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EDITORIAL



CSR&TI, Berhampore is rendering R&D, technology innovation, extension, HRD and service support to the sericulture farmers / stakeholders of the Eastern and North-Eastern regions covering 13 states namely, West Bengal, Bihar, Jharkhand, Orissa, Chhattisgarh, Sikkim, Assam, Manipur, Mizoram, Meghalaya, Nagaland, Arunachal Pradesh and Tripura. It controls 3 RSRs and 11 RECs as a support to stakeholders with extension machineries. The institute look into the problems relating to development of rural areas through sericulture technological intervention. Nowadays

the special emphasis has been given to issue 'Soil Health Card' to each seri-farmers which will display the nutritional status of his/ her farm and will carry crop-wise recommendations of nutrients and fertilizers required for the individual farms. This is aimed to help farmers to improve productivity through judicious use of inputs. Efforts are on to gradual shifting from multivoltine to bivoltine silkworm rearing which is enhancing the stake holders income two and half times from the previous one. The institute is continuously encouraging the seri-farmers to adopt organic base package of practices, use bio-control agent to eliminate the pest of mulberry plants. The institute has introduced an android mobile app named as "RESHAM BANDHU" covering all technologies and its solution under IT approach. It is able to provide information on different aspects of sericulture technologies that includes moriculture (mulberry plant), sericulture (silkworm *Bombyx mori* L.), Reeling, Human Resource Development and Extension activities pertaining to this zone. It also provides a facility of a ready reckoner for estimation of quantum of different pesticides, fertilizers & chemicals, raw silk output and cocoon price etc. Mapping of mulberry sericulture through GPRS was done in four major sericulture districts of West Bengal viz., Malda, Murshidabad, Birbhum and Nadia which can be undertaken country wide. Drip irrigation is today's need because Water – nature's gift to mankind is not unlimited and free forever. World water resources are fast diminishing. For the best use of world's most precious thing, the institute innovated the low cost drip fertigation tape system for the resource poor farmers. Detailed study of inter-relationship among soil, water, crop, land and related agro climatic conditions, we designed a suitable and economically viable system to deliver a measured quantity of water alongwith the soluble fertilizers at the root zone of each plant at regular intervals. This is to ensure that the plants do not suffer from stress or strain of less and over watering.

(Signature)
(Dr. Kanika Trivedy)
Director



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CARBON FARMING IN MULBERRY GROWING SOILS IN KALIMPONG HILLS

Carbon sequestration depends upon biomass production capacity, which, in turn, depends upon interaction between edaphic, climate and topographic factors of an area. Hence, results obtained at one place may not be applicable to another. Therefore, region-based potential of different land uses needs to be worked-out. Considering the current agenda of Global Warming, it was proposed to assess carbon sequestration potential (CSP) of mulberry growing in Eastern Himalayas, per-humid eco-region with brown and red hill soils of Kalimpong and for that purpose, the altered farming practice (moderate tillage with grass cover) diagnosed competent so far, had been tested against existing farming practice (intensive tillage without grass cover) for comparison. The study has been concluded during March, 2018 with the following observations:

Annual yield and carbon sequestration potential of mulberry growing under two different farming practices

Particulars	Farming practices	
	Moderate tillage with grass cover	Intensive tillage without grass cover
Leaf yield (t ha ⁻¹)	11.90	10.84
CSP of leaf (t ha ⁻¹)	1.41	1.22
Shoot yield (t ha ⁻¹)	12.28	11.66
CSP of shoot (t ha ⁻¹)	1.80	1.63

Compilation of data revealed that mulberry growing under moderate tillage with grass cover (altered farming practice) can sequester an average of 3.21 t carbon annually from one hectare of land while mulberry growing under existing farming practice (intensive tillage without grass cover) can sequester 2.85 t carbon annually from the same area of land. Thus, the former registered an annual carbon credit of 0.36 t ha⁻¹ over the existing farming practice.

The altered farming practice, "moderate tillage with grass cover" promises to enhance CSP of mulberry substantially on long term basis through continuous improvement of soil organic ambience. The protocol is efficient enough to achieve the target of offsetting carbon emission from the atmosphere at an enhanced rate and to store the same subsequently in terrestrial system for further use. The approach matches the current Global agenda for terrestrial sequestration of carbon and promises to act as an agent to save the Globe from warming.



WITH MULCHING



WITHOUT MULCHING

VISIT OF HON'BLE MEMBER SECRETARY, CSB, BANGALORE

For the first time after resuming the charge, **Shri Rajit Ranjan Okhandiar, IFS**, Member Secretary, Central Silk Board visited CSR&TI, Berhampore during 5th to 7th May, 2018.

Director of CSR&TI, Berhampore and her team heartily welcomed the Hon'ble Member Secretary with flower bouquet. He planted a coconut sapling near the unveiled stone of the proposed auditorium. The Hon'ble Member Secretary, CSB meet with all the officials and farm workers of the Institute on the first day of his visit and congratulated them for their outstanding efforts to uplift the institute at a great height. He visited all the sections, laboratories and met with all the scientists & officials of the institute to review the R & D activities of the institute and financial achievements of the institute in recent past. He advised the scientists to focus on monitoring of data collection at field level and implement the tele-monitoring system (two-way) of beneficiaries through developing help line i.e. a kind of advisory service to the farmers. Initiate the process with 10 officials, each will monitor 10 famers. Further Social sites like face-book, twitter may be linked to the extension machinery to acquaint the stakeholders with the latest sericulture technology.

On 6th May, 2018, the Member Secretary visited yoga classes at the institute club house, Institute campus, experimental fields, pond, rearing activities, SSPC Berhampore (NSSO), Automatic Reeling Machine plant at Shibpur, farmers' rearing house at Kiriteshwari village, REC, Mothabari at Malda. He also interacted with farmers of Malda, Scientists and DoS officers. Further, he suggested improving the quality of silk thread, co-ordinate to organise contract farming by adopting 200 seri-farmers and organize cocoon market in the nearby ARM Plant which will reduce the carrying cost of cocoon and will ultimately enhance annual income of the stakeholders.

On 7th May, 2018, the Member Secretary, CSB, inaugurated Reverse Osmosis (RO) System at Institute for getting quality drinking water for the Institute staff. Further, the Member Secretary, the Director of CSR&TI, Berhampore & her team visited at Karimpur, Nadia, discussed with the progressive farmers who shifted their pattern of silkworm rearing from multivoltine to bivoltine with the help of developed sericulture technology of CSR&TI, Berhampore. He also visited farmers' house, interacted with farmers, observed existing Seri Resource Centre (SRC).



नगर राजभाषा कार्यान्वयन समिति की 35वीं बैठक

नगर राजभाषा कार्यान्वयन समिति, बहरमपुर (प.ब.) की 35वीं बैठक संस्थान की निदेशक महोदया, डॉ. कणिका त्रिवेदी, की अध्यक्षता में दिनांक 28वीं मई, 2018 को अपराह्न 2.30 बजे केन्द्रीय रेशम उत्पादन अनुसंधान एवं प्रशिक्षण संस्थान, बहरमपुर के बैठक कक्ष में संपन्न हुई।

पूर्व एवं पूर्वोत्तर क्षेत्र का संयुक्त राजभाषा सम्मेलन

भारत के पूर्वी तथा पूर्वोत्तर राज्यों के लिए दिनांक 10वीं मार्च, 2018 को ज्ञान भवन ऑडिटोरियम, पटना, गांधी मैदान में आयोजित क्षेत्रीय राजभाषा सम्मेलन के दौरान समारोह के मुख्य अतिथि माननीय गृह-मंत्री श्री किरण रिजुजू महोदय के कर-कमलों द्वारा वर्ष 2016-17 के दौरान राजभाषा नीति के कार्यान्वयन में उत्कृष्ट योगदान के लिए **राजभाषा शील्ड** अर्थात् द्वितीय पुरस्कार से इस संस्थान को सम्मानित किया गया।

हिंदी कार्यशाला/ वर्कशप

केन्द्रीय रेशम उत्पादन अनुसंधान एवं प्रशिक्षण संस्थान, बहरमपुर [प.ब.] में दिनांक 25 वीं जून, 2018 को "हिंदी टिप्पण व आलेखन" पर हिंदी कार्यशाला-सह-प्रतियोगिता का आयोजन किया गया। कार्यशाला का प्रमुख उद्देश्य अधिकारियों/पदधारियों को राजभाषा हिंदी के प्रावधानों के सम्यक जानकारी देने के साथ ही हिंदी के कार्यान्वयन में और भी गतिशीलता लाने के लाने के व्यावहारिक प्रशिक्षण प्रदान करना था। इस दौरान संस्थान के कुल 21 पदधारियों (02 अधिकारी एवं 19 पदधारी) को राजभाषा नीति व इसके उपबंधों के सही अनुपालन व नियमों और विधियों से अवगत कराया गया।

कार्यशाला के आरंभ में संस्थान की निदेशक, डॉ. कणिका त्रिवेदी महोदया ने कार्यशाला में उपस्थित सभी अधिकारियों / पदधारियों को संबोधित करते हुए कहा कि किसी भी भाषा को सीखने के लिए उसके सैद्धांतिक ज्ञान से बहुत अधिक लाभदायी व्यावहारिक ज्ञान होता है। अतः हम सभी भारत सरकार के कर्मचारी होने के नाते राजभाषा हिंदी का प्रयोग अपने दैनिक कार्य-कलापों में करने का हर संभव प्रयास करें ताकि हम संविधान की अपेक्षितों को पूरा करने और लक्ष्य को प्राप्त करने में सक्षम हो सकें।

तत्पश्चात, संस्थान के सहायक निदेशक ने राजभाषा हिंदी के लिए भारत सरकार द्वारा निर्धारित नियमों, उपबंधों व इसके प्रचार-प्रसार हेतु केन्द्र सरकार द्वारा समय-समय पर उठाए जा रहे नित-नए प्रयासों से सभी अधिकारियों को अवगत कराने के साथ ही साथ पदधारियों के हिंदी के व्यावहारिक ज्ञान की जांच करने हेतु हिंदी टिप्पण व आलेखन से संबंधित एक प्रश्न पत्र सभी पदधारियों को सौंपा और उन्हें उन प्रश्नों के अनुसार लिखने हेतु प्रोत्साहित करते हुए आवश्यकतानुसार पदधारियों को जहां भी समस्या महसूस हुई उसका समाधान भी किए।



इसके अतिरिक्त, उक्त प्रतियोगिता में विजेता प्रतिभागियों को जांच के उपरांत संस्थान की निदेशक महोदया की ओर से नकद पुरस्कार से पुरस्कृत भी किया गया।

VISIT OF HON'BLE GOVERNOR OF WEST BENGAL

The **Hon'ble Governor** of West Bengal, **Shri Keshari Nath Tripathi** visited this institute on the occasion of the **Platinum Jubilee Year of CSR&TI, Berhampore** on Feb. 6th 2018. The Chairman, CSB, Shri K. M. Hanumantharayappa was graced to welcome the Hon'ble Governor of West Bengal. The Hon'ble governor unveiled the Plaque for the proposed Platinum Jubilee Auditorium of the institute and planted a coconut plant (*Cocos nucifera*). Further, he visited museum of the institute where the latest technologies of sericulture developed by the institute were being exhibited. Main programme was at the institute auditorium. A documentary film on **History of Murshidabad Silk and CSR&TI** was shown and institute publications like two quarterly Newsletters - *Resham Krishi Barta (Bengali & Hindi)*; "*A Practical Handbook on silkworm diseases & pests*" and "*Platinum Jubilee Souvenir*" were released by the Hon'ble Governor. Dr. Kanika Trivedy, Director, CSR&TI, Berhampore and Shri K. M. Hanumantharayappa, Chairman, Central Silk Board, Bangalore felicitated the Hon'ble Governor of West Bengal with memento. About 25 media personalities, including Government and Public *televisions, radio, newspapers, magazines, etc.* covered the programme and telecasted in their own channel and printed in the newspapers. A total of 500 participants comprising of scientists, officer, officials, farm workers, contractual workers, PGDS students and state government officials participated in the programme.



TRAINING PROGRAMME UNDER TRANSFER OF TECHNOLOGY

Five days training programme from 21.06.2018 to 25.06.2018 was organised under ToT project entitled "**Mass multiplication and maintenance of biocontrol agent – *Scymnus pallidicollis* and its popularization at farmers' level (Phase II of PRE 3508)**". Sixteen male and four female farmers of West Bengal participated in the programme from different parts of West Bengal. The main objective of the ToT project was to impart training to the farmers on mass multiplication and maintenance of *Scymnus pallidicollis* – a predator of mealy bug having expected outcome of dissemination of bio-control method at farmers' level to suppress the incidence of mealy bugs in mulberry fields instead of using chemical pesticide.

During the training, both theory and practical classes were scheduled. The theory classes were on : a) Major pests of mulberry, symptom and their management with special reference to mealy bug, b) Importance of natural predator use in control of mealy bug, c) Farmers' friendly technique for multiplication of *Scymnus pallidicollis* and d) Economic impact of *Scymnus pallidicollis* over chemical pesticides.

Similarly the practical classes were preparation of culture medium for the predator - *Scymnus pallidicollis*, identification of the mulberry plants having egg masses or nymphs or adults, as all the plants showing symptoms of tukra do not bear mealy bugs, procedure of collection mealy bugs from affected mulberry shoots, procedure for transferring mealy bugs to sprouted potato and also on sweet pumpkin, advantage of using sprouted potato instead of sweet pumpkin, differences between pink mealy bugs and papaya mealy bugs and also to destroy papaya mealy bug as it is very harmful and release of adult predator in the culture medium.



IMPORTANT EVENTS

On 8th March, 2018, "**International Women Day**" and "**Swachhata Day**" was organized at the institute with 30 women Sericulturists who are the head of 30 Self Help Groups (SHG) participants from "Adarsh Swatch Resham Gram- Mullickpur-Diara" and Dr. Manju Banerjee, Principal, and Murshidabad Medical College, presided over the occasion. Packets of Bleaching Powder were distributed among the rearers for maintaining proper hygienic condition of rearing room during silkworm rearing. Likewise, sixty masks were also distributed to use during disinfection and spraying pesticides / insecticides to avoid health hazards.



A workshop on "**Chawki Rearing**" was organized with 80 CRC owners/ participants at CSR&TI, Berhampore. The workshop was inaugurated by Prof. Indranil Biswas with watering to the mulberry plant. The Director and Senior scientists of CSR&TI, Berhampore also watered the mulberry plant. A bengali booklet on "**Chawki Rearing**" was released. Further, senior Scientists delivered the lectures on chawki rearing and demonstrated practical to the participants. Finally the programme was ended with prize distribution to the successful chawki rearers, distribution of inputs & certificates for the participants.



A workshop on "**Extension mechanism through empowering farmers and mobile usage**" was organized on 21st May 2018 at the institute. The programme was inaugurated by chief guest Dr. Debabrata Basu, Prof. & Head of Agricultural Extension, Bidhan Chandra Krishi Viswavidyalaya and other invitees Mr. Partha Battacharya, Chief Area Manager, IFFCO; Mr. Vikas Srivastav, Manager, Central Bank of India, Berhampore; the Director & Scientists of the Institute; DoS officers & farmers of different E & NE states of India through watering of mulberry potted plant. During the programme an *android Mobile App (English version)* named as "**Resham Bandhu**" was released. A series of lecturers by the invitees & institute Scientists and practical demonstration on usage of mobile apps (Rehasm Bandhu, IFFCO, BHIM, Mulberry app) was arranged before the ~150 nos. of participants.



RESHAM KRISHI MELA (RKM)

A **Resham Krishi Mela** was organized by the institute on January 18th 2018. A beautiful Exhibition stall was set up and was **inaugurated by the Hon'ble Chairman, Central Silk Board, Shri K. M. Hanumantharayappa**. The other Honour of guests were part on the auspicious occasion, *Smt. Madhumita Choudhuri, IAS, Commissioner (DoT, Seri), West Bengal, Shri Abhijit Biswas, Principal, Govt. College of Engineering & Textile Technology and Dr. Kanika Trivedy, Director CSR&TI Berhampore*. On the mela, eighteen (18) best farmers from different districts of West Bengal were awarded for their outstanding achievements in cocoon production during previous year. A total of 1200 sericulture stakeholders were came from Birbhum, Nadia and Murshidabad districts of West Bengal.



SUCCESS STORY OF A SERI-FARMER



- **Name** : Samsul Haque,
- **Father's Name** : Late Badsha Shaikh
- **Village** : Korjora
- **Block** : Nabagram
- **Dist** : Murshidabad,
- **Mobile** : 9735331730

Md. Samsul Haque is a progressive farmer of Korjora Village of Murshidabad. He is a role model of sericulture farmers of West Bengal. He started his new life by adopting sericulture as main profession in 1990 when his native village "Kelai" in Khargram Block of Murshidabad was washed away due to devastating flood. He took the assistance of REC, Nabagram (Presently REC Kamnagar), through regular contact. He started plantation of S1635 in 2' x 2' spacing in 1.0 bigha land. Initially he got annual leaf yield of 2.5 t / ha and reared 100 dfls Multi x Multi in all the 5 crops with an annual return range from Rs.12000 to Rs.15000. Taken advantage of undergoing ISDS Training from CSR&TI, Berhampore, got acquainted with improved sericultural technologies and advance package of practices of mulberry cultivation and silkworm rearing, he increased plantation from 1.0 bigha to 2.0 bigha along with the adoption of Bivoltine rearing during Agraphayani (Oct.– Nov.) and Falguni (Feb.) crop. He is now earning annually income ranging from Rs.1.5 to 2.0 lakh and has got model rearing house under CDP Scheme. Qualifying all the eligible criterions, he has provided Chawki rearing centre for conducting CPP-Bivoltine rearing during Agraphayani (Oct. – Nov.) and Falguni (Feb.) crop under Murshidabad cluster. He has also been nominated as rearers representative in Research Advisory Committee of CSR&TI, Berhampore (2017-2020).

Earning from sericulture (Bivoltine silkworm rearing), he has built Pucca dwelling house with all facilities of TV, Fridge, Water pump etc. and able to arrange marriage of his daughter in well-established family. In the year 2018-19, he has planned to extend his mulberry plantation further with recently authorized C- 2038 mulberry variety which shows his thrust of adoption of new technologies. Besides, he has a desire to convert his "Tray" rearing method with "Shelf Rearing" to make silkworm rearing more women friendly as well as to reduce manpower.

Now Md. Haque is living peacefully with family having his endless endeavour of further improving his annual return from Sericulture. Thus, unemployed youth may get inspiration from Md. Samsul who has proved that sericulture may provide self employment, if it is practiced meticulously and with love.



Flourished mulberry leaves



Tray rearing of silkworm larvae



Good Quality MV Cocoon



Happy Samsul with mild smile

GUEST LECTURES & OTHER EVENTS

- ❑ A guest lecture on "Eye care" was delivered by Shri Nibir Pradhan, Optometrist, Berhampore on 27th January, 2018. He discussed in various measures on eye caring and its benefit. A total of 60 participants consisting of Scientists /Officers and officials participated.
- ❑ A guest lecture on "LIC Plans/ schemes and their benefits" was delivered by Shri. T. K. Mitra, Sr. Branch Manager, LIC, Berhampore on 26th February, 2018. He and his team has discussed in various LIC schemes and their benefits to the stakeholders. A total of 58 participants consisting of Scientists /Officers and officials participated and interacted.
- ❑ A guest lecture on "Waste to Wealth" was delivered by Shri Paresh Nath Ball, Asst. Director of Agriculture Krishi Bhavan, Berhampore, Murshidabad, West Bengal on 14th March, 2018. He made an excellent speech about the "Waste Management" without which the existence of civilization will be in danger. About 60 officers/ officials and Scientists of this the institute attended as audience and interacted with Mr. Ball.
- ❑ A guest lecture on "Silk Related Topic" was delivered by Dr. Abhijit Biswas, Principal, Govt. College of Engineering and Textile Technology, Berhampore, Murshidabad, West Bengal on 12th April, 2018. He explained about the application of "Fractal geometry with special reference to silk industry". Scientists and other officials interacted with the lecturer. A total of 77 scientists, officers/ officials and staff of this the institute were attended.
- ❑ A guest lecture on "Moral Values" was delivered by Bramha Kumari Raman Didi, Prajita Eshawariya Viswavidyalaya, Berhampore, West Bengal on 19th May, 2018. She explained about how a person can lead their life with peace & moral values. Scientists and other officials were interacted nicely with didi. A total of 96 scientists, officers/ officials and staff of this the institute were attended in the lecture session.
- ❑ A guest lecture on "Tasar Culture – a Tryst with destiny" was delivered by Dr. M.G. Das, Former Additional Director, Department of Sericulture, Govt. of West Bengal on 19th June, 2018. He explained that Oak tasar culture has ancient heritage in India was being practiced in its sub-Himalayan belt extending from Kashmir in North to Manipur in east.
- ❑ "International Yoga Day" was celebrated on 21st June 2018 in the Auditorium of CSR&TI, Berhampore. Yoga Guru Shri Sagar Ghosh of the Yoga Centre "Yogayan", Berhampore, Murshidabad, West Bengal was the Chief Guest and imparted training on Yoga to the Staff, Farm Workers and Students.

R&D REVIEW MEETING CONDUCTED

- ✓ 47th Research Advisory Committee meeting was organized on 9th Jan., 2018 at CSR&TI, Berhampore.
- ✓ 7th Zonal Bv Cluster Promotion Programme Review Committee meeting (ZBCPPRC) for Eastern & North-Eastern zone was organised on 10th Jan., 2018 at CSR&TI, Berhampore.
- ✓ 2nd Extension officers meeting (EOM) of 2017-18 was organised on 11th Jan., 2018 at CSR&TI, Berhampore.
- ✓ 48th Research Council meeting held on 26th & 27th June, 2018 at CSR&TI, Berhampore.
- ✓ Video conference was held on 20th June, 2018 at CSR&TI, Berhampore with REC, Bhandra; MESDP Kishanganj & RO Patna to review the progress of R&D, Bv-CPP, Extension and other activities related to the centres.

ARTICLES FOR News & Views

Director, CSR&TI, Berhampore determined to publish this half yearly news bulletin regularly on promising research findings, ToT, Field Trials, Demonstrations, Farmers' Day, Training Programme and other important events. Officers and Staff members working at this Institute, RSRs, RECs and Sub-RECs of Eastern and North Eastern states are requested to send their articles in favour of Director, CSR&TI, Berhampore, West Bengal for the said publication. Communication may also be made by E-mail to csrtiber.csb@nic.in / csrtiber@gmail.com



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