

**MINUTES OF THE 43rd RESEARCH COUNCIL MEETING HELD ON 8th & 9th
DECEMBER, 2015 AT CSR&TI, BERHAMPORE, WEST BENGAL**

The 43rd Research Council meeting of CSR&TI, Berhampore was held on 8th & 9th December, 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. Kanika Trivedy, Director, and the Chairperson, Research Council (RC), CSR&TI, Berhampore.

Dr. S. RoyChowdhuri, Scientist-D (PMCE) welcomed Dr. Kanika Trivedy, Director and the Chairman, RC, Members and all participant Scientists of the Institute & nested units in the 43rd RC meeting. At the outset, he informed that it being the first meeting of the Director who has assumed the charge on 2nd November, 2015, expressed sincere thanks to the Director for her dynamic leadership and inspiration to the scientists for their involvement in projects/ programmes for development of sericulture industry in the Eastern & North-Eastern regions. Thereafter, he requested the Chairperson to address the scientists and take up the agenda for discussion.

Dr. Kanika Trivedy, Director welcomed all scientists and participants in the meeting and expressed happiness for their commendable efforts and responsibilities to maintain the Institute as ISO standards on R & D interventions. She stressed upon that scientists should come-up with new line of research and focus especially on potential areas where the technologies can be percolated and adopted more easily by the stakeholders for better development of sericulture. She also advised the scientists for their active participation and interaction to come out with suggestions to make the RC meeting more meaningful.

The list of the participants is enclosed in **Annexure - I**.

Agenda-wise discussions were held as follows:

ITEM NO. 1: CONFIRMATION OF THE MINUTES OF THE 42nd MEETING HELD ON 20th & 21st April, 2015.

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 20th & 21st April, 2015.

Regarding institute coded prog. viz., **BPP (RP) 001**: "Maintenance of *Azotobacter chroococcum* mother culture and production of Nitrofert bio-fertilizer", and **BPP (RP) 002**: "Maintenance of Arbuscular Micorhizha Fungus (AMF) *Glomus mosae* mother culture and production of Phosphofert bio-fertilizer", Dr. P.K.Tewary, Scientist-D & Divisional Head, Agronomy & Farm Management Division, informed that similar kind of bio-fertilizers for Nitrogen and phosphorus are already available in the market at an affordable price. Therefore, he informed that as per the C.O. letter No. CSB- 31/2 (Ms-Review)/ 2015-16/RCS dated 23/10/15, the programmes **BPP (RP) 001** and **BPP (RP) 002** may be discontinued, which was agreed by the house. **The Divisional & Sectional Incharges were advised to submit the concluded reports immediately indicating the complete production details of Bio-fertilizers, fund available etc. for sending the concluded reports to Central Office, Bangalore.**

[Action: Dr. P.K. Tewary, Scientist-D, Agronomy & Farm Management Division/ Sectional Incharge, Agronomy Section]

Regarding the prog., **BAR(VP) 016**: "Ghar Sodhan- A fumigant room disinfectant for disinfection of rearing room and appliances", the PI was advised to collect the swab from the wall, floor, tray and test the air borne pathogens in the rearing house and calculate the area wise pathogen load. Keep the **Ghar Sodhan** in the rearing house, study the pathogen load and assess the reduction percentage of the pathogen. He was also advised to study further on the effectiveness of **Ghar Sodhan** in a model rearing house and compare with Sericillin, Sanitech and other prevalent disinfectants to recommend it as an effective disinfectant for silkworm rearing, besides, submitting the concluded report by March, 2016 for sending CSB, Bangalore.

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

It was observed that the outcome of the project **MOE-3459** concluded by Smt. M. Pamegham, Scientist-C, RSRS, Jorhat was not submitted to the DoS, Assam. Expressing dismay, the chairperson advised Smt. Pamegham to submit the recommendation of the project immediately to this office and a copy to the Director (DoS), Assam by 31/12/2015, without fail.

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

Regarding the new project proposal entitled, “**Isolation and cloning of Polymorphic DNA fragments for analysis of variants Nistari strains existing in North East India**”, the Chairperson advised to collect the samples and sent to SBRL, Kodathi to study the variability at DNA level. (New scientist, Ms. Puja Makwana from SBRL joining as scientist-B will be given this work).

[Dr. A. K.Verma, Sci- D, SBG Section]

Regarding the prog., **BPP (VP) 015**: “Validation of E³ WM © SH/PM [Efficient, economic & eco-friendly Weed Mower cum Shoot Harvest / Pruning Machine]”, the chairperson advised the Sectional Incharge / Scientist-B, Agronomy Section to explore the availability of such machines in the market and compare the cost of production. He also advised to work out the merits and demerits of the machine and find out alternative source of power for operation, if power problem arises at field level.

(Shri M. Mahesh, Sci-B, Agronomy Section)

Regarding the prog., **B-KPG(PS)007**: “An integrated approach Eastern and North-Eastern India”, the PI was advised to submit the concluded report by December, 2015 for sending to C.O., Bangalore.

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

Regarding the project **PPA 3499**: “Evaluation of conditions in West Bengal”, the Chairperson advised to conduct one more rearing feeding the silkworm with Vishala mulberry leaf from brushing to late age, for palatability study comparing with S1635. The rearing should be conducted in association with Silkworm Physiology and RTI Section.

[Shri G.C.Das, Sci-C, Extension & Incharge SW Physiology and RTI Section]

Regarding the collaborative project with NESAC, Shillong entitled **PPF 3532**: “Assessment, development and management of area under mulberry in major sericulture districts of West Bengal using geo-spatial technique”, the PI was advised to prepare the MoA (Memorandum of Agreement) in duplicate with the collaborator and submit to this institute by **31/12/2015**, positively, for maintaining financial accounts and release of fund from the C.O., Bangalore.

Regarding the prog. **BPP (VP) 012**: “Real time spatio yield weather model” and the prog. **BPI (P) 033**: “Screening of for thermo-tolerance”, the PI was advised to discuss with the Chairperson along with Divisional In-charge for future follow up action.

[Dr. M. Chaudhuri, Sci-D, Farm Management Section]

Regarding the prog. **BPP(P) 041** and **BPI(P) 026**: the PI was intended to conclude the programme by December, 2015 which was agreed upon by the house. He was advised to submit the concluded report by December, 2015, for sending the same to C.O., Bangalore.

[Dr. P.K.Tewari, Sci-D, Mulberry Physiology Section]

Regarding the project, **CSS-2107**, the PI was advised to visit personally to all co-ordinating units and collect realistic field data. The PI was advised to incorporate the period of infestation and forewarning in the Institute website.

[Dr. S. K.Dutta, Sci-D, Mulberry Pathology Section]

Under the prog., **BAI (RP) 003**, to observe the performance of the breed at 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 advised to conduct rearing, separately at Silkworm Physiology & RTI Section or if possible at different locations.

[Dr. A. K. Saha, Sci-D, (Seri)/ In-charge SBG Section]

Regarding the prog., **BAI(VP)014**, the Chairperson advised to circulate the formula for fixation of cocoon price to all RSRs and RECs.

[Dr. S. K. Mukhopadhyay, Sci-D, Extension Division]

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

The following 5 (Five) project /prog. proposals were discussed and decisions were as follows:

1. **Title: Arsenic uptake and speciation in mulberry (*Morus alba* L.),** presented by Dr. V. Vijay, Sci-B, Mulberry Pathology Section.

Duration: 3 months

Observations/ Suggestions: The Chairperson advised the PI to modify the title of the study and initiate the work with new saplings of mulberry variety S-1635 in glass house condition. Further, before starting the study, level of arsenic in the soil at the Institute should be ascertained and standardize the procedure. Arsenic determination can be done through outsourcing.

Decision: Approved as a Plot Study. The PI was advised to prepare the work to be carried out in detail. Pilot work should be completed by March/April, 2016, so that data can be presented in RCC meeting at C.O., Bangalore.

[Action: Dr. V. Vijay, Sci-B, Mulberry Pathology Section]

2. **Title: A comparative study mulberry sericulture production in West Bengal- a statistical approach -** presented by Shri G.R. Manjunatha, Sci-B, Extension.

Duration: 3 years

Observations/Suggestions: The PI was advised to conduct study at different areas of climatic variability and initiate the survey accordingly. It was suggested to include the DoT (Seri) /DoS and CSB officials of that locations.

Decision: Approved. The PI was advised to submit the project in detail by 31/12/2015, for sending to C.O., Bangalore for approval.

[Action: Shri G.R. Manjunatha, Sci-B, Extension Division]

3. **Title: Evaluation of low cost drip fertigation technology on yield and quality of mulberry leaves-** presented by Shri R. Mahesh, Sci-B, Agronomy Section.

Duration: 2 years.

Observations/Suggestions: The concept note was discussed and the technology COD²IS may be tested along with fertilizer application. The 4 RSRs should be included in the project.

Decision: Approved. The PI was advised to prepare the project and submit by 31/12/2015 for sending to C.O., Bangalore for approval.

[Action: Shri R. Mahesh, Sci-B, Agronomy Section]

4. **Title of the Programme: Monitoring of silkworm diseases in Kalimpong hills,** by Shri S. Chatterjee, Sci-D, RSRs, Kalimpong.

Duration: April, 16 to March, 18

Observations/ Suggestions: The Chairperson observed that similar studies were continuing at 4 RSRs besides taken up by the main institute. The Scientist-C, Silkworm Pathology Section was advised to prepare and take up a mega project at the Institute involving the 4 RSRs. The project should be submitted by 31/12/2015 for sending to C.O., Bangalore for approval.

Decision: Not approved. However, the PI was advised to be in touch with the Silkworm Pathology Section of the Institute for taking up the study at RSRs.

[Action: Dr. S. Chakrabarty, Sci-C, SW Pathology & Incharges of 4 RSRs]

5. **Title of the Programme: Survey & surveillance of mulberry pests and diseases in Kalimpong hills**, by Shri S. Chatterjee, Sci-D, RSRS, KPG.

Duration: April, 16 to March, 18

Observations/Suggestions: The PI was advised to merge the programme with the programmes of Mulberry Pathology and Entomology Sections of the institute. The In-charges of Mulberry Pathology & Entomology were advised to prepare a full fledged long term project with 4 RSRSs and submit by 31/12/2015 for sending to C.O., Bangalore for approval.

Decision: Not approved. Further, the mega project will be taken up by the main institute in co-ordination with RSRSs.

[Action: Dr. S. K.Dutta, Sci-D, Mulberry Pathology & Shri D. Das, Sci-C, Entomology & Incharges of 4 RSRSs]

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

The following two projects were concluded during the period and presented in the meeting.

1. **Title of the project: AIB 3531:** "Authorization Trial of Silkworm hybrids in East and North-Eastern states".

Duration: Jun., 2014 to June, 2015

Observation/Suggestion: The experimental data should be analyzed statistically, appraise the Director and present in forthcoming RAC meeting.

[Dr. A.K. Verma, Sci-D SBG Section]

2. **Title of the project: AIB 3496:** "Development of high temperature and high humidity tolerant bivoltine breeds of silkworm (*Bombyx mori* L)".

Duration: July, 2012 to June, 2015

Observation/Suggestion: It was informed by the PI that so far 15 generations of the selected silkworm breeds have been completed. Therefore, the PI was advised to analyze the survival rate of the breeds/hybrids, analyze the data statistically, appraise the Director and present in forthcoming RAC meeting.

[Dr. N. Suresh Kumar, Sci-D, SBG Section]

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 milestones.

As per C.O., Bangalore directives, all the PI of the programmes were advised to conclude their programmes by March, 2016 positively and submit the concluded report immediately after concluding for sending to C.O., Bangalore.

Further, the prog., **BPI(P)025**: "Maintenance of Mulberry Germplasm bank at CSR&TI, Berhampore", being a continuous one, the PI was advised to prepare it in a project form and submit by 31/12/2015 for sending to C.O., Bangalore for approval and project Code No.

[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 6 programmes, namely (1) **BPP (P) 027**: "Studies on improvement of mulberry productivity through foliar supplementation", (2) **BPP (P) 035**: "Integrated effects of technologies for crop productivity improvement and cost reduction in mulberry cultivation under West Bengal condition", (3) **BPP (RP) 001**: "Maintenance of *Azotobacter chroococcum* mother culture and mass production of Nitrofert bio-fertilizer", (4) **BPP(RP) 002**: "Maintenance of *Glomus mosae* [Arbuscular Mycorrhizal Fungus (AMF), mother culture and mass production of phosphofert bio-fertilizer" and (5) **BPP (P) 036**: "Development of protocol for mulberry cultivation for organic silk: a new approach" and (6) **BPP (P) 039**: "Popularization of Cost-effective Drum-kit Drip Irrigation System [CoD²IS] in mulberry cultivation" were reviewed and progress was as per the milestone.

The PIs of all programmes were advised to conclude their programmes by March, 2016 positively and submit the concluded report for sending to C.O., Bangalore.

Regarding the prog. **BPP (P) 036**: "Development of organic silk: a new approach", Shri M. Mahesh, Scientist-B, was advised to appraise the plantation design alongwith experimental lay out to the Director and present in the next RC meeting. Further, the PI was advised to prepare it in a full-fledged project form and submit by 31/12/2015 for sending to C.O., Bangalore for approval and project Code No.

[Action: Shri M. Mahesh, Scientist-B, Agronomy Section]

Regarding the project **PPA 3499**: "Evaluation of field level performance irrigated conditions in West Bengal", Chairperson suggested to conduct one more rearing from brushing to spinning with the help of SW Physiology and RTI Section for palatability study of vishala mulberry variety comparing with S1635.

[Action: Shr G.C. Das, Scientist-C, Extension Division/ Silkworm Physiology & RTI Section]

FARM MANAGEMENT SECTION:

Progress of one ongoing research project viz., **PPF 3532**: "Assessment, development and management of area under mulberry in major sericulture districts of West Bengal using geo-spatial technique", 3 progs. viz., (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", were reviewed and progress was as per the milestones.

Regarding the **BPP(RP)012**: "Optimum resource.....value added compost", the Chairperson suggested to maintain the vermicompost pit properly as advised by the Member Secretary, CSB, during his visit on 28th Nov., 2015 at CSR&TI, Berhampore.

In addition, the PIs of all programmes were advised to conclude their programmes by March, 2016 positively and submit the concluded report for sending to CSB, Bangalore.

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

SOIL SCIENCE & CHEMISTRY SECTION:

One ongoing research prog., **BPP(VP) 010**: "Multilocal validation trial for application of cationic micronutrients", were reviewed and progress was as per the milestones. The PI was advised to conclude the prog. by March, 2016, positively and submit the concluded report for sending to C.O., Bangalore.

[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-2028”, and **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. The PI was advised to conclude the programmes and submit the concluded report by **31/12/2015** for sending to C.O., Bangalore.

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

MULBERRY PATHOLOGY SECTION:

Progress of two ongoing research projects, namely **CSS2107**: “Forewarning of mulberry diseases of Eastern and North Eastern India”, and **PPS3504**: “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, **CSS2107**, the PI was advised to visit personally to all co-ordinating units and collect realistic field data and update the forewarning data in the Institute website. Regarding the project, **PPS 3504**, the PI was advised to collect the fresh sample of the disease from young plantation, besides, studying the causal organism of the disease in the laboratory and inoculate pathogen to pot plantation to validate the causing agent.

[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) **AIB3547**: “Development of high temperature and high humidity tolerant bivoltine breeds of silkworm (*Bombyx mori* L)”, (4) **AIB 3545**: “Authorization trials of silkworm hybrids in Eastern and North Eastern states”, (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 prog. **BAI(RP) 003**: “Maintenance of multivoltine and bivoltine germplasm”, were reviewed and progress was as per the milestones.

As the prog., **BAI(RP) 003**: “Maintenance of germplasm”, being a continuous one, the PI was advised to prepare a project and submit by **31/12/2015** for sending to C.O., Bangalore for approval and project Code No. Further, the PIs were advised to conclude their programmes by **31/03/2016** positively and submit the concluded report for sending to C.O., Bangalore.

[Action: Divisional Head & Dr. A. K.Verma, Sci-D, Seri. Division]

SILKWORM PATHOLOGY SECTION:

Progress of two research projects, namely, **ARP3516**: “Studies on synbiotics (combination of probiotic and prebiotic) induction for control of common diseases of silkworm *Bombyx mori* L”, and **ARP3522**: “Isolation, cloning and characterization of antibacterial protein (s) from silkworm, *Bombyx mori* L”, and 2 progs. namely, **BAR(RP)016**: “Survey and surveillance of silkworm diseases in traditional sericultural districts of West Bengal” and **BAR(RP)015**: “Silkworm disease monitoring of seed and commercial crop rearing of West Bengal (SDMSSC)”, were reviewed and progress was as per milestones.

All the PI of the progs. were advised to conclude their progs. by **31/03/2016** positively and submit the concluded report for sending to C.O., Bangalore

Regarding the project, **ARP3516**: “Studies on synbiotics ... of silkworm *Bombyx mori* L”, the PI was advised to present the data, SR% and the occurrence of specific pathogen causing diseases in the infested larvae.

Regarding the prog., **BAR(RP)015 & BAR(RP)016** the Incharge of Silkworm Pathology Section was advised to merge the two programmes and prepare a mega project along with the 4 RSRs and concerned RECs and submit **by 31/12/2015** for sending to C.O., Bangalore for approval project Code No. The RSRs and RECs should be associated in the collaborative mega - project on disease survey and surveillance and forewarning.

[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.

The PI of the prog. was advised to conclude their programmes **by 31/03/2016**, positively for sending to CSB, Bangalore. Regarding the prog., **BPR(P)021**: “Development of ... for mulberry pests”, the PI was advised to conclude the programme and submit the report **by 31/12/2015** for sending to C.O., Bangalore.

The incharge of Entomology Section was suggested to take precautionary measures to control whitefly menace in the 3 traditional districts, Malda, Murshidabad and Birbhum of West Bengal well in advance to avoid crop loss and to organize more awareness programmes particularly in the month of September-October i.e. before Aghrayani commercial crop.

[Action: Dr. S.K.Mukherjee, Sci-D & Shri Debojit Das, Sci-C, Extension Division]

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. The PI of the programmes was advised to conclude the programmes **by 31/03/2016** positively and submit the concluded report for sending to C.O., Bangalore. As the prog., **BPI(P)034**: “Development, characterization a... for mulberry (*Morus spp*)”, the PI was advised to prepare it a full fledged project form and submit **by 31/12/2015** for sending to C.O., Bangalore for approval and project Code No.

REELING & SPINNING DIVISION:

Progress of one prog., **BAI(VP)014**: “Field level testing ofclimatic seasons”, was as per milestones. The PI should conclude their programmes **by 31/03/2016** positively and submit the concluded report for sending to C.O., Bangalore.

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

EXTENSION DIVISION:

Progress of one Prog., **BMO(P) 042**: “Institute Village Linkage Programme (SERI MODEL VILLAGE)”, was reviewed and progress was as per milestone. The PI of the programme was advised to conclude their programmes **by 31/03/2016** positively and submit the concluded report for sending to C.O., Bangalore.

[Action: Shri D. Das, Sci-C, 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.

REGIONAL SERICULTURAL RESEARCH STATIONS:

RSRS, Kalimpong, West Bengal:

Progress of own 3 programmes namely (1) **B-KPG(RP) 017**: “Maintenance of bivoltine silkworm germplasm breeds”, (2) **B-KPG(RP) 011**: “Multiplication and supply of SK6 x SK7 dfls to Sikkim and plain area”, (3) **B-KPG (VP) 011**: “Validation of test based doses of fertilizers and lime application in soils of Kalimpong hills to increase the yield and quality of mulberry (*Morus* spp.) leaves and one 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 and found satisfactory.

The PIs of all programmes were advised to conclude their programmes **by 31/03/2016** positively and submit the concluded report for sending to C.O., Bangalore. Regarding the prog., **B-KPG(RP) 017**: “Maintenance of breeds”, the PI was advised to follow the aestivation schedule strictly. As per instructions given earlier meetings, the PI should conduct two times rearing of germplasm in a year without fail and maintain the germplasm true to their parent characters. Further, while presenting the progress, data of all breeds should be shown alongwith benchmark values. Regarding the prog., **B-KPG(RP) 011**: “Multiplication and supply ... plain area”, the Chairperson advised to produce the dfls as per requirement. If necessary, dfls may be preserved in 4 months and 6 months schedules.

[Action: Smt. C. Maji, Sci-D, RSRS, Kalimpong /Shri S. Chatterjee, Sci-D, RSRS, Kalimpong]

RSRS, Jorhat, Assam:

Progress of two own projects, namely **APS 3539**: “Characterization of mulberry growing soils for nutrient management in selected Seri-villages of Golaghat district of Assam” and **PRE3511**: “Studies on predatory efficacy of coccinellid predator, *Scymnus posticalis* Sicard for management of white fly on mulberry”, and two own progs. namely, **B-JRH(RP) 009**: “Survey and surveillance of mulberry and silkworm pests & diseases of N.E. States”, and **B- JRH (P) 040**: “Studies on mulberry germplasm in agro-climatic conditions in North-Eastern states hills”, were reviewed and found satisfactory.

Regarding the project, **APS 3539**: “Characterization of mulberryGolaghat district of Assam”, the Chairman advised the PI to prepare the MoA (Memorandum of Agreement) in duplicate with the collaborator and submit to this institute by **31/12/2015**, for maintaining financial accounts and release of fund from the C.O., Bangalore.

All concerned PIs were advised to conclude their programmes and submit the concluded report **by 31/03/2016** positively for sending to C.O., Bangalore.

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

Regarding the project, **B-JRH(RP) 009**: “Survey and surveillanceof N.E. States”, the Chairperson advised the PI to include REC, Mongaldai, Assam in the study zone.

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

RSRS, Ranchi, Jharkhand:

Progress of 2 own progs., namely, (1) **B-RNC (RP) 018**: “Survey and surveillance of disease and pest of mulberry and silkworm”, and **B-RNC (P) 031** : “Screening and identification of bivoltine hybrids suitable for Jharkhand”, were reviewed and found satisfactory.

The PI of the programmes was advised to conclude their programmes and submit the concluded report **by 31/03/2016** positively for sending to CSB, Bangalore.

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

RSRS, Koraput:

Progress of 3 own progs., namely, (1) **B-KPT(RP)019**: “Survey and surveillance of disease and pest of mulberry and silkworm”, (2) **B-KPT(RP)020**: “Silkworm Disease Monitoring of seed and commercial crop silkworm rearing of Non-Traditional districts of Orissa” and (3) **BPP(P)030**: “Studies on high bush and tree type mulberry plantation under rainfed condition of Orissa”, and one pilot study, namely **B-KPT(PS)009**: “Effect of

Irrigation scheduling on yield and water economy in mulberry by use of Hydro-gels –Poly acrylic acid based water insoluble polymers”, were reviewed and found satisfactory.

The concerned PI of the programmes is advised to conclude their programmes **by 31/03/2016** positively and submit the concluded report for sending to CSB, Bangalore.

However, “Verification of lime requirement..... zone of Odisha (**B-KPT(P) 037**)”, the concerned scientist was advised to include the technology and disseminate under transfer of technology (ToT) programme and submit the progress.

As the prog., **KPT(PS) 009**, the PI was advised to prepare it a full fledged project form and submit **by 31/12/2015** for sending to C.O., Bangalore for approval and project Code No.

[Action: Shri N.R. Rao, Sci-C and Shri S.K.Misro, Scientist-C, RSRS, Koraput]

The Regional Research Advisory Committee (RRAC) meeting and Resham Krishi Mela of RSRSs to be conducted during following dates.

- RSRS, Koraput : 06-08.01.2016
- RSRS, Ranchi : 11-12.01.2016
- RSRS, Kalimpong : 18-20.01.2016
- RSRS, Jorhat : 21-23.01.2016
- Institute : 27-28.01.2016

General comments:

1. Vermi-compost pit should be maintained at the Institute and RSRSs and land based RECs properly.
2. All Institute coded programme should be concluded by 31/03/2016 positively.
3. Swatch Bharat programme has to be taken up in all the RSRSs and RECs.
4. Declaration of all unserviceable articles and should be disposed off immediately following GFR Rules.
5. Revenue generation should be increased double the target fixed for the year 2015-16.
6. Biometric attendance should be strictly followed at all RSRSs, RECs and Sub-RECs and Biometric monthly attendance computerized data sheet should be submitted to this Institute from the 1st January, 2016, positively.
7. All farm workers should be brought under the Biometric attendance from 1st January, 2016 and submit the monthly Biometric attendance data sheet to this institute.
8. Day to day work diary of officers, officials should be maintained and submit to the Director for evaluation.

At the end, the Chairman expressed her satisfaction on the R&D progress made and advised the scientists of main Institute and RSRSs to take need based projects/ prog and identify the new potential areas for the benefit of the sericulture industry in the Eastern & North-Eastern regions.

Meeting ended with a vote of thanks to the Chair.

(Dr. K. Trivedy)
Director & Chairman,
Research Council
CSR&TI, Berhampore

Annexure-I**List of the participants attended the Research Council meeting held on 8th and 9th December, 2015 at CSR&TI, Berhampore**

1. Dr. K. Trivedy, 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. P. K. Tewary, Scientist-D, CSR&TI, Berhampore
7. Dr. U. K. Bandyopadhyay, Scientist-D, CSR&TI, Berhampore
8. Dr. N. Suresh Kumar, Scientist-D, CSR&TI, Berhampore
9. Dr. (Mrs.) Rita Banerjee, Scientist-D, CSR&TI, Berhampore
10. Dr. S. K. Dutta, Scientist-D, CSR&TI, Berhampore
11. Dr. S. Chattopadhyay, Scientist-D, CSR&TI, Berhampore
12. Dr. S. Chanda, Scientist-D, CSR&TI, Berhampore
13. Dr. M. Choudhuri, Scientist-D, CSR&TI, Berhampore
14. Dr. A. K. Verma, Scientist-D, CSR&TI, Berhampore
15. Dr. R. Kar, Scientist-D, CSR&TI, Berhampore
16. Dr. T. Dutta (Biswas), Scientist-D, REC, Kamnagar, Murshidabad
17. Shri N. B. Kar, Scientist-D, CSR&TI, Berhampore
18. Smt. C. Maji, Scientist-D, RSRS, Kalimpong
19. Shri S. Chatterjee, Scientist-D, RSRS, Kalimpong
20. Dr. S. N. Gogoi, Scientist-D, RSRS, Jorhat
21. Dr. Y. Debaraj, Scientist-D, RSRS, Jorhat
22. Dr. G.S.Singh, Scientist-D, REC, Agartala
23. Dr. Dipesh Pandit, Scientist-D, REC, MPRAJ, Jharkhand
24. Dr. S. Chakraborty, Scientist- C, CSR&TI, Berhampore
25. Shri D. Chakravarty, Scientist-C, CSR&TI, Berhampore
26. Shri Zakir Hossain, Scientist-C, CSR&TI, Berhampore
27. Shri D. Das, Scientist-C, CSR&TI, Berhampore
28. Dr. J. Sarkar, Scientist-C, CSR&TI, Berhampore
29. Dr.N.R.Rao, Scientist-C, RSRS, Koraput, Odisha
30. Shri Sunil Kumar Misroo, Scientist-C, RSRS, Koraput, Odisha
31. Smt. M. Pamegam, Scientist-C, RSRS, Jorhat, Assam
32. Shri Gopal Chandra Das, Scientist-C. CSR&TI, Berhampore
33. Dr. M. Alam, Scientist-C, RSRS, Ranchi, Jharkhand
34. Shri S.T.Lepcha, Scientist-C, REC, Ranpo, Sikkim
35. Dr. V. Vijay, Scientist-B, CSR&TI, Berhampore
36. Sri, M. Mahesh, Scientist-B, CSR&TI, Berhampore
37. Shri Manjunatha G.R., Scientist-B, CSR&TI, Berhampore
38. Shri T.N.Srikant, AD (Stat.), CSR&TI, Berhampore
39. Shri Gourav Roy, JRF, CSR&TI, Berhampore