Objectives: Progress achieved:

		for producing F_6 - F_7 selfed seeds. Fecundity and hatching percentage were observed for eco races and C2 breed. Selfed F_6 - F_7 generation rearing performance recorded the purity based on larval colour and markings for each ecoraces ranging from 96.5 – 98.09% against C2 breed (99.33%). Intra and inter specific specific hybridization was carried out by utilizing pure wild eri <i>S. canningi</i> as male parent, 3 ecoraces & C2 breed by following full diallel crossing method. Total 12 cross combination have been executed till date. F_1 rearing is in progress. Wild eri <i>S. canningi</i> selfed F_3 grainage activities were carried out for producing F_4 selfed seed.
F	Spacific outcome:	Selfed F ₄ rearing generation is under progress.
	specific outcome.	breeding programme.
F	Budget and expenditure :	Budget: Rs. 23.15 lakhs & Expenditure: 6.64 lakhs
G	Suggestion of last	61 st RC:
	RC/RAC meeting:	• PI is advised to present the strain wise purity data of eco-
		races
		the purity is still not up to the desired level. PI is advised to
		continue the selfing of strains for attaining more than 90%
		purity for selection of pure-line parents for hybridization
		program.
		39th RAC:
		 Progress made in the project is satisfactory. Continue the project as per milestones.
Н	Follow-up action	61 st RC:
	taken on last	• Strain wise purity data will be presented.
	RC/RAC meeting:	• 2 more generations rearing (upto F ₇) is completed and more than 90% purity is achieved.
		39th RAC:
		Project is continued as per milestones.
I	Suggestions of RCS	1. To furnish actual budget utilized for the quarter as the
	quarterly progress	AIB05012SI.
	report)	2. To check on conducting experiments as per set work plan
т	Fallow we action	under project AIB05012SI.
J	taken on suggestion	1. Budget utilized for the 1 and 2 quarters are almost similar as due covid-19 pandemic, expenditure was less
	of RCS	however, the remaining amount in the budget will be
		utilised within the month of March, 2022.
		2. After completion of selfed F ₅ generation rearing of eco-
		races, the purity was not up to the desired level i.e. above
		90%. Therefore 61st RC meeting suggested for continuing
		another 2 more generations in order to get pure lines
		work plan was continued for another 02 more generation
		to get above 90% purity, as such one quarter is lacking

		behind as per set work plan.
K	62 nd RC Suggestions	The progress in the project is satisfactory. Investigators are
		advised to continue the project as per milestone.
4.	Project code and	APR05007SI: Standardization of chawki rearing practices
	title:	for Eri silkworm, <i>Samia ricini</i> (Donovan)
A	Investigators	Dr. Mahesh D S, Sci-B (PI), Dr. Arun Kumar K P, Sci-C (CI),
	involved	Dr. Kh. Subadas Singh (CI)
B	Project period :	October 2019 to September 2022
C	Objectives:	a. Establishment and management of eri host plant garden
		for eri chawki rearing.
		b. Design and fabrication of Eri silkworm chawki reaing
		equipment.
		c. Development of new rearing method and ideal
D	Drograge ophiowed	Project is being continued as nor the milectone
	riogress achieved.	Most of the ari chawki rearing practices have been
		standardized starting from brushing to distribution stage
		-Selected farmers for distribution of chawki worms in ESDP
		Chungtia, Nagaland and SRC, Mariani region, Assam and
		conducted field testing and onsite demonstration of eri chawki
		raering technology.
		-1000 DFLs of C2 were brushed in both the places. The
		farmers are practically involved in all the activities of eri
		chawki rearing.
		-The eri chawki worms were distributed among the farmers
		involved in demonstration.
		-Conducted the Group discussions among the lead farmers to
		share the techniques of eri chawki rearing observed by them
		The formans are years heary shout the techniques we used to
		- The farmers are very happy about the techniques we used to get a uniform batch
		The chawki reared worms batch was very good in terms of
		larval uniformity larval growth less disease incidence
		cocoon vield pupal vield shell vield and total income
		compared to conventional rearing.
		-The farmers are very happy about the techniques used in
		entire eri chawki rearing demonstration and minimum number
		of days required to complete rearing to get more income.
		-Initiated the process for design and fabrication of model eri
		chawki rearing houset at GCC, Chenijan, CMER&TI in
		connection with the economics workout of eri chawki rearing.
E	Specific outcome:	-Standardized most of the chawki rearing techniques for C2
		breed starting from brushing to distribution stage.
		-Selected farmers for eri chawki distribution in Chungtia of
		Nagaiand and Mariani of Assam and conducted field testing
		Initiated the process for design and febrication of model and
		-initiated the process for design and fabrication of model en
		demonstration is completed.

F	Budget and	Total budget is 18.15 lakhs and expenditure is 7.20 lakhs
	expenditure :	
G	Suggestion of last	RC Comments
	RC/RAC meeting:	1. The progress of the project is satisfactory.
		2. PI is advised to continue the project as per the
		milestone.
		RAC comments
		1. Proper care should be taken throughout the chawki rearing
		for maintaining feed, breed and seed along with disease
		occurrence and preventive measures.
		2. Identify and train some entrepreneurs for establishing micro
		chawki centers to commercialize the technology.
		3. Continue the project as per milestones.
H	Follow-up action	ATR on RC comments
	taken on last	Project is being continued as per the milestone to achieve the
	RC/RAC meeting:	target.
		ATR on RAC comments
		1. Suggestions complied and proper care have been taken
		throughout the chawki rearing for maintaining feed, breed
		and seed along with disease occurrence and preventive
		measures.
		2. Suggestions complied. The entrepreneurs are being
		identified in each field testing and demonstration for
		establishing the eri chawki rearing centers to commercialize
		the technology.
	C (DCC	3. Project is being continued as per the milestone.
	Suggestions of RCS	N1I
J	Follow up action	N1I
	of PCS	
K	62 nd PC Suggestions	• In all future trials, commons the cherrylei receive with
	02 IC Suggestions	• In all future trials, compare the chawki rearing with
		• Continue as nor milestone and conclude the project as nor
		• Continue as per innestone and conclude the project as per the scheduled time
		the seneduled time.
5	Project code and	APS 05020MI: Commercial egg production technology for
	title:	ericulture
A	Investigators	Dr. Mahesh D S, Sci-B (PI), Dr. Lalith Natarajan, Sc-D,
	involved (PI & Co-	EBSF, Topatoli, (Co-PI)
	I's)	Dr. Arunkumar K P, Sci-C (CI)
В	Project period :	February 2022 to January 2024
С	Objectives:	a. Standardization and selection of suitable egg laying device
		for commercial loose egg production in eri.
		b. Synchronization of hatching and subsequent rearing.
		c. Popularization of loose egg production in Ericulture.
D	Progress achieved:	-Project was recently coded. Initiated the recruitment process
	-	for JRFs. Submitted the final proposal including ATR for all
		the observations made by RCS. The standardization of suitable
		egg laying device will be initiated.

E	Specific outcome:	Nil
F	Budget and	Total budget is 13.49 Lakhs and expenditure is 0.00
	expenditure :	
G	Suggestion of last RC/RAC meeting:	 RC Comments 1. The investigators should look into the observations made by RCS and submit the full project proposal, incorporating all the suggestions. RAC comments 1. Project is approved. PI to submit the full project proposal within 15 days.
H	Follow-up action taken on last RC/RAC meeting:	 ATR on RC comments 1. Full proposal has been submitted by incorporating all the suggestions and the project was coded. ATR on RAC comments 1. Full proposal has been submitted and project was coded.
Ι	Suggestions of RCS (if any indicated in quarterly progress report)	 RCS observations Ref.: No. CSB-31/2 (CMERTI- NP)/2020-21/RCS dated 09.02.2022 Project title need to be changed to "Commercial egg production technology for ericulture". Under methodology, experimental designs, number of samples, list of parameters to be studied etc need to be furnished properly, beside application of statistical package under project need to be indicated. In future, institute must select appropriate referees for evaluation of projects pertaining to subject in which it is proposed.
J	Follow up action taken on suggestion of RCS	 ATR on RCS observations 1. Suggestions complied and the project title has been changed accordingly. 2. Suggestions complied. Experimental designs, number of samples and list of parameters are furnished properly in the methodology and also application of statistical package is indicated in the revised proposal. 3. Suggestions noted for compliance.
K	62 nd RC Suggestions	Initiate the project as per the objectives and milestones
6.	Project code and title:	AIT05016MI- Integrating genomic and transcriptomics resources for functional insight into the biology of muga silkmoth <i>Antheraea assamensis</i>
A	involved	Dr. Arun Kumar K.P – Pl
B	Project period :	2 Years (1/1/2021 to 31/12/2022)
C	Objectives:	 Development of web accessible database 'Mugabase' to host the muga sequence data, initially within CSB and later for public access. Refining of assembly and annotation of the whole genome and transcriptome sequence data. Identification and validation of functional genes associated with insect behaviour, silk quality and immunity.
D	Progress achieved:	1) The development of web accessible wild silk worm

		biological sequence database 'VanyaSilkbase'has been
		initiated.
		2) Standalone BLAST database of all the wild silkmoth
		genomes has been created
		3) SNPs identified in wild type muga genome
		4) Homologs of Sericin proteins have been pulled out from the
		wild silkmoth genome sequences
F	Specific outcome:	1) Homologs of silk protein Sericin is identified in other
	specific outcome.	saturniideilkmothe
		2) Around 0.5 M SNPs detected in wild type muga genome
		2) Development of web accessible detabase 'Varya Silkhase'
		is under progress
E	Dudget and	Dudget 44.60 Loog
I I	ovnondituro :	$E_{\text{vnonditure}} = 14.17 \text{ Loss}$
	Experiature :	L'Appenditure –14.17 Lacs
G	Suggestion of last	61 RU suggestion
	RC/RAC meeting:	1) The progress in the project is satisfactory. Investigators are
		advised to continue the project as per milestone.
		30 th D AC suggestions
		1) Present the brief outcome of Phase-I of the project in next
		meeting
		2) Continue the project as per milestone
ц	Follow up action	ATP on 61 st PC suggestion
п	token on last	1) The project is being continues as per milectone
	BC/BAC monting	1) The project is being continues as per infrestone.
	KC/KAC meeting.	ATD on 20 th DAC suggestions
		1) Outcome of Phase I of the project will be presented in a
		1) Outcome of Thase-1 of the project will be presented in a single slide in the part $\mathbf{P} \wedge \mathbf{C}$
		2) Project is being continued as per milestones
т	Suggestions of PCS	2) I Toject is being continued as per infestories.
I	Eallow up action	-
J	Follow up action	-
	taken on suggestion	
IZ IZ	of KCS	
K	62 ^{ad} RC Suggestions	The progress in the project is satisfactory. Continue the project
		as per milestone.
7	Duciant and and	ADD05015SI Development of showing based control
/.	froject coue and	ARP 0501551, Development of nabying disease in Muga
	uue:	illeasures for management of pedrine disease in Muga
•	Investigators	Silkworin, Anineraea assamensis neller
A	involved	Dr. Arun Kumar K.P. (PI)
D	Droiget nemied :	Ian 2021 Dec 2022
D C	Object period :	Jan 2021 – Dec 2025
	objectives:	• Effect of different chemical disinfectants and antifungal
		substances on survivability and infectivity of microsporidian
		Efficiency analysis and field anylighting of the
		• Efficacy analysis and field application of chemical
	D 1' 1	disinfectants suitable for management of pebrine disease.
ען	Progress achieved:	LI Experiment of the treatment of pebrine infected eggs was
	riegrees asine ca	
		carried out and rearing of treated eggs was done.

		moths to pre check for pebrine spores. 3) Testing of different fungicides on survivability of pebrine
E	Specific outcome:	 Rearing was conducted but due to less number of eggs and non-commercial season statistically useful data could not be collected. Hence the experiment is being repeated in the upcoming season. The new experiment for testing the mother moth before egg laying is being tested and the results will be presented soon. Digital microscope to better visualize the pebrine spores has been installed and it is being used for pebrine testing in the institute.
F	Budget and expenditure :	Budget: 19.92 lakhs, Expenditure: 4.30 lakhs
G	Suggestion of last RC/RAC meeting:	 61st RC suggestion The progress in the project is satisfactory. Investigators are advised to continue the project as per milestone. 39th RAC suggestions Continue the project as per milestone.
Н	Follow-up action taken on last RC/RAC meeting:	ATR on 61 st RC suggestionProject is being continued as per milestone.ATR on 39 th RAC suggestionProject is being continued as per milestones.
Ι	Suggestions of RCS	-
J	Follow up action taken on suggestion of RCS	-
K	62 nd RC Suggestions	Continue the project as per milestones and objectives of the project
8.	Project code and title:	AIB 05006 SI: Breeding of muga silkworms for improved silk quality and disease tolerance
A	Investigators involved	Dr.Arun Kumar KP, PI; Dr. Mahesh DS, CI; Dr. Manjunath RN, CI
B	Project period :	Oct 2019 – Sep 2022
С	Objectives:	 Selection of better parents by field collection of mugasilkmoth samples Classical breeding studies to select better lines for mugasilkmoths Mass production for limited trials
D	Progress achieved:	 Selection based on better cocoon characteristics and fecundity is going on. The selected muga line BP1 is now being stabilized. Analysis of data obtained from breeding experiments is going on. Information on basic genetics and breeding characteristics is being obtained. Maintenance of muga lines in cooler area during summer months was tried through rearing in Kalimpong, WB.

		6) Wild muga genetic stock were include in breeding
		experiments for development of hibernating characters
		collected from different geographical region with better
		cocoon characters and fecundity. GBS based linkage
		analysis to identity the locus/loci linked to pupal
		hibernation during winter is ongoing.
		7) Plastic collapsible mountage has been successfully used for
		mounting the breeding stock. It was found to be a suitable
		mounting device for large scale production of quality muga
		coccoops
		8) Cold realing technique has been modified through
		including EDTA in the realing solution which further
		eased the realing
		0) Cold realing was done for account obtained from different
		(7) Cold reening was done for cocools obtained from different
		Inountages I.e., Flastic Conapsible, Bandoo and
Б	Spacific outcome:	Jammountages.
	specific outcome:	One line that has been selected based on compactness of
		how being stabilized through pooled rearing of DELs. Petter
		now being stabilized through pooled realing of DTES. Better
		from 8 th round of rearing. One promising muga line has been
		selected after three rounds of directional selection and one
		round of further rearing. This line is now being stabilized
		GPS based linkage analysis is being carried out to identity the
		best based minkage analysis is being carried out to identity the
		an Next round of rooming of music is going on
Б	Dudget and	Dudgett 18 22 lakks
I I	Buuget allu	Buuget. 10.52 lakiis
G	Suggestion of last	61 st DC suggestions
U	BC/RAC meeting:	1) The progress of the project is satisfactory
	Refit to mooning.	2) GBS linkage analysis can be taken up under the project
		within the allocated budget Permission for the same may
		be sought from RCS and milestones may be undated
		accordingly
		3) The PL is advised to continue the project as per the
		milestone
		39 th RAC suggestions:
		39th RAC suggestions:
		 39th RAC suggestions: The progress made in the project is satisfactory. Continue the project as per milestones.
Ч	Follow up action	 39th RAC suggestions: The progress made in the project is satisfactory. Continue the project as per milestones.
Н	Follow-up action	 39th RAC suggestions: The progress made in the project is satisfactory. Continue the project as per milestones. Compliance on 61st RC Comments 1) GBS has been taken up within the allocated budget. This
Н	Follow-up action taken on last	 39th RAC suggestions: The progress made in the project is satisfactory. Continue the project as per milestones. Compliance on 61st RC Comments 1) GBS has been taken up within the allocated budget. This was approved by the RAC (That includes RCS) and
Н	Follow-up action taken on last RC/RAC meeting:	 39th RAC suggestions: The progress made in the project is satisfactory. Continue the project as per milestones. Compliance on 61st RC Comments 1) GBS has been taken up within the allocated budget. This was approved by the RAC (That includes RCS) and therefore the work has been undertaken
Н	Follow-up action taken on last RC/RAC meeting:	 39th RAC suggestions: The progress made in the project is satisfactory. Continue the project as per milestones. Compliance on 61st RC Comments 1) GBS has been taken up within the allocated budget. This was approved by the RAC (That includes RCS) and therefore the work has been undertaken. 2) The Project is being carried out as per milestones.
Н	Follow-up action taken on last RC/RAC meeting:	 39th RAC suggestions: The progress made in the project is satisfactory. Continue the project as per milestones. Compliance on 61st RC Comments 1) GBS has been taken up within the allocated budget. This was approved by the RAC (That includes RCS) and therefore the work has been undertaken. 2) The Project is being carried out as per milestones.
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	taken on suggestion	
	of RCS	
K	62 nd RC Suggestions	 The PI should use micro-climate chamber available at CMERTI to maintain the lines during unfavourable seasons. As initial leads on cold reeling technique are promising, PI is advised to reproduce the results on larger scale to check the suitability of the technique for DFLs production and silk production simultaneously.
0	Duciant and and	AIT 05011EE. Molecular investigation into the
9.	title:	lignocellulolytic system of a few wild silkmoths of North East India
A	Investigators involved	Dr. Arun Kumar KP (PI), Dr. Rajal Debnath (CI)
В	Project period :	Sept 2019-Sept 2022
C	Objectives:	 a) Impact of host plant range on the microbial community in <i>Antheraea assamensis</i> Helfer and <i>Samia ricini</i> Donovan b) Lignocellulose degradation by the gut microbes associated with <i>Antheraea assamensis</i> and <i>Samia ricini</i> Donovan c) Molecular characterization of the lingo-cellulolytic biomass degrading enzyme d) Developing microbial pathogen resistance through induction of immunity in silkworm via manipulation of gut microbiome
D	Progress achieved:	 a. Quantitative analysis of cellulolytic enzymes produced by cellulolytic bacteria is being carried out using cellulase activity assay kit. b. Sanger sequencing is carried out for bacterial strains isolated from gut of muga and eri collected from different locations of northeast and sequence analysis is done. c. Rearing of Eri silkworms was carried out in 3 different host plants for metagenomic DNA isolation.
E	Specific outcome:	Maximum cellulase production was observed in strains MS59, MB417 and MB420 among all the cellulase activity positive strains. Sequence analysis is done and submitted to NCBI. Only 2 strains of Eri were collected on rearing, therefore rearing needs to be repeated using 4 different pure lines of ecoraces of eri in 3 different host plants for isolation of metagenomic DNA.
F	Budget and expenditure :	Budget: 46.32 lakhs Expenditure: 12.28 lakhs
G	Suggestion of last	RAC comments:
	RC/RAC meeting:	 Pacify the effective utilization of sanctioned fund. Involve DR. Rajal Debnath, Sc-C from SBRL as CI as he was the PI of the project and has the requisite expertise. Continue the project as per milestone.

		RC comments:
		• Project to be continued in collaboration with SBRL
		Bangalore.
		• Include Dr.Rajal Debnath, Sc-C as CI from SBRL
		Bangalore after seeking permission from the funding
		agency, DBT and RCS, CO.
		• Seek permission from funding agency to utilize the left-
		over non-recurring amount for purchase of multi-mode
		micro-plate reader in view of cost escalation.
H	Follow-up action	RAC:
	taken on last	• Fund utilization has been done for purchase of chemicals
	RC/RAC meeting:	and services.
		• Dr. Rajal Debnath has been included as CI and the
		communication has already been sent to DBT for
		ratification. The project is being continued in collaboration
		with SBRL, Bangalore.
		• The project is carried out as per milestone. Quantitative
		analysis of the cellulase enzyme activity of cellulase
		positive strains were carried out. whole genome
		WGS for the Cellulase and Yulanase enzyme producing
		bacterial strains will be carried out on receiving the service
		RC.
		• Dr Raial Debnath has been included as CI and the
		communication has already been sent to DBT for
		ratification. The project is being continued in collaboration
		with SBRL, Bangalore.
		• Permission was granted by DBT for utilization of non-
		recurring funds for purchase of multimode microplate
		reader. However, the CO, CSB has not permitted the same
		since the product is not made-in-india and the price is
		exceeding 5.00 lakhs.
I	Suggestions of RCS	-
J	Follow up action	-
	taken on suggestion	
V	OI KUS	Continue the project of ner milestones
	62 KC Suggestions	Continue the project as per innestones
10	Project code and	RPP 05014CN: Standardization of Processing and
10.	title.	Production of a Consumable Reverage from Mulberry
	uuc.	Leaves and Blending with Green Tea
A	Investigators	Dr. K. Sathvanaravana, M Chutia (upto June, 2021), Dr. P
	involved	Sangannavar. Sri P Kumerasen
В	Project period :	March, 2020 – June, 2021
С	Objectives:	1. Standardization of protocol for preparation of mulberry leaf
	-	for production of mulberry tea and mulberry green tea
		(blending of green tea with mulberry leaves).
		2. Standardization of protocol for blending of processed
		mulberry leaf with green tea for value addition.

		3. Evaluation of biochemical and organoleptic properties and
		customer's acceptance of the products.
D	Progress achieved:	• Preliminary trials of blending processed mulberry powder and
		CTC green tea have been done.
		• The processed mulberry and tea leaves and their blended
		products were tasted by tasters of different tea broker houses.
		Biochemical analysis is completed.
		• TTRI and AAU were advised to complete the remaining work
		as per industrial standards besides preparing sample sachets
		for customer trials and popularization.
E	Specific outcome:	Process for preparing stand alone and blended mulberry
		beverage has been standardized.
F	Budget and	4.00 (for CSB)
	expenditure :	
G	Suggestion of last	RC Suggestion:
	RC/RAC meeting:	As the project is nearing completion, the final progress from
		both the collaborating institutes may be obtained and the same
		to be communicated to RCS, CO.
		RAC Suggestion:
		1. Conduct a meeting of project working group to suggest
		future course of action on the outcome of the project.
		2. Extend the project till June 2022 to complete the left over
TT		work including customer feedback and patenting process.
H	Follow-up action	ATR on RC Comment:
	taken on last	The Final Project report has been submitted to RCS by AAU.
	RC/RAC meeting:	However, 39 th RAC suggested to extend the project period up
		to June, 2022. The concluding report will be submitted in
		RMIS-10 Format after completion of the project activities.
		ATR on RAC Comment.
		The meeting of project PIs and CIs including collaborating
		institutes was conducted on 17 th December 2021 at CMER&I
		Labdoigarh and future course of action on the outcome of the
		project was devised.
		As suggested the project period extend up to June, 2022 and
		customer feedback will be taken during April-May, 2022
Ι	Suggestions of RCS	-
J	Follow up action	-
	taken on suggestion	
	of RCS	
Κ	62 nd RC Suggestions	Coordinate with collaborating institutes for completion of left
		over work such as supply of leaf, preparation of samples of
		both standalone and blended mulberry beverage.
	1	
11.	Project code and	PIB-05005-SI: Genetic enhancement of Castor (Ricinus
	title:	communis L.) germplasm as a source material for
		development of productive perennial varieties.
Α	Investigators	Aftab A. Shabnam (PI), Amit Kumar (CI), Vinodakumar S.
	involved (PI & Co-	Naik (CI) upto 29 th Feb. 2020 and L. Somen Singh (CI), Dr.
	I's)	D.K. Jigyasu (CI)

В	Project period :	Oct. 2019 to Sept. 2022
С	Objectives:	1. Genetic enhancement of castor germplasm.
	-	Development of pre-bred intermediate castor with perennial
		characteristics.
D	Progress achieved:	 Characteristics. Sowing of 23 castor accessions, Processing and labelling of F₂ seed of different cross combinations (1st crossing lot) and F₁ seeds from 17 new cross combinations (2nd crossing lot) was completed. 1.2 acre land was prepared for sowing at GCC, Chenijan and sowing of F₁ and F₂ seeds (1st and 2nd crossing lot) was completed. The plantation of F₁ and F₂ generation from 2nd and 1st crossing lots is in the field and the growth is slow due to prevailing winter conditions. Preliminary selection in F₁ and selection of promising hybrids in F₂ will be carried out in March-April 2022. O5 new castor accessions were collected from Topatoli, Assam. Data generated from characterization of 17 castor accessions has revealed that variability in metric traits ranges from 11.12 to 37.66% and in Biochemical traits the variability ranges from 2,61 to 48.16%. Comparative analysis has shown that Accession no. 22 is superior in most of the economic traits with 1.329 kg leaf yield/plant. Plantation of 23 castor accessions at Farm-2, perennial castor plants selected from mass selection lot at Farm-3 and F₁ and F₂ generation plantations at GCC, Chenijan was maintained as per recommended package of practices.
E	Specific outcome:	 Inclusion of 05 new castor accessions collected from NE region has further enriched the castor gene-pool. Characterization of castor germplasm will help in identifying the potential castor accessions for inclusion in future breeding programmes. Crossing of potential parents will help in evolution of castor hybrid with perennial traits.
F	Budget and expenditure :	Budget: Rs. 13.30 lakh; Expenditure till Jan. 2022: 4.53680
G	Suggestion of last RC/RAC meeting:	 Suggestions of 61st RC held on 10th August 2021: > The progress of the project is satisfactory and continue as per the milestone > The PI is advised to identify the land at GCC Chenijan or in any other institute farms for raising F2 generation. Suggestions of 39th RAC held on 6th November 2021: > Include disease tolerance data in characterization. > Continue the project as per milestones.
Н	Follow-up action	Follow-up action on 61 st RC held on 10 th August 2021:
	taken on last RC/RAC meeting:	 The project is continuing as per the milestone The land has been identified and according the F₁ and F₂ generations raised.

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		Follow-up action on 39 th RAC held on 6 th November 2021:
		> The financial approval for the procurement of the OTCs is
		still awaited from the standing committee.
Ι	Suggestions of RCS	To check on conducting experiments as per set work under PIB AIP-05013-SI
J	Follow up action	The project is running behind the schedule as the financial
	taken on suggestion	approval for the procurement of the OTCs under the project is
	of RCS	still awaited from the standing committee.
K	62 nd RC Suggestions	 The proposed activities under the project have not been initiated yet due to non-procurement of OTC's for which the approval is awaited form standing committee. The PI may follow up the procurement of the same. Include muga silk production data in the book entitled "Seri-Climatic Manual of Muga Growing Districts of Assam" and publish the same.
13.	Project code and title:	MOE 05022 MI: Evaluation and popularization of improved technologies developed in the field of Muga, Eri and Oak sector for Northeastern India (On-station/On- farm Trials of CMER&TI, Lahdoigarh)
A	Investigators involved (PI & Co- I's)	Dr. D K Jigyasu, CMERTI (PI), Sri Suraj Pal, REC-Fatehpur (CI), Dr. James T Keisa, CMERTI (CI), Dr. Y Debaraj, RSRS-Imphal (CI), Dr. L Somen Singh, RSRS-Imphal (CI), Sri. B N Choudhury, RSRS-Boko (CI), Sri SAS Rahman, RSRS-Boko (CI), Dr D. Mech, REC-Lakhimpur (CI), Dr. Aftab A Shabnam, CMERTI (CI), Dr. S Subharani Devi, RSRS-Imphal (CI), Dr. Arun Kumar KP, CMERTI (CI), Dr. Amit Kumar, CMERTI (CI), Dr. Kh. Subadas Singh, CMERTI (CI), Dr Vijay. N, CMERTI (CI), Dr. Mahesh D S, CMERTI (CI), Dr. Manjunath R N, CMERTI (CI), Mr. Abhishek Singh, MESSO (CI)
В	Project period :	February 2022 to January 2024
C	Objectives:	 To popularize various technologies in different stages developed by the Institute To further create awareness for technological intervention
		among the farmers and beneficiaries
	Duo guogo o chierra di	➤ 10 increase the overall cocoon production. OFT of 12 technologies was seried out at 21 leasting.
D	Progress achieved:	OFT of 12 technologies was carried out at 31 locations covering 114 beneficiaries against a target of 685 beneficiaries. The OST of 08 technologies was also conducted at 23 locations. The leftover target will be achieved in March 2022.
E	Specific outcome:	Awareness and popularization of technologies in muga, eri and oak tasar.
F	Budget and	Budget: Rs. 19.39 lakhs, Expenditure till Jan. 2022: 3.94
	expenditure :	Lakh
G	Suggestion of last	Suggestions of 61 st RC held on 10 th August 2021:

	RC/RAC meeting:	The investigators are advised to initiate the work immediately as the study is a part of approved action plan for the year 2021-22. Suggestions of 39th RAC held on 6th November 2021: It was suggested to compile the data and complete the pending OSTs and OFTs. For each technology and each location, minimum 10 different formars to be covered
Н	Follow-up action taken on last RC/RAC meeting:	 Follow-up action on 61st RC held on 10th August 2021: Complied all OST/OFT activities and submitted to RCS for coding. Recently, code of project was received. Follow-up action on 39th RAC held on 6th November 2021:
		Compilation of data is going on and pending OSIs and OFIs will be completed as per milestones
I	Suggestions of RCS (if any indicated in quarterly progress report)	Suggestions of RCS under quarterly (Jul-Sep 2021) report: To achieve set target of ToTs proposed under Annual Action Plan for the Year 2021-22.
T	Follow up action	 i. Project title need to be changed to "Evaluation and popularization of improved technologies developed in the field of Muga, Eri & Oak sector for northeastern India". ii. Observations/ outcome/ performance of each technology under R&D project to be compared with the performance at OST/OFT level and same to be indicated in the revised proposal as per the format circulated vide minutes of 1st meeting of core committee of Directors (Annexure-6) Itr no. CSB-31/2(Core Committee)/2020- 21/RCS dtd 08.04.2020. iii. Project period to be revised to two years to complete all the technologies coming under OST and OFT for next two year. iv. Material, information, results etc from previous work/ experiments to be collected from previous PI/CI for proper implementation of the work. v. Methodology to be conducted following general guidelines of technology evaluation with appropriate sample size and experimental design beside following proper statistical package. vi. Component 2 of OST i.e. "Bio-formulation for management of <i>Altemaria</i> blight disease of castor" methodology for trial need to be incorporated in revised proposal. Project approved without any research fellow.
J	taken on suggestion	report:
	of RCS	Activities are going on as per milestone under the ToTs programmes under Annual Action Plan for the Year 2021-22.

		 Follow up action RCS, CO received on 9th Feb 2022: i. Suggestion noted and title of the project changed accordingly. ii. Suggestion noted for compliance. iii. Suggestion noted for compliance. iv. The information and materials will invariably be collected from previous PIs/CIs of the projects for proper implementation of the work. v. Suggestion for compliance. vi. The CI entrusted the task of carrying out OST on Bioformulation for management of <i>Altemaria</i> blight disease of castor has reported that the material provided is not showing any significant effect on management of <i>Altemaria</i> blight disease.
		technology evaluation committee.
		Suggestion noted and OST/OFT activities initiated as per milestone.
K	62 nd RC Suggestions	• Complete the left over target of OSTs/OFTs
		• Revise the project budget as the project is approved for 02 years and include 02 OSTs for test verifying volatile blends
		for enhanced egg laying in muga and eri.
14.	Project code and	CFC 5017 MI: Exploration and adoption of novel muga
		ananan analying tanhnalagy far ingraasing its raalahility
	title:	cocoon cooking technology for increasing its reelability and raw silk quality.
A	Investigators	cocoon cooking technology for increasing its reelability and raw silk quality. Dr. Manjunath R.N, PI; Dr. Dip Kr. Gogoi, Co-PI; Dr. Rajiv K
A	Investigators involved	cocoon cooking technology for increasing its reelability and raw silk quality. Dr. Manjunath R.N, PI; Dr. Dip Kr. Gogoi, Co-PI; Dr. Rajiv K Munshi, CI (RSTRS)
A	Investigators involved Project period :	cocoon cooking technology for increasing its reelability and raw silk quality. Dr. Manjunath R.N, PI; Dr. Dip Kr. Gogoi, Co-PI; Dr. Rajiv K Munshi, CI (RSTRS) March 2021 to Feb. 2023
A B C	Investigators involved Project period : Objectives:	cocoon cooking technology for increasing its reelability and raw silk quality.Dr. Manjunath R.N, PI; Dr. Dip Kr. Gogoi, Co-PI; Dr. Rajiv K Munshi, CI (RSTRS)March 2021 to Feb. 20231. To study the efficacy of enzymatic and non-enzymatic anneachas in muce access access access access.
A B C	Investigators involved Project period : Objectives:	cocoon cooking technology for increasing its reelability and raw silk quality.Dr. Manjunath R.N, PI; Dr. Dip Kr. Gogoi, Co-PI; Dr. Rajiv K Munshi, CI (RSTRS)March 2021 to Feb. 20231. To study the efficacy of enzymatic and non-enzymatic approaches in muga cocoon cooking/ softening.2. To develop a new cocoon cooking technique to improve the
A B C	Investigators involved Project period : Objectives:	 cocoon cooking technology for increasing its reelability and raw silk quality. Dr. Manjunath R.N, PI; Dr. Dip Kr. Gogoi, Co-PI; Dr. Rajiv K Munshi, CI (RSTRS) March 2021 to Feb. 2023 1. To study the efficacy of enzymatic and non-enzymatic approaches in muga cocoon cooking/ softening. 2. To develop a new cocoon cooking technique to improve the reelability & raw silk quality in muga cocoons dried under
A B C	Investigators involved Project period : Objectives:	 cocoon cooking technology for increasing its reelability and raw silk quality. Dr. Manjunath R.N, PI; Dr. Dip Kr. Gogoi, Co-PI; Dr. Rajiv K Munshi, CI (RSTRS) March 2021 to Feb. 2023 1. To study the efficacy of enzymatic and non-enzymatic approaches in muga cocoon cooking/ softening. 2. To develop a new cocoon cooking technique to improve the reelability & raw silk quality in muga cocoons dried under different techniques
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A B C	Investigators involved Project period : Objectives: Progress achieved:	 cocoon cooking technology for increasing its reelability and raw silk quality. Dr. Manjunath R.N, PI; Dr. Dip Kr. Gogoi, Co-PI; Dr. Rajiv K Munshi, CI (RSTRS) March 2021 to Feb. 2023 1. To study the efficacy of enzymatic and non-enzymatic approaches in muga cocoon cooking/ softening. 2. To develop a new cocoon cooking technique to improve the reelability & raw silk quality in muga cocoons dried under different techniques 3. To carry out large scale Multi-location trials at CSB and DoS reeling units for validating the efficacy of the newly developed cooking method. 4. To create awareness among the reeling beneficiaries to adopt/popularize the outcome of the project. A new solvent based cooking formulation that offers quick and efficient/uniform cooking of muga cocoons has been developed and is currently undergoing laboratory trials (in comparison to traditional soda based cooking methods) to
A B C	Investigators involved Project period : Objectives: Progress achieved:	 cocoon cooking technology for increasing its reelability and raw silk quality. Dr. Manjunath R.N, PI; Dr. Dip Kr. Gogoi, Co-PI; Dr. Rajiv K Munshi, CI (RSTRS) March 2021 to Feb. 2023 1. To study the efficacy of enzymatic and non-enzymatic approaches in muga cocoon cooking/ softening. 2. To develop a new cocoon cooking technique to improve the reelability & raw silk quality in muga cocoons dried under different techniques 3. To carry out large scale Multi-location trials at CSB and DoS reeling units for validating the efficacy of the newly developed cooking method. 4. To create awareness among the reeling beneficiaries to adopt/popularize the outcome of the project. A new solvent based cooking formulation that offers quick and efficient/uniform cooking of muga cocoons has been developed and is currently undergoing laboratory trials (in comparison to traditional soda based cooking methods) to validate its efficacy and shelf life.
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A B C	Investigators involved Project period : Objectives: Progress achieved:	 cocoon cooking technology for increasing its reelability and raw silk quality. Dr. Manjunath R.N, PI; Dr. Dip Kr. Gogoi, Co-PI; Dr. Rajiv K Munshi, CI (RSTRS) March 2021 to Feb. 2023 1. To study the efficacy of enzymatic and non-enzymatic approaches in muga cocoon cooking/ softening. 2. To develop a new cocoon cooking technique to improve the reelability & raw silk quality in muga cocoons dried under different techniques 3. To carry out large scale Multi-location trials at CSB and DoS reeling units for validating the efficacy of the newly developed cooking method. 4. To create awareness among the reeling beneficiaries to adopt/popularize the outcome of the project. > A new solvent based cooking formulation that offers quick and efficient/uniform cooking of muga cocoons has been developed and is currently undergoing laboratory trials (in comparison to traditional soda based cooking methods) to validate its efficacy and shelf life. > Further, shelf life period and boil loss% of the new cooking technique is being analyzed in comparison to traditional

E	Specific outcome:	> The trial results were ascertained by reduced cooking
		duration (less than 3 minutes unlike 10-15 minutes in soda
		techniques) and reduced breakages (by ~20%) during the
		reeling process.
F	Budget and	Budget: Rs 18 27 lakh: Expenditure till Jan 2022: 2 41
	expenditure :	Dudget. RS. 10.27 lakit, Experiature un sun. 2022. 2.41
G	Suggestion of last	Suggestions of 61 st RC held on 10 th August 2021:
	RC/RAC meeting:	The progress of the project is satisfactory and continue as
		per the milestone
		Suggestions of 39 th RAC held on 6 th November 2021:
		► For achieving the target of enzymatic approach in
		muga cocoon cooking, expertise with other CSB
		Institutes may be explored for collaboration.
и	Follow up action	Follow up action on $(1^{st} DC)$ hold on 10^{th} August 2021.
п	taken on last	Follow-up action on of KC field on 10 August 2021: The project is continuing as per the milestone
	RC/RAC meeting:	r ine project is continuing as per the innestone
	ite, iti ie incomg.	Follow-up action on 39 th RAC held on 6 th November 2021:
		\succ Expertise with other CSB Institutes was explored and Dr.
		D K Gogoi, Sc-D from RSRS Khoraput has been approved
		by RCS for being included as Co-PI in the project for
		achieving the target of enzymatic approach in muga cocoon
		cooking. Accordingly, the project will be executed.
T	Suggestions of PCS	Vil
I	Follow up action	Nil
5	taken on suggestion	
	of RCS	
K	62 nd RC Suggestions	Continue the project as per milestones
	00	
15.	Project code and	MFM 5019 MI: Development of Honeycomb Mountages
	title:	and Harvesting Technology for Muga Cocoon Production
		with Improved Uniformity and raw silk recovery.
A	Investigators	Dr. Manjunath R.N, PI; Dr. Mahesh D. S, CI;
D	101001000	
IR	Ducie et menie 1	Manul 2021 to Esh 2022
	Project period :	March 2021 to Feb. 2023
C	Project period : Objectives:	March 2021 to Feb. 2023 4. Fabrication of honeycomb mountages and suitable harvesting technology for uniform muga coccord
C	Project period : Objectives:	March 2021 to Feb. 2023 4. Fabrication of honeycomb mountages and suitable harvesting technology for uniform muga cocoon production
C	Project period : Objectives:	 March 2021 to Feb. 2023 4. Fabrication of honeycomb mountages and suitable harvesting technology for uniform muga cocoon production. 5. Impact assessment of honeycomb mountages on cocoon
C	Project period : Objectives:	 March 2021 to Feb. 2023 4. Fabrication of honeycomb mountages and suitable harvesting technology for uniform muga cocoon production. 5. Impact assessment of honeycomb mountages on cocoon production, cocoon characteristics and reeling
C	Project period : Objectives:	 March 2021 to Feb. 2023 4. Fabrication of honeycomb mountages and suitable harvesting technology for uniform muga cocoon production. 5. Impact assessment of honeycomb mountages on cocoon production, cocoon characteristics and reeling performances.
C	Project period : Objectives:	 March 2021 to Feb. 2023 4. Fabrication of honeycomb mountages and suitable harvesting technology for uniform muga cocoon production. 5. Impact assessment of honeycomb mountages on cocoon production, cocoon characteristics and reeling performances. 6. To conduct on-station feasibility trials of the mountages at
C	Project period : Objectives:	 March 2021 to Feb. 2023 4. Fabrication of honeycomb mountages and suitable harvesting technology for uniform muga cocoon production. 5. Impact assessment of honeycomb mountages on cocoon production, cocoon characteristics and reeling performances. 6. To conduct on-station feasibility trials of the mountages at CSB/DoS units for prototype test verification
C	Project period : Objectives: Progress achieved:	 March 2021 to Feb. 2023 4. Fabrication of honeycomb mountages and suitable harvesting technology for uniform muga cocoon production. 5. Impact assessment of honeycomb mountages on cocoon production, cocoon characteristics and reeling performances. 6. To conduct on-station feasibility trials of the mountages at CSB/DoS units for prototype test verification ▶ Optimization of honeycomb mountage dimensions has been
D D	Project period : Objectives: Progress achieved:	 March 2021 to Feb. 2023 4. Fabrication of honeycomb mountages and suitable harvesting technology for uniform muga cocoon production. 5. Impact assessment of honeycomb mountages on cocoon production, cocoon characteristics and reeling performances. 6. To conduct on-station feasibility trials of the mountages at CSB/DoS units for prototype test verification > Optimization of honeycomb mountage dimensions has been completed through lab scale prototypes and trials.
D D	Project period : Objectives: Progress achieved:	 March 2021 to Feb. 2023 4. Fabrication of honeycomb mountages and suitable harvesting technology for uniform muga cocoon production. 5. Impact assessment of honeycomb mountages on cocoon production, cocoon characteristics and reeling performances. 6. To conduct on-station feasibility trials of the mountages at CSB/DoS units for prototype test verification > Optimization of honeycomb mountage dimensions has been completed through lab scale prototypes and trials. > Fine tuning and Fabrication of Honeycomb mountages (for the state of the state of

		ventilation with suitable harvesting technology (keeping
		low-cost, eco-friendly, durability and affordability aspects in
		mind) is under progress through outsourcing.
E	Specific outcome:	A new type of mountage with a possibility to produce uniform
	-	cocoon production.
F	Budget and	Budget: Rs. 10.95 lakh Expenditure till Jan. 2022: 1.65 Lakh
	expenditure :	
G	Suggestion of last	Suggestions of 61 st RC held on 10 th August 2021:
	RC/RAC meeting:	▶ Investigators are advised to continue the project as per
		milestone.
		Suggestions of 39 th RAC held on 6 th November 2021:
		Continue the project as per milestones.
H	Follow-up action	Follow-up action on 61 st RC held on 10 th August 2021:
	taken on last	The project is continuing as per the milestone
	RC/RAC meeting:	Follow-up action on 39 th RAC held on 6 th November 2021:
		The project is continuing as per the milestone
Ι	Suggestions of RCS	Nil
J	Follow up action	Nil
	taken on suggestion	
	of RCS	
K	62 nd RC Suggestions	Continue the project as per milestones
16.	Project code and	APR:05008SI Standardization of Rearing and Grainage
	title:	Technologies of Antheraea frithi Moore
A		Dr. L. Somen Singh, PI, Dr. S. Subharani Devi, CI
D	Involved	October 2010 September 2022
B	Objectives:	To standardize the rearing and grainage technologies to suit
	Objectives.	for commercial adoption
	Progress achieved:	During 2nd crop, chawki rearing of A. frithi was conducted in
		indoor condition by feeding three different food plants viz.
		L. dealbata, U. serrata and U. griffithi leaves. After chawki
		feeding the same feed plants. The results showed that were
		reared on L dealbatareaserded 41 accession per dfl followed by
		12coccors per dflwhen worms were fed on O servera and 9
		cocoons per dfl when fed on Ω griffithi During the period 4%
		of the moths were erratically emerged
E	Specific outcome:	 Emergence of moth started after 28 days of photoperiodic
	specific outcome.	treatmentduring second crop
		 54 % coupling obtained inside the bamboo basket covered
		with black cloth.
		Chawki rearing in indoor condition followed by outdoor
		rearing showed that worms reared on <i>L. dealbata</i> recorded
		41 cocoons per dfl followed by 12 cocoons per dflwhen fed
		on Q. serrata and 9 cocoons per dfl when fed on Q.
		griffithi.
F	Budget and	Rs. 12.85 lakhs and 4.78 lakhs
	expenditure :	
C	Suggestion of last	RC comments:

PL is advised to continue the project as per th	e milestone
	ie innestone
DAC commenter	
	1 1 1 1 4
Specify the cost benefit associated with the	ie bamboo baskets
besides identifying economic viability	y of any other
materials.	
Continue the project as per milestones	
H Follow-up action Action taken against RC comments:	
taken on last As suggested the project is being continued	inued as per the
RC/RAC meeting: milestone.	1
Action taken against PAC comments:	
Action taken against KAC comments.	the milestone
As suggested the project is continued as per	the milestone
I Suggestions of RCS > To check on conducting experiments as p	ber set work plan.
$($ if any indicated in \succ To review and effectively utilize the	budget under the
quarterly progress ongoing projects.	
report) > Budget utilized in last quarter.	
J Follow up action > The project is continuing as per the set w	ork plan.
taken on suggestion > Budget Sanctioned: Rs.12,85,000, Bud	lget Utilized: Rs.
of RCS 4.75.700	0
$R_{\rm S} = 2.04500$	
K 62 nd BC Suggestions Continue as per milestone and conclude the	project as per the
K OZ KC Suggestions Continue as per inflestone and conclude the	project as per the
scheduled time	
scheduled time.	
scheduled time.	nt line(s) of Oak
scheduled time. 17. Project code and title:	nt line(s) of Oak
scheduled time. 17. Project code and title: title: tasar silkworm Antheraeaproylei J.	nt line(s) of Oak
scheduled time. scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-toleral tasar silkworm Antheraeaproylei J. A Investigators Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C	nt line(s) of Oak
scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-toleration tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C	nt line(s) of Oak I, Dr. Arun
scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-toleral tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022	nt line(s) of Oak I, Dr. Arun
scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-toleration tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar si	nt line(s) of Oak I, Dr. Arun ilkworm,
scheduled time. scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei	nt line(s) of Oak
scheduled time. scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei C Characterization of Heat shock protein gene	nt line(s) of Oak
scheduled time. scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei Characterization of Heat shock protein gene line.	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant
scheduled time. scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei C Characterization of Heat shock protein gene line. D Progress achieved: During 2 nd crop, conducted rearing of three	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant :e different breeds
scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei C Objectives: Characterization of Heat shock protein gene line. D Progress achieved: During 2 nd crop, conducted rearing of three viz. A provlei. RTRS-1 and C27. Silk	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant ce different breeds worms were heat
scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of three viz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C 32°C	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant ce different breeds worms were heat 35°C and 38°C) in
scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of three viz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph years	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant ce different breeds worms were heat 35°C and 38°C) in
scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of thre viz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph v contrifued. The supermetants were collected.	nt line(s) of Oak T, Dr. Arun ilkworm, in thermo-tolerant ce different breeds worms were heat 35°C and 38°C) in vere collected and
scheduled time. scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of thre viz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph w centrifuged. The supernatants were collected.	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant the different breeds worms were heat 35°C and 38°C) in vere collected and 1. Equal amount of
scheduled time. scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-toleral tasar silkworm Antheraeaproylei J. A Investigators Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of three viz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph w centrifuged. The supernatants were collected total proteins of each sample were separate	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant worms were heat 35°C and 38°C) in vere collected and 1. Equal amount of id on a 15% SDS-
scheduled time. scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-toleral tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of thre viz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph v centrifuged. The supernatants were collected total proteins of each sample were separate PAGE. Out of about 14 protein bands separate	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant ce different breeds worms were heat 35°C and 38°C) in vere collected and 1. Equal amount of id on a 15% SDS- eparated, 5 major
scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of threviz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph v centrifuged. The supernatants were collected total proteins of each sample were separate PAGE. Out of about 14 protein bands seproteins bands which are having high mole	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant ce different breeds worms were heat 35°C and 38°C) in vere collected and 1. Equal amount of d on a 15% SDS- eparated, 5 major ecular weight are
scheduled time. I7. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of three viz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph v centrifuged. The supernatants were collected total proteins of each sample were separate PAGE. Out of about 14 protein bands seproteins bands which are having high mole observed to be expressed differentially (incrementional proteins bands which are having high mole observed to be expressed differentially (incrementional proteins bands which are having high mole observed to be expressed differentially (incrementional proteins bands which are having high mole observed to be expressed differentially (incrementional proteins bands which are having high mole observed to be expressed differentially (incrementional proteins bands which are having high mole observed to be expressed differentially (incrementional proteins bands which are having high mole observed to be expressed differentially (incrementional proteins bands which are having high mole observed to be expressed differentially (incrementional proteins bands which are having high mole observed to be expressed differentially (incrementional proteins bands which are having high mole observed to be expressed differentially (incrementional proteins bands which are having high mole observed tobserved tobserv	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant ce different breeds worms were heat 35°C and 38°C) in vere collected and l. Equal amount of cd on a 15% SDS- eparated, 5 major ecular weight are eased or decrease)
scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-tolerat tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of threviz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph v centrifuged. The supernatants were collected total proteins of each sample were separate PAGE. Out of about 14 protein bands seproteins bands which are having high mole observed to be expressed differentially (incr	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant ce different breeds worms were heat 35°C and 38°C) in vere collected and 1. Equal amount of cd on a 15% SDS- eparated, 5 major ecular weight are eased or decrease) perature. These
scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-toleration tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of three viz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph v centrifuged. The supernatants were collected total proteins of each sample were separate PAGE. Out of about 14 protein bands seproteins bands which are having high mole observed to be expressed differentially (increafter heat was induced at different temperature temperature temperature temperature to be expressed differentially (increafter heat was induced at different temperature temperature temperature temperature to be expressed differentially (increafter heat was induced at different temperature temperature temperature temperature temperature temperature to be expressed differentially (increafter heat was induced at different temperature tempera	nt line(s) of Oak T, Dr. Arun ilkworm, in thermo-tolerant :e different breeds worms were heat 35°C and 38°C) in vere collected and 1. Equal amount of :ed on a 15% SDS- eparated, 5 major ecular weight are eased or decrease) perature. These > acid sequencing.
scheduled time. scheduled time. 17. Project code and title: AIB: 05009SI Isolation of thermo-toleratitas ar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of threviz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph w centrifuged. The supernatants were collected total proteins of each sample were separate PAGE. Out of about 14 protein bands seproteins bands which are having high mole observed to be expressed differentially (incr after heat was induced at different temp after heat was induced at different temp	nt line(s) of Oak T, Dr. Arun ilkworm, in thermo-tolerant we different breeds worms were heat 35°C and 38°C) in vere collected and 1. Equal amount of id on a 15% SDS- eparated, 5 major ecular weight are eased or decrease) perature. These p acid sequencing. are preserved for
scheduled time. scheduled time. AlB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators involved Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei Characterization of Heat shock protein gene line. D Progress achieved: During 2 nd crop, conducted rearing of threviz. A.proylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph v centrifuged. The supernatants were collected total proteins of each sample were separate PAGE. Out of about 14 protein bands seproteins bands which are having high mole observed to be expressed differentially (incrafter heat was induced at different temp proteins will be further identified by amino Seed cocoons of heat tolerant population continuing the generation.	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant e different breeds worms were heat 35°C and 38°C) in vere collected and 1. Equal amount of ed on a 15% SDS- eparated, 5 major ecular weight are reased or decrease) perature. These b acid sequencing. are preserved for
scheduled time. I7. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of threvia. Aproylei, RTRS-1 and C27. Silk treated at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph v centrifuged. The supernatants were collected total proteins of each sample were separate PAGE. Out of about 14 protein bands sproteins bands which are having high mole observed to be expressed differentially (incr after heat was induced at different temp proteins will be further identified by amino Seed cocoons of heat tolerant population continuing the generation. E Specific outcome: > A heat tolerant population unto 4 th generation	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant e different breeds worms were heat 35°C and 38°C) in vere collected and 1. Equal amount of ed on a 15% SDS- eparated, 5 major ecular weight are eased or decrease) perature. These b acid sequencing. are preserved for ion is maintained
scheduled time. I7. Project code and title: AIB: 05009SI Isolation of thermo-tolerant tasar silkworm Antheraeaproylei J. A Investigators Dr. Y. Debaraj, PI, Dr. S. Subharani Devi, C Kumar, CI B Project period : October 2019 – September 2022 C Objectives: To isolate thermo-tolerant line of oak tasar s Antheraeaproylei D Progress achieved: During 2 nd crop, conducted rearing of threviate at different temperature (25°C, 32°C, third day 5th instar larvae. Haemolymph v centrifuged. The supernatants were collected total proteins of each sample were separate PAGE. Out of about 14 protein bands seproteins bands which are having high mole observed to be expressed differentially (increater after heat was induced at different temperature proteins will be further identified by amino Seed cocoons of heat tolerant population continuing the generation. E Specific outcome: > A heat tolerant population upto 4 th generation	nt line(s) of Oak I, Dr. Arun ilkworm, in thermo-tolerant e different breeds worms were heat 35°C and 38°C) in vere collected and 1. Equal amount of ed on a 15% SDS- eparated, 5 major ecular weight are eased or decrease) perature. These b acid sequencing. are preserved for ion is maintained. d 5 (five) major

		express differentially.
F	Budget and	Rs. 21.90 lakhs and 3.30 lakhs
	expenditure :	
G	Suggestion of last	RC comments:
	RC/RAC meeting:	The work under the project is running behind the schedule
		due to COVID restrictions and lack of expertise.
		A part of the work for characterization of heat shock protein
		gene in thermo-tolerant line should be out sourced due to
		lack of expertise with PI
		Expedite the process of procurement under the project.
		RAC comments:
		The progress made in the project is satisfactory.
		Continue the project as per milestones.
Н	Follow-up action	Action taken against RC comments:
	taken on last	As suggested, necessary action has been taken to speed up the
	RC/RAC meeting:	project activities and continue the project as per milestones.
		Detection of heat shock protein gene taken up in the laboratory
		of Department of Biotechnology, Manipur University. Result
		will be presented by PI.
		Maximum procurement of equipment completed except one
		which is under progress through GEM portal.
		Action taken against RAC comments:
		As suggested the project is continued as per the milestone.
I	Suggestions of RCS	To check on conducting experiments as per set work plan
	(if any indicated in	To review and effectively utilize the budget under the on-
	quarterly progress	going projects.
	report)	Budget utilized in last quarter.
J	Follow up action	The project is continuing as per the set work plan.
	taken on suggestion	Budget Sanctioned: Rs. 21,90,000, Budget Utilized: Rs.
	of RCS	3,30,737
17	cond p.c. a	Rs. 0
K	62 nd RC Suggestions	Continue the project as per milestones
10	Duciant and and	ADD: 05010SI Evaluation of Exi Sillyyoum Dagos suitable
10.	filo.	for different agre climatic conditions of Maninur
Δ	Investigators	Dr Y Debarai (PI) and Dr L Somen Singh (CI)
	involved	
В	Project period :	October 2019 – September 2022
C	Objectives:	To identify the best performing eri silkworm race in different
		agro-climatic conditions of Manipur.
D	Progress achieved:	During 3rd crop highest ERR was recorded in Titaber (86.6%)
		among the ecoraces whereas it was recorded highest in yellow
		plain (86.0%) among the strains in low altitude.In high
		altitude, highest ERR was recorded in Borduar (82%) and that
		of strains was recorded highest in yellow plain (81%). The
		performance of C2 breed was at par in both the places but
		slightly lower ERR % observed. Castor was the most preferred
		host of Eri silkworm in both the places with 80 to 85% ERR.

		Seed cocoon of different strains and ecoraces are under
		preservation for next crop rearing.
E	Specific outcome:	 Highest ERR recorded inTitaber (86.6%) among ecoraces and yellow plain (86.0%) in low altitudes and highest ERR in high altitudes was recorded in Borduar (82%) amongecoraces and amongst strains in yellow plain (81%). Performance of C2 breed was at par in both the places but slightly lower ERR % observed. Castor was the most preferred host of Eri silkworm in both the places with 80 to 85% ERR.
F	Budget and expenditure :	Rs. 11.80 lakhs and 4.48lakhs
G	Suggestion of last RC/RAC meeting:	 RC suggestions: The PI should present the statistically analysed data Supply the pure line strains of eri eco-races to CMERTI for maintenance Continue the project as per the milestones
		 RAC suggestions: PI to justify why all the ecoraces are not included in the study as proposed in the project document.
		Continue the project as per milestones
H	Follow-up action taken on last RC/RAC meeting:	 Action taken against RC comments: As suggested, statistically analysed data presented by the PI in the 39th RAC meeting. Complied as suggested. As suggested the project is continued as per the milestone. Action taken against RAC comments: Initially more ecoraces included in the project, however rearing of more ecoraces is not feasible due to maintenance problem, lack of sufficient food plant, manpower, etc. Hence it was suggested by RC to consider only the most promising ecoraces like Borduar, Titabar& Manipur local with C2 breed. Evaluation of six eri silkworm strains also
		 included. As suggested the project is continued as per the milestone
Ι	Suggestions of RCS	 To review and effectively utilize the budget under the on- going projects. Budget utilized in last quarter.
J	Follow up action	➢ Budget Sanctioned: Rs. 11,80,000
	taken on suggestion	Budget Utilized: Rs. 4,48,287
	OI KUS	KS. U Continue the project as nor milestones
	102 NU Suggestions	Continue the project as per innestones
19.	Project code and	APS 05021EF: Studies on population diversity and role of
	title:	host plant volatile cues for enhancing egg laying in temperate tasar (Vanya) silk moths <i>Antheraga provisi</i>
А	Investigators	NER Institute -1 (RSRS, CSB, Imphal): Dr SinamSubharani
	involved (PI & Co-	Devi (PI), Dr. Y. Debaraj (Co-PI)
	I's)	NER Institute -2 (Manipur University):

		Dr.LisamShanjuKumar Singh (PI)
		Non NER Institute -1 (IIHR, Bangalore): Dr.Pagadala
		Damodaram Kamala Jayanthi (PI)
		Non NER Institute -2 (SSTL, CSB, Bangalore): Dr.Kasthala
		Mary VijayaKumari (PI)
В	Project period :	Oct 2021- Sep 2024
C	Objectives:	1. To survey and establish population diversity of oak tasar
		silk moths across NER.
		2. To establish potent food plants (Host) for oak tasar silk
		moths, A. proylei for egg production.
		3. To isolate and evaluate highly suitable host plant volatiles
		to activate/increase egg laying in oak tasar silk moth.
		4. To standardize the synthetic oviposition stimulant blends to
		enhance egg production in oak tasar silk moths and
		establishing the efficacy of developed technology.
		5. To evaluate the synthetic volatile blend in large scale at oak
		tasar seed production centers.
D	Progress achieved:	Received project code. Project just initiated.
E	Specific outcome:	N11 D 102.401.11 & N'1
F	Budget and	Ks.122.49 lakhs & N1l
C	expenditure :	
G	Suggestion of last	RC Comments:
	KC/KAC meeting:	The investigator may submit the status and progress in the next PC/PAC
		RAC comments:
		Specify whether population diversity will be established
		according to host plant availability or agro-climatic conditions.
		Recommendation: Project is approved with suggestions. PI to
		submit the updated proposal within 15 days.
Н	Follow-up action	Action taken against RC comments:
	taken on last	Fund received from DBT and Project code allotted by RCS,
	RC/RAC meeting:	CO, Bangalore as APR:05021 EF
		Action taken against RAC comments:
		Population diversity study will be done based on the agro-
		climatic conditions.
T		As suggested full project proposal submitted
	Suggestions of RCS	-
J	Follow up action	-
	aken on suggestion	
V	62 nd DC Suggestions	Initiate the project as per the objectives and milestones
N	02 KC Suggestions	muate the project as per the objectives and milestones

1. **Project code and** BPS 01013CN- Utilization and diversification of silkworm title: pupae products for human & animal consumption and composting. Investigators involved Dr. Mahesh D S, Sci-B (PI), Dr. James Keisa, Sci-D (CI) А September 2020 to August 2022 Project period : В С **Objectives:** To evaluate nutrients and bioactive compounds in a. silkworm pupae of Eri and Muga. d. To characterize proteome of Eri and Muga silkworm pupae. D Progress achieved: -Project is being continued as per the milestone. - Spent muga pupal microbial colonies were isolated and sent for sequencing for species level identification. The results are awaited. -Protein quantification of eri pre-pupa, matured pupae and muga pupae were carried out to profile the protein by using SDS gel electrophoresis for the confirmation of results obtained in the last experimental trial. -The complete protein characterization of eri pre pupae, matured pupae and muga spent pupa protein is under progress. -Eri pre-pupae and matured pupae have been supplied to CFTRI, Mysore to carry out the experiments on preservation techniques and for other analysis purpose. Specific outcome: -Presence of microbes are confirmed after DNA extraction Е (Samples are sent for sequencing and the results are awaited). -Analysed the different nutritional compositions and other biochemical compositions of both eri and muga silkworm pupae and quantification process is under progress. -Protein characterization to identify the different proteins present in eri pre pupae, matured pupae and muga pupae is under progress. Total budget is 11.88 lakhs and expenditure is 5.87 lakhs F Budget and expenditure : G Suggestion of last **RC** Comments **RC/RAC** meeting: 1. Continue the project as per the milestone **RAC comments** 1. Progress was discussed. It was suggested to present the progress of all the collaborative projects of other Institutes from next RAC meeting. 2. Continue the project as per milestones. Η Follow-up action ATR on RC comments 1. Project is being continued as per the milestone to achieve taken on last **RC/RAC** meeting: the target. ATR on RAC comments 1. Suggestion noted and progress will be presented from next RC. 2. Project is being continued as per the milestone. Suggestions of RCS Nil Ι Follow up action Nil J taken on suggestion

As CI with other Institutes:

	of RCS	
K	62 nd RC Suggestions	Continue the project as per milestones
2.	Project	CYF 07014MI – Development of 3D Woven Silk Fabrics
	code/title:	And Their Applications
A	Investigators	HS Hambulingappa, CSTRI, PI, Manjunath R.N, CMERTI,
		Co-PI
B	Project period	June, 2020 to May, 2022
С	Objectives	 To modify the existing 2D weaving loom suitably for producing industrial scale 3D woven fabrics. To produce 3D woven silk fabrics with various fiber architecture and fabric parameters. To characterize the properties of 3D fabrics made from different varieties of silk yarns to suit them for various textile and technical applications.
D	Milestones crossed	Warp beam set up for the weaving machine along with drawing, denting and gaiting is prepared and the loom made ready for second set of trials. Weaving of second trials for developing 3D fabrics has been started.
Е	62 nd RC Suggestions	Continue the project as per the milestone

AGENDA NO. 6: Any other points for discussion

- It is observed that PIs of the concluded projects are delaying the submission of concluding report in RMIS-10 format. Henceforth, the PIs should submit the concluding report within one month after the completion of the project to the divisional head and the divisional heads should submit the same to the PMC within 15 days along with their comments.
- The budget utilization in most of the projects is poor. The PIs are advised to effectively utilize the allocated project budget.

Kankan' .

(DR. K.M. VIJAYAKUMARI) Director & Chairperson

LIST OF PARTICIPANTS OF THE 62ND RESEARCH COUNCIL MEETING OF CMER&TI, LAHDOIGARH HELD ON 18-02-2022

S. No.	Name & Designation
1	Dr. K.M.Vijayakumari, Director
2	Dr. Reeta Luikham, Scientist-D
3	Dr. T.James Keisa, Scientist-D
4	Dr. Aftab Ahmad Shabnam, Scientist-D
5	Shri Bitupan Das, Scientist-D
6	Dr. Amit Kumar, Scientist-C
7	Dr. Arun Kumar, Scientist-C
8	Dr. Kh.Subadas Singh, Scientist-C
9	Dr. D.K.Jigyasu, Scientist-C
10	Dr. Vijay N. Scientist-C
11	Dr.Mahesh D.S. Scientist-B
12	Dr. Manjunath R.N. Scientist-B(R&S)
13	Shri Dhrubo Jyoti Gogoi, JRF
14	Shri Suraj Kumar Shah, JRF
15	Ms. Lucu Moni Borah, JRF
16	Ms. Padmini Baruah, JRF
17	Shri Kalpajyoti Gogoi, JRF
18	Ms. Krondashree Duarah, JRF
19	Ms. Priyanka Sahu, PA
20	Ms. Debajani Nath, PA
21	Ms. Priya Boro, PA
22	Shri Rabindra Hanse, PA
23	Shri Jyoti Ranjan Mishra, PA
24	Shri Pranjal Borah, Trainer

Scientists from nested units participated and presented the progress through online mode.