

**MINUTES OF THE 42nd RESEARCH COUNCIL MEETING HELD ON 20th & 21st
April, 2015 AT CSR&TI, BERHAMPORE, WEST BENGAL**

The 42nd Research Council meeting of CSR&TI, Berhampore was held on 20th & 21st April, 2015 to review the progress of on-going and concluded research projects/ programmes of the Main Institute & its nested RSRs' besides considering new research project/ programme proposals submitted by the scientists. The meeting was presided over by Dr. S. Nirmal Kumar, Director of the Institute and the Chairman, Research Council (RC). The list of the participants is enclosed in **Annexure - I**.

Dr. U.K.Bandyopadhyay, Scientist-D (PMCE) welcomed Dr. S. Nirmal Kumar, Director, and the Chairman, RC, CSR&TI, Berhampore, Members and all participant scientists of the Institute & nested units in the 42nd RC meeting. At the outset, he expressed sincere thanks to the Director for his dynamic leadership and inspiration to the scientists for their involvement in projects/programmes for development of sericulture industry in the region. Thereafter, he requested the Chairman to address the scientists and take up the agenda for discussion.

Dr. S. Nirmal Kumar, Director congratulated the scientists, officers and staff of the Institute and its networking units for their enormous efforts and responsibilities to maintain the Institute as ISO standard on R & D activities. He stressed upon that scientists should come-up with new line of research especially on energy and water conservation, carbon sequestration, climate resilient sericulture and focus specially on potential area where the technologies can be percolated and adopted more easily for better development of sericulture.

Further, he emphasized that RSRs' should come forward to begin locally need based research. The chairman advised the scientists for their active participation and interaction to come out with suggestions to make the RC meeting more meaningful.

Agenda-wise discussions were held as follows:

**ITEM NO. 1: CONFIRMATION OF THE MINUTES OF THE 41st MEETING HELD ON
15th – 17th NOVEMBER, 2014.**

Since no comments received from any corner, the minutes were confirmed.

**ITEM NO.2: REVIEW OF THE FOLLOW UP ACTION TAKEN ON THE DECISION
OF THE RESEARCH COUNCIL MEETING HELD ON 15th – 17th
NOVEMBER, 2014.**

Regarding commercialization of biofertilizers (Nitrofert and Phosphofert), the house suggested that the bio-fertilizers should be commercialized immediately for large scale production and supply to the farmers for popularization. For commercialization of the products, suitable entrepreneurs should be identified within two months. After two months, decision will be taken whether the products will be continued for large scale production at Institute level or otherwise.

[Action: Dr. S. Rajaram, Sci-D Agronomy Section]

Regarding the Programme “**Validation trial a fumigant room disinfectant**”, (Ghar Sodhan), the Chairman enquired about the efficacy of the fumigant at field level and advised to evaluate the efficacy properly. As informed by the concerned scientist, the chairman advised to conduct field trial at farmers' level with ‘Ghar-Sodhan’ only without using any other disinfectants. It was suggested to conduct the study at open rearing house being popularized at farmers' level and confirm the efficacy of the product before commercialization.

[Action: Dr. S. Chakraborty, Sci-C, Sw Pathology Section]

Regarding the concluded project MOE-3459, it was observed that although the PI was advised to supply the outcome of the project to DOS, Assam but the information was not given to DOS Assam. The concerned scientist was advised to send the recommendation to DOS within a week time

[Action: Smt. M.Pamegam, Sci-C, RSRS, Jorhat]

ITEM No.3: CONSIDERATION OF NEW PROJECTS/ PROG. / PILOT STUDY :

The following 3 (three) project proposals were discussed and project / prog.-wise decisions were as follows:

Title of the Programme: “Popularization of “Ghar Sodhan” a fumigant disinfectant for room and its appliances”, by Dr. S. Chakraborty, Sci-C, Sw Pathology Section.

Duration: One year (2015 - 2016)

Observations / Suggestions: The PI was advised to validate the technology at first. After studying its efficacy as suggested in item No.2, the product as fumigant should be field tested through ToT and then recommend for popularization. The chemical used is reported as PDB. Therefore the concerned scientist was advised to ascertain the chemical used, is a non –hazardous one. By complying the above suggestion PI was advised to resubmit the proposal as validation programme for one year.

Decision: Not Approved and advised to resubmit the proposal confirming the non-hazardous nature of the chemical used in the product.

[Action: Dr. S. Chakraborty, Sci-C, Sw Pathology Section]

2. **Title of the Project:** “Isolation and cloning of Polymorphic DNA fragments for analysis of variants Nistari strains existing in Noth East India”, by Dr. S. Sreekumar, Sci- D, Sw Pathology Section.

Duration: One year

Observations/ Suggestions: The Chairman advised to collect 4 strains and study the variability at DNA level. However, if variability observed, a programme may be taken up.

Decision: Not approved.

[Action: Dr. S. Sreekumar, Sci- D, Sw Pathology Section]

3. **Title of the Project:** “Evaluation of Bacterial leaf spots resistant improved progenies of mulberry for field utilization” - by Dr. R.Banerjee, Sci-D, Biotechnology Section.

Duration : -- Three years

Observations/ Suggestions: The house had differentially response on the 20% crop loss due to bacterial leaf spot disease in C2028 mulberry variety. The Chairman advised the scientist to submit an extended concept note in project form to obtain comments from subject experts/ referees for further consideration.

Decision: Final decision will be taken after obtaining comments from the subject experts.

[Action: Dr. R. Banerjee, Sci-D, Biotechnology Section].

ITEM No.4: REVIEW OF CONCLUDED PROJECTS/ PROGRAMMES / PILOT STUDY:

The following two programmes and two pilot studies were concluded during the period and presented in the 42nd RC meeting held on 20th & 21st April, 2015.

Title of the programme : BAR (VP) 009 ‘Ghar Sodhon’- a fumigant room disinfectant for silkworm disease management.(Apr.,2014–Mar.,2015).

Observation/Suggestion: The chairman advised the PI to validate the technology systematically at institute level and then at DOS farm and farmers level, and then disseminate through TOT. After TOT it may be popularized at field level. The B.C ratio to be revised and presented

[Dr.S. Chakraborty, Sci-C, SW Pathology Section]

Title of the programme:BPP (VP) 015: Validation of E³ WM © SH/PM [Efficient, economic & eco-friendly Weed Mower cum Shoot Harvest / Pruning Machine] (Oct., 2013 –Mar., 2015).

Observation/Suggestion: The chairman advised the PI to find out the machines available at market to compare the cost of production. He also advised to work out the merits and demerits of the machine and think the alternative source of power for operation.

[Dr. S. Rajaram, Sci -D, Agronomy Section]

Title of the Pilot studies: BPR(PS)003: Identification of DNA markers associated with bacterial leaf spot resistance in mulberry (*Morus spp*). (Apr., 2013 –March, 2015)

Observation/Suggestion : Chairman advised to validate the findings before disseminate to the field. It can be included in the FYT.

[Dr.R.Banerjee, Sci- D, Biotechnology Section]

Title of the Pilot studies: B-KPG(PS) 007: An integrated approach to study the effect of Potassium Humate on soil health, yield and quality of mulberry leaves to promote sustainable sericulture in Sub-Himalayan region of Eastern and North-Eastern India. (Apr., 2014-March, 2015)

Observation/Suggestion:. Advised to submit in RMIS Format at an earliest for onward transmission to CO., Bangalore.

[Dr.R.L.Ram, Sci-C, & In-charge, RSRS, Kalimpong]

The following 1 Project, and 4 programmes also were concluded during the period and presented in the 41st RAC meeting held on 20th and 21st January.

1. Project: AIE 3454 Evaluation of elite silkworm germplasm under different agro climatic conditions: All India Silkworm Germplasm Evaluation Programme Phase-II. (Coordinated project with CSGRC, Hosur) (Apr, 2012 to Aug., 2014)

Observation /Suggestion : Concluded report was submitted to Central office, Bangalore.

2. Programme : BAR(P)-024 Identification of pathogens causing Gatine like diseases in the silkworm *Bombyx mori* L.(July, 2013 – Dec., 2014)

Observation/Suggestion: Concluded report in RMIS format submitted to central office, Bangalore.

3. Programme : B-KPG(P)-028 Elimination of diapause expression from eggs in improved multivoltine silkworm breeds (April, 2014 to Jan, 2015)

Observation /Suggestion : Advised to submit in RMIS Format an earliest.

[Shri S.Chatterjee, Sci-D, & In-charge, RSRS, Kalimpong.]

4. Programme : B-KPG (RP)-010 Survey & Surveillance of Mulberry and Silkworm Diseases & Pests in Kalimpong Hill. (Oct., 2013 – Sept., 2014)

Observation /Suggestion : Advised to submit the report at an earliest

5. Programme : B-KPG(P)-006:Muga seed multiplication programme (Dec, 2009-Oct, 2014)

Observation /Suggestion : Concluded report submitted to Central Office, Bangalore.

Item No. 5: REVIEW OF THE PROGRESS OF THE ONGOING RESEARCH PROJECTS/ PROGRAMMES OF THE MAIN INSTITUTE:

Progress of ongoing research projects/ prog./ pilot study of different sections at the Institute was reviewed critically and suggestions/ recommendations were as follows:

MAIN INSTITUTE:

MULBERRY BREEDING & GENETICS SECTION:

Progress of 5 ongoing research projects namely (1) **PIB 3424:** “Development of low temperature stress tolerant mulberry genotypes for sub-tropical plains”, (2) **PIB3479:** “Development of high yielding mulberry varieties using physiological growth parameters as markers for selection”, (3) **PIB 3481:** “Evaluation of mulberry varieties suitable for low input soils”, (4) **PIB 3505:** “Drought tolerant Mulberry variety for rainfed sericulture”, (5) **PIB 3515:** “Evaluation of newly developed triploid mulberry varieties under irrigated condition”, and 2 programmes (1) “**All India Coordinated Experimental Trial on Mulberry (AICEM) (Phase-III)**” and (2) **BPI(P)025:** “Maintenance of Mulberry Germplasm bank at CSR&TI, Berhampore”, were reviewed and progress was as per the milestones.

Regarding the project on PIB 3424, the chairman advised the PI to record the meteorological data of avg. of maximum and minimum temperature and the range of maximum and minimum temperature. He was also advised to present the net plot data pertaining to the project PIB-3481.

[Action: Dr M. K. Ghosh, Scientist-D, (Mori)]

AGRONOMY SECTION:

Progress of following 1 ongoing research project **PPA 3499:** “Evaluation of field level performance of Vishala mulberry variety in different locations under irrigated conditions in West Bengal” and 5 programmes, namely (1) **BPP(P) 027:** “Studies on improvement of mulberry

productivity through foliar supplement”, (2) **BPP(RP) 001**: “Maintenance of *Azotobacter chroococcum*, mother culture and mass production of Nitrofert bifertilizer”, (3) **BPP(RP) 002**: “Maintenance of *Glomus mosae* [Arbuscular Mycorrhizal Fungus (AMF), mother culture and mass production of phosphofert bio-fertilizer:”, (4) **BPP(P) 035**: “Integrated effect of certain proven technologies for crop productivity improvement and cost reduction in mulberry cultivation under West Bengal condition” and (5) **BPP(P) 036**: “ Development of protocol for mulberry cultivation for organic silk- a new approach” were reviewed and progress found was as per the milestone.

Regarding the project **PPA 3499**, Chairman suggested to conduct palatability study of vishala mulberry variety comparing with S1635 on silkworm rearing. He also advised to conduct one rearing with the check variety. For conducting rearing, one TA from other sections may be arranged for silkworm rearing.

[Action: Dr. S. Rajaram, Scientist-D, Farm Management Section]

FARM MANAGEMENT SECTION:

Progress of one ongoing research project **PPF3532**: “Assessment, development and management of area under mulberry in major sericultural districts of West Bengal using geo-spatial techniques”, 3 programmes (1) **BPP(VP)-012**: “Real time spatio temporal validation trial for mulberry yield weather model”, (2) **BPP(RP)-012**: “Optimum resource utilization through vermiculture for generating on farm value added compost.” and (3) **BPP(P)-033**: “Screening of mulberry seedlings for phenotypic plasticity of thermo-tolerance” and one Pilot study, **BPP (PS) 008**: “Evolving growing Degree Day based integrated sericulture crop calendar”, were reviewed and progress was as per the milestones.

Regarding the programme **BPP (VP) 012**, the PI was advised to collect the outside meteorological data in time, correlate and present in the meeting.

[Action: Dr. M.Chaudhuri, Scientist-D, Farm Management Section]

Regarding the programme **BPI (P) 033**, the PI was advised to justify the findings scientifically and the reasons thereof and also to submit the report in details.

[Action: Dr. M.Chaudhuri, Scientist-D, Farm Management Section]

Progress of the pilot study **BPP (PS) 008** was discussed. As requested by the PI for extension of time period, the Chairman advised the concerned scientist to submit the final report as per milestone and then if necessary, a new study may be submitted on the above lines for 2-3 years duration.

[Action: Dr. M.Chaudhuri, Scientist-D, Farm Management Section]

SOIL SCIENCE & CHEMISTRY SECTION:

One ongoing research project, **PPS 3452**: “Terrestrial carbon sequestration for sustained high productivity of quality mulberry” and two programmes (1) **BPP(P) 020**: “Evaluation of soil fertility for sustained production of quality mulberry leaf in Eastern India under long-term fertilization, and (2) **BPP(VP) 010**: Multilocational validation trial for application of cationic micronutrients, were reviewed and progress was as per the milestones.

Regarding the programme **BPP (VP)-010** the Chairman advised to present the data on recovery of leaf yield after application of Zn along with leaf gain, thereof.

[Action: Dr. R. Kar, Scientist-D, Soil Science & Chemistry Section]

MULBERRY PHYSIOLOGY SECTION:

Progress of two ongoing research programme **BPI(P) 026**: “Popularization of water logged tolerant mulberry variety C-2008”, and (2) **BPP(P)-041**: “Studies on quality status and leaf yield of the short listed early sprouter and late senescence mulberry accessions”, was reviewed and found as per the milestones.

Regarding the programme **BPP(P) 041**, the PI was advised to record data in other seasons also instead of considering only the cold season variety. He is advised to use the genotypes as parents for breeding purpose.

[Action: Dr. P.K.Tewari, Scientist-D, Mulberry Physiology Section]

MULBERRY PATHOLOGY SECTION:

Progress of two ongoing research projects (1) **CSS-2107**: “Forewarning of mulberry diseases of Eastern and North Eastern India”, and (2) **PPS-3504**: “Study on root rot disease of mulberry in the Gangetic plains of West Bengal and development of its control measure”, were reviewed and progress was as per the milestones.

Regarding the project, **CSS-2107**, the PI is advised to present the incidence of diseases instead of severity and mention the disease incidence pattern i.e high and low at different locations, besides recording of meteorological data.

[Action: Dr. S. K.Dutta, Scientist-D, Mulberry Pathology Section]

SILKWORM BREEDING AND GENETICS SECTION:

Progress of 6 research projects, (1) **AIB 3466**: “Development of region specific bivoltine breeds suitable for highly fluctuating and seasonally variable climatic conditions of Eastern and North-Eastern India”, (2) **AIB 3480**: “Development of silkworm *Bombyx mori* L. breeds from a gene pool with higher genetic plasticity”, (3) **AIB 3496**: “Development of high temperature and high humidity tolerant bivoltine breeds of silkworm (*Bombyx mori* L.)”, (4) **AIB 3491**: “Post Authorization trials of silkworm hybrids in Eastern and North Eastern India”, (5) **AIB 3501**: “Development of multivoltine silkworm (*Bombyx mori* L.) breeds with high shell percentage and high neatness of silk filament” and (6) **AIB 3514**: “Development of multivoltine based Congenic /Nil breed of silkworm *Bombyx mori* L through introgression of Id gene and its uses” and one programme **BAI(RP) 003**: “Maintenance of multivoltine and bivoltine germplasm”, were reviewed and progress was as per the milestones.

Regarding the project **AIB 3480**, the Chairman advised to reschedule the programme as F4 generation did not show positive results. Midterm correction is required for productivity improvement. After midterm correction, the results may be presented in the forthcoming RAC meeting.

[Action: Dr. A. K.Verma, Scientist-D, Seri. Division]

Regarding the project **AIB 3514**, the PI was advised to produce at least 1000 Dfls and distribute to selected farmers for field testing of Id characters to take further decisions on the merit of the breed.

[Action: Dr. A. K.Verma, Scientist-D, Seri. Division]

Regarding the project **AIB 3501**, it was observed that the colours of M.Con.1 x MH1 and MH1 x BHB (BC4) was not accepted in the market as the cocoon colour is white. The PI was advised to concentrate only on yellow lines and to do the work with other 4 hybrids which are of golden yellow colour cocoons for acceptance by the farmers/stakeholders.

[Action: Dr. A. K.Verma, Scientist-D, Seri. Division]

Regarding the project **AIB 3531**, the PI was advised to record the data as per methodology mentioned in the project.

[Action: Dr. A. K.Verma, Scientist-D, Seri. Division]

Regarding the project **AIB 3491**, the PI was advised to maintain the financial progress of the project.

[Action: Dr. N. Suresh Kumar, Scientist-D, Seri. Division]

Regarding the programme, **BAI (RP) 003**, the PI was advised to present the crop season and month of experiment during presentation the progress of the programme. It was advised to conduct rearing of at least 25 dfls each for high temperature with high humidity, high temperature with low humidity, low temperature with low humidity and low temperature with high humidity for comparative analysis. The PI was also advised to send cocoons (replication wise) for reeling analysis and present the reeling analysis data.

[Action: Dr. Suresh Kumar, Scientist-D, Seri. Division]

SILKWORM PHYSIOLOGY & REARING TECH. INNOVATION SECTION:

Progress of 1 Research project **APS 3497**: “Studies on the environmental effect on PI rearing, its’ grainage performance followed by commercial rearing of silkworm *Bombyx mori* L. during unfavorable seasons of West Bengal (in Collaboration with NSSO)” and one programme **BAR (VP)-013**: “Validation cum refinement of Feb-March (Falguni) 2015 crop”, were reviewed and progress was as per the milestones.

PI of the project **APS 3497**, was advised to conduct rearing with minimum of 50 dfls each for control and treatment. The Chairman also advised to conduct the grainage and record the recovery % data.

[Action: Dr. A. K.Saha, Scientist-D, Seri. Division]

Regarding the programme, **BAR(VP) 013**, the PI was advised to take a new programme on validation at field level with 100 dfls for five crops and compare the efficacy on spinning and cocoon production of collapsible and Bamboo mountages and analyze the data.

[Action: Dr. A. K.Saha, Scientist-D, Seri. Division]

SILKWORM PATHOLOGY SECTION:

Progress of one Research project namely **ARP 3516** “Studies on symbiotic (Combination of pro biotic and prebiotic) induction for control of common diseases of silkworm *Bombyx mori* L.”, and 3 programmes, (1) **BAR(RP) 005**: “Survey and surveillance of silkworm diseases in traditional sericultural districts of West Bengal”, (2) **BAR(RP) 006** “Silkworm disease monitoring of Seed and commercial crop rearing of West Bengal” and (3) **BAR(VP)009** “Ghar Sodhon” a fumigant room disinfectant for silkworm disease management” were reviewed and progress was as per milestones.

Regarding the **BAR(RP) 005**, the Chairman advised to correlate the disease incidence with the outdoor temperature. It was also advised to record the ambient temperature.

Regarding the programme **BAR(RP) 006**, the PI was advised to incorporate the numerical data during graphical presentation of the progress. Moreover, survey may be conducted in proper co-ordination with DoT(Seri) and NSSO. The Divisional in-charge was advised to monitor the programme and submit a report.

Action: Dr. S. Chakrabarty, Sci-C, Sw. Patho. Section]

ENTOMOLOGY SECTION:

Progress of 3 research projects namely (1) **PRE 3508**: “Studies on standardization of the mass multiplication and field efficacy of *Scymnus pallidicollis* (Mulsant) for the eco-friendly management of Tukra”, (2) **PPE 3517**: “Population interactions of pests and natural enemies in mulberry ecosystem” and (3) **PRE 3533**: “Identification of whitefly resistance in mulberry germplasm accessions” and one programme **BPR(P)021**: “Development of weather based forecasting models for mulberry pests”, were reviewed and progress was as per milestones.

Regarding the project namely **PPE 3517**, the PI was advised to conduct awareness programme /technical workshop with DoS officials as papaya mealy bug was found in alarming situation at Malda district. For necessary identification of predators and collaboration of the project with other Institute, the concerned scientist was advised to follow the official procedure for collaboration.

[Action: Smt. N. Lalitha, Sci-C, Entomology Section]

BIOTECHNOLOGY SECTION:

Progress of one Research Project **PIB 3521**: “Assessment of promising powdery mildew resistance lines for perspective commercial use”, and one programme, **BPI(P)034**: “Development, characterization and validation of expressed sequence tag derived microsatellite markers for mulberry (*Morus spp*)”, were reviewed and progress was found satisfactory.

REELING & SPINNING DIVISION:

Progress of one programme, **BAI(VP)014**: “Field level testing of the efficacy of surface active and wetting agent for the improvement of reel-ability of cocoons during adverse and favourable climatic seasons”, was reviewed and progress was as per milestones.

The Chairman suggested to utilize the cocoons of Baisakhi crop and to increase the reelability and luxure of the silk fibre. He was also advised to circulate the formula for fixation of cocoon price to all RSRs and RECs.

[Action: Shri N.B. Kar, Sci-D, Reeling & Spinning Section]

EXTENSION DIVISION:

Progress of one Prog., **BMO(P)-032**: “Institute Village Linkage Programme (Phase IV)”, was reviewed and progress was found as per milestone.

The PI was advised to mention the gain, over the benchmark value. The scientists of Extension Division was advised to promote M x Bi during adverse seasons and Bi x Bi during favourable seasons but not to promote any multi x multi at farmers level and to identify the technologies contributing the yield.

As per milestone, since the IVLP programme was already concluded during March, 2015, the Chairman advised to propose a new programme during 2015-16.

[Action: Shri D.Das, Sci-C & Dr.S.K.Mukhopadhyay, Sci-D, Extn Division]

TRAINING DIVISION:

The activities of Training Division in organizing various training prog under **Structured and Non-Structured** courses were reviewed and found satisfactory.

The Divisional In-charges were advised to incorporate Chawki rearing training programme for awareness of the farmers. It was also advised to arrange an internal training programme to train all the scientists to act as resource persons for training programme. The Chairman advised to train two scientists, one each from mulberry and silkworm side as resource person for NE States. Training on Skill Updation Programme may be intensified as per need of the stakeholders. It was also advised the Divisional in-charge to propose the Action Plan with necessary budget.

REGIONAL SERICULTURAL RESEARCH STATIONS:

RSRS, Kalimpong, West Bengal:

Progress of own 3 programmes namely (1) **B-KPG(RP)008**: “Maintenance of bivoltine silkworm germplasm”, (2) **B-KPG(VP)011**: “Validation of test based doses of fertilizers and line application in soils of Kalimpong hills to increase the leaf yield and quality of mulberry (*Morus spp*) leaves, (3) **B-KPG(RP)011**: “Multiplication and supply of SK6 x SK7 Dfls to Sikkim and plains area” and 1 pilot study **B-KPG(PS)006** “Diagnosis of nutrient constraints and its management in mulberry field at farms and farmers level at Kalimpong hills”, were reviewed.

The Chairman advised the In-charge to hand over the P4 Farm along with assets, service book of officials, etc to MSSO, Guwahati at an earliest. It was advised to distribute the ongoing research project/programmes and pilot studies between Smt C.Maji, Sci-D and Shri. S. Chatterjee, Sci-D for proper handling of research activities. It was also advised to prepare scientist wise projects/programmes.

[Action: Smt. C. Maji, Sci-D, RSRS, Kalimpong]

RSRS, Jorhat, Assam:

Progress of own one project **PRE-3511**: “Studies on predatory efficacy of coccinellid predator, *Scymnus posticalis* Sicard for management of whitefly on mulberry”, and one programme **B-JRH (RP)-009**: “Survey and surveillance of mulberry and silkworm pests & diseases of N.E. States”, were reviewed and progress was as per milestones.

Regarding the collaborative programme **BPI (P) 026**, Chairman advised the Co-I, to take care during planting and ascertain the reasons for poor survival of C2028 at Jorhat area, as survivability was found higher at Majuli areas. He was also advised to correlate the survival with environment and inputs, and also find out the reasons for poor survival of the cuttings.

[Action: Dr. S.N.Gogoi, Sci-D, RSRS, Jorhat]

Regarding the programme **B-JRH (RP) 009**, the PI was advised to quantify the numbers of farmers surveyed and find out the causes for high incidence of diseases.

[Action: Smt. M.Pamegam, Sci-C, RSRS, Jorhat]

Regarding the collaborative project **PIB 3481**, the Chairman enquired about the survival of mulberry saplings during establishment. It was suggested to quantify the data and correlate with the variety to identify the variety which performed better in low in-puts soil.

[Action: Dr. S. N. Gogoi, Scientist-D & In-charge
RSRS, Jorhat]

Chairman advised to all scientists -

- To submit only last six months data, not to present the previous data to avoid repetition.
- To prepare locally need based research projects/ programmes.
- To prepare scientist wise projects/ programmes.

[Action: Dr. S. N. Gogoi, Scientist-D & In-charge
and all Scientists, RSRS, Jorhat]

RSRS, Ranchi, Jharkhand:

Progress of own 2 programme, (1) **B-RNC(RP) 004** : “Survey and surveillance of disease and pest of mulberry and silkworm”, and (2) **B-RNC(P) 031**: “Screening and identification of bivoltine hybrids suitable for Jharkhand”, were reviewed and progress was as per milestone.

Regarding the programme **B-RNC (P) 031**, the PI was advised to mention ERR No. & Wt and record the fecundity and survivability% which will be helpful to calculate the yield/100 dfls.

Regarding the programme **B-RNC (RP) 004**, the PI was advised to present the data in graphical form.

[Action: Mr. M. Alam, Sci-C, RSRS, Ranchi]

RSRS, Koraput:

Progress of own 3 programmes (1) **B-KPT(RP)013**: “Survey and surveillance of disease and pest of mulberry and silkworm”, (2) **B-KPT(RP)014**: “Silkworm Disease monitoring of seed and commercial crop silkworm rearing of Non-Traditional district of Odisha and (3) **BPP(P)030**: “Studies on high bush and tree type mulberry plantation under rainfed condition of Odisha” and one pilot study , **B-KPT(PS)009**: “Effect of irrigation scheduling on yield and water economy in mulberry by use of Hydrogel-Poly acrylic acid based water insoluble polymers”, were reviewed and progress was as per milestones.

Regarding the pilot study **B-KPT (PS) 009**, the house was advised to design the methodology and to discuss with Dr. S. Rajaram, Sci-D and Dr Jalaja, S. Kumar, Sci-D of the Main Institute for modification of the project as per need. The PI was also advised to use the hydrogel without irrigation to observe the duration of sustainability.

[Action: Shri S.K.Misroo, Scientist-C, RSRS, Koraput]

At the end, the Chairman expressed his satisfaction on the R&D progress made and advised the scientists of main Institute and RSRSs to take need based projects/ prog within the resources and identify the new potential areas and achieve the RFD targets set for the year 2015-16. He also advised the scientists to prepare the concept notes on climate resilient sericulture.

He suggested the Divisional in-charge (Mori) / in-charge (Soil Science & Chemistry) to purchase the CO₂ estimation machine and the Divisional In-charge (Seri) to purchase the Luxmeter for carrying out this their research projects.

The meeting ended with a vote of thanks to the Chair.

(Dr. S. Nirmal Kumar)
Director & Chairman,
Research Council
CSR&TI, Berhampore

Annexure-I**List of the participants attended the Research Council meeting held on 20th and 21st April, 2015 at CSR&TI, Berhampore**

1. Dr. S. Nirmal Kumar, Director, CSR&TI, Berhampore – **Chairman, Research Council**
2. Dr. A. K. Saha, Scientist-D, CSR&TI, Berhampore
3. Dr. M. K. Ghosh, Scientist-D, CSR&TI, Berhampore
4. Dr. S. Roy Chowdhuri, Scientist-D, CSR&TI, Berhampore
5. Dr. S. K. Mukhopadhyay, Scientist-D, CSR&TI, Berhampore
6. Dr. U. K. Bandyopadhyay, Scientist-D, CSR&TI, Berhampore
7. Dr. N. Suresh Kumar, Scientist-D, CSR&TI, Berhampore
8. Dr. S. Rajaram, Scientist-D, CSR&TI, Berhampore
9. Dr. (Mrs.) Jalaja S. Kumar, Scientist-D, CSR&TI, Berhampore
10. Dr. (Mrs.) Rita Banerjee, Scientist-D, CSR&TI, Berhampore
11. Dr. R. Kar, Scientist-D, CSR&TI, Berhampore
12. Dr. P. K. Tewary, Scientist-D, CSR&TI, Berhampore
13. Dr. S. K. Dutta, Scientist-D, CSR&TI, Berhampore
14. Shri N. B. Kar, Scientist-D, CSR&TI, Berhampore
15. Dr. A. K. Verma, Scientist-D, CSR&TI, Berhampore
16. Dr. P. K. Ghosh, Scientist-D, CSR&TI, Berhampore
17. Dr. (Mrs.) M. Chaudhuri, Scientist-D, CSR&TI, Berhampore
18. Dr. S. Sreekumar, Scientist-D, CSR&TI, Berhampore
19. Shri D. Chakravarty, Scientist-C, CSR&TI, Berhampore
20. Shri Gopal Chandra Das, Scientist-C, CSR&TI, Berhampore
21. Shri D. Das, Scientist-C, CSR&TI, Berhampore
22. Dr. J. Sarkar, Scientist-C, CSR&TI, Berhampore
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