



ILRI Newsletter

Vol. 4 (1)

JAN - MAR 2000

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Dr K K Kumar takes charge

Dr K. K. Kumar, Head, Division of Transfer of Technology has taken over charge, as Acting Director of the Institute, w.e.f. 18.01.2000 (AN). He had joined this institute on 8.10.1997 as Head, Div. of TOT. Prior to this, he was working as Senior Scientist (Agric. Entomol.) at Central Horticultural Experimental Station, Ranchi.

RESEARCH HIGHLIGHTS

Pest Spectrum of the Collected Germplasm of Lac Insects.



P. sylvestrii on bhalla

generation on both, *Flemingia macrophylla* and *F. semialata* in 375 days under Ranchi climate.

Lac insect species found infecting *Kydia* sp. and collected from Amsoi Bazar near Guwahati (Assam) was identified as *Kerria chinensis*. Productivity of this insect on *Kydia*

at its native place has been found to be at par with *kusmi* lac insect cultured on *kusum* at Ranchi.

Lac Wax Based Formulations

Emulsion type compositions based on lac wax, bleached lac, paraffin wax and carnauba wax in different proportions, have been prepared for their utilisation as protective coating for preservation of fruits and vegetables. The testing of these formulations is in progress.

TRANSFER OF TECHNOLOGY

Training programmes conducted

On-campus

A total of 12 private candidates from West Bengal successfully completed a 4-month certificate course on "Modern Methods of Lac Culture."

Two courses of one-week training in lac cultivation were organised for 31 farmers sponsored by TRIFED and nominated by Jan

We are very happy to inform the readers that the frequency of this Newsletter is being made quarterly from this issue. We are also expanding the mailing list of this Newsletter to include lac-based industries and other agencies engaged in lac promotion.

We also invite any useful information/news on lac, worthy of publication in this Newsletter. Due credit will be given to the contributions. The editors reserve the right to publish such information provided.

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Predator galleries on lac encrustation

Lac insects collected from Bangalore and Chitradurga (Karnataka), Palakkad and Thrissur (Kerala) and Guwahati (Assam) were caged to study the associated pest populations. Lac insects collected from Chitradurga were heavily infested with the predator,

Eublemma amabilis and the number of associated parasites was negligible. No pests were observed in the samples collected from Bangalore and Palakkad. Interestingly ants were seen visiting living lac insects for honeydew at the time of sample collection. Lac insect of Guwahati showed moderate degree of pest infestation. These qualitative and quantitative variations in the pest profile of lac insects collected from different places may be attributed to differing climatic conditions and associated biotic factors.

New Lac Insects

Lac insect stock collected from Bangalore on Sandal, *Santalum album* has been identified as *Paratachardina sylvestrii*. It completed one



Dr. K K Kumar,
Director, ILRI with
Hon'ble MP, Shri
Basudeo Acharya
at Gamarkudi
exhibition



Participation in *kisan melas* and exhibitions

Date	Name and location of the exhibition	Organised by
8-9.1.2000	<i>Kisan Mela</i> , Khunti, Ranchi dist.	S.D.O., Khunti
18-20.1.2000	Central Annual <i>Kisan Mela</i> , KVK, Getalsud Farm, Angara block, Ranchi	RK Mission Ashram, Morabadi, Ranchi
2.2.2000	<i>Kisan Mela</i> , SS High School, Silli	Indalco, Chotamuri
22-26.2.2000	Appropriate Technology Exhibition in Handloom Sector, Kannur (Kerala)	National Handloom Development Corporation, Lucknow
28.2.2000	Agro-Tech, BAU, Kanke, Ranchi	Pathari Vikas Pariyojana, Ranchi
11-13.3.2000	Exhibition at Gamarkudi PO, Kashipur, Purulia, West Bengal	NGOs, Gamarkudi
30-31.3.2000	Exhibition, training and demonstration, Hosenghatu and Soraringhatu villages, Arki block, Ranchi	Alternative for India Development, Ranchi

Vikas Kendra, Jamshedpur and Munda Dev. Community, Khunti.

One-day orientation programmes on lac were organised for 171 farmers in 4 batches and 61 students from St. Columba College, Hazaribag and Birsa Agri. University, Ranchi.

Off-campus

On-farm education programme on lac cultivation was organised in Village Chatapada, Labed (Dist.: Korba), Kafarmar and Jobi (Dist: Raigarh), M.P. in collaboration with Vishnu Shellac Pvt. Ltd. Shakti (M.P.). A total of 82 farmers participated.

On-farm demonstration of pruning technique and field education programme on lac culture was conducted in two villages, viz., Bandugarha and Saranghatu. Farmers from five adjacent villages of Arki Block of Ranchi district participated. The programme was organised in collaboration with Alternative for India Development, Ranchi. A total of 69 farmers participated in programme.

Broodlac distribution in Orissa by SEPC

2.3 quintal *kusmi* broodlac was distributed free to 23 beneficiaries of Kishore Chander Pur Lac Industrial Co-operative Society by Shellac Export Promotion Council, Calcutta at village Darkhuli, Block Nilgiri of district Balasore



Broodlac distribution ceremony

(Orissa) on 5.2.2000. The good quality broodlac was provided by Indian Lac Research Institute, Ranchi and was distributed among the farmers by the DM, Balasore in the presence of GM, NABARD; PA, ITDA and other district officials. Mr J Ram, Secretary SEPC and Mr S Mandal represented SEPC. Dr KK Sharma and Mr DK Singh from ILRI were also present on this occasion.

Out-Reach Programmes

Dr KK Kumar, Director, Dr A Bhattacharya Sr Sc and Mr L Ram, Publicity Officer attended a three-day mela and organised an exhibition on lac at Gamarkudi village, Kashipur District Purulia (WB) during 11-13 March 2000 to commemorate centenary celebrations of Munda Revolution. More than 500 farmers visited the exhibition and were explained about lac cultivation and products.

TV/Radio Talk

Lah utpadan mein dhyan dene wali baaten by Dr KK Sharma was telecast by DDK Ranchi on 12.2.2000.

Institute Publication

- "Lakh: utpadan ki unnat vidhiyan avum upyog (Prashikshan Pustika)" In Hindi. 47 pp.
- ILRI Newsletter, Jul-Dec 1999, 4 pp.

Museum

The Lac Museum at the Institute was visited by 106 persons from all walks of life. Besides, 257 farmers sponsored by various GOs and NGOs also visited the Museum.

Quality Testing Lab

The laboratory carried out 69 tests on 30 samples received from entrepreneurs/business houses/ different Divisions of the Institute during the period under report. An amount of Rs. 2835 was realised as testing charges.

Resource Generation

An amount of Rs 54,592 (Rupees Fifty-four thousand five hundred ninety-two only) was earned through sale of products and Lac Sale Counter.

Seminars/conferences/workshops Attended

Mr Ashish Rastogi, AO attended the First interactive workshop and brainstorming session under O & M of NATP for Administrative and Finance functionaries of ICAR at NAARM, Hyderabad from 13th to 17th February, 2000.

Dr SN Sushil, Dr P Kumar and Dr KK Kumar participated and presented a paper entitled, 'Biodiversity in lac culture - a natural Heritage of India' authored by Sushil SN, Mishra YD, Kumar P, Ramani R and Kumar KK in the seminar on Indigenous Knowledge and Intellectual Property Rights at BAU, Ranchi on 23.2.2000

Dr P Kumar, Pr Sc and Head Lac Production Division and Dr KK Sharma participated in a NATP (Plant Biodiversity) Zonal Workshop of zone VIII on 4-5.3.2000, held at RAU, Pusa, Samastipur.

Dr SN Sushil, Dr P Kumar, Dr KK Kumar and Dr A Bhattacharya participated and presented a paper, 'Lac culture- a solution in Joint Forest Management' in the seminar on Challenges of Administration in the Tribal Areas of the Eastern Region, held on 10-12 March, 2000 at Marwari College, Ranchi. Mr YD Mishra also was a co-author.

Dr KK Sharma presented a paper, 'Lac-a potential minor forest produce' authored by A Bhattacharya, SN Sushil, KK Sharma, P Kumar and KK Kumar in the Symposium on 'The impact of minor produces on benefit-cost analysis in environmental impact assessment studies' held on 16.3.2000 at AN Sinha Institute of Social Studies and organised by Yugantar Bharati.



Dr. K.M Prasad, Sr. Scientist at the NHDC workshop

Dr KM Prasad participated in the workshop on 'The use and need of eco-friendly natural dyes over the synthetic banned azo dyes' organised by National Handloom Development Corporation, Lucknow during Feb. 22 - 26, 2000 at Kannur (Kerala). Dyeing of wool & silk with lac dye was also demonstrated to participants during the workshop.

A tour was undertaken by Dr KM Prasad and Mr Radha Singh to Gondia, Dhamtari & Sakti during 6 - 10.3.2000. Discussion was held with Lac manufacturers and traders of Gondia, Dhamtari and Sakti. Questionnaire was distributed among them for studying the current status, technology assessment and problem of lac Industries.

Papers/popular articles Published

Mishra YD, Kumar S, Sushil SN, Bhattacharya A and Singh BP. 1999. Development of *kusmi* lac insect, *Kerria nagoliensis* (Mahdihassan), on different hosts. *Insect Environment*, 5(3):130-131.

Kumar P. 1999. *Lakh Keet Palan ki Vagyanik Vidhi*. *Pathari Krishi*, 1(1):39.

Sharma K Krishan and Jaiswal AK. 1999. *Bhartiya Lakh Anusandhan Sansthan : Aise Pahunchti hai Kisanon-Udyamion tak Hamari Baat*. *Pathari Krishi*, 1(1):32-33.

Kumar KK and Bhagat ML. 1999. *Lakh Utpadan mein Mahilaon ka Yogdan*. *Krishi Vistar Samiksha*, 9(1): 20-22.

HRD

Mr SC Srivastava, Sr Sc attended a training on Management of Plant Genetic Resources on 20-21 January 2000 at NBPGR Centre, Ranchi.

MISCELLANEA

Revolving Fund Scheme

The Revolving Fund Scheme entitled, 'Production of quality broodlac on *kusum* and *palas* at different agroclimatic regions' being run at Hesal Broodlac Farm of the Institute has generated a gross profit of Rs. 125416/- this year. About 15 quintals of *kusmi* broodlac was sold during the year.

PERSONALIA

Dr SC Agarwal Retires

Dr SC Agarwal, Director of the institute retired on 19.01.2000 after a distinguished service of more than 35 years. He joined the institute as Research Assistant in 1964 and subsequently left for Central Tasar Research and Training Institute where he continued till 1978 before joining ILRI again as Scientist S-2. He, by dint of hard work and perseverance, became the Director of the Institute on 3.10.98. During his tenure, the institute underwent a vast structural reorganisation. He was also instrumental in speeding up the administrative mechanism and infrastructure. We all wish him a very happy, healthy and long retired life.



ILRI, A Partner in TMC Programme

The institute has been included as one of the participating Centres in "Technology Mission on Cotton" under the program 'Development and evaluation of location - specific IPM modules for cotton based cropping systems'. Under this programme, ILRI will synthesise insect sex pheromones of some cotton pests from aleuritic acid, a constituent of lac resin.



of his research papers entitled, 'FT-IR Spectroscopic studies on esterification of lac' and, 'FT-IR studies on bleaching of shellac' co-authored by Dr AK Srivastava and published in the Journal of the Institution of Chemists

(India), vol.70, 1998 were selected as the best papers published in the Journal in 1998. Congratulations!

Sports



Winners of sport events with Director

The ILRI Sports team participated in the ICAR Zone-I Sports Meet, organised by IISR, Lucknow during 22 — 25 February 2000. The team consisting of 38 members was led by Dr A Bhattacharya as Chief-de-Mission and Mr Binod Kumar as Team manager. The ILRI team was runners up in Football. Mr RC Mandap was placed second in 200, 400 and 1500 m Race. Mr Bandhnoo Oraon won Silver in high jump. Mr Arjun Gope was third in Discus Throw. The Relay team comprising of Mr RC Mandap, Louis Ekka, Kameshwar Oraon and Bandhnoo Oraon won Bronze in 4x100 relay race.

Dr PC Sarkar felicitated

Dr PC Sarkar, Scientist, Lac Processing and Product Development Division was presented the Dr KA Thakkar (Cash) Award of Rs. 1000/- Two

EVENTS

Staff Research Council (SRC) meeting

The SRC meeting was conducted by the Chairman and Acting Director Dr KK Kumar on January 29, 2000 to review the progress of research and finalise the action taken report on RAC proceedings held on 28-29 January 1999. All the scientists of the institute participated in the meeting.

Research Advisory Committee (RAC) meeting

The RAC meeting was held on 3-4 February 2000 under the chairmanship of Dr BL Amla, Ex-Director, CFTRI, Mysore. Other members present in meeting were : Dr RP Kachru, ADG(PE) ICAR; Dr M Yaseen, Ex Head and Deputy Director, IICT Hyderabad;



RAC meeting in progress

Technology ready for transfer

New Insulating Varnish Compositions Based on Natural Resin Shellac

Three insulating varnish compositions, two baking-type and one air-drying type, are ready for transfer to interested entrepreneurs. The products are semi-synthetic, based on natural resin shellac. The process of preparation is simple and no by product is generated in the process of manufacture. The baking-type varnishes provide high thermal resistant, adherent films on a variety of surfaces i.e., copper, aluminium, tin, mild steel, stainless steel and bakelite and these can be pigmented by ball-milling.

Baking type insulating varnishes

The films of the baking-type varnishes (ShAKDB, ShO5X) possess high thermal resistance (230-250°C), high dielectric strength (63-73 and 95-100 kV/mm respectively), increased resistance towards tracking and transformer oil. Films are flexible, possess scratch hardness of more than 2000g and satisfactorily pass the test for effect on enamelled wire (>16). Testing of the above properties were carried out following IS: 10026-1982. Films of one of the compositions showed dielectric strength of 75-80 kV/mm after immersion in water for 24 h (ShO5X). The performance of the varnish was found to be satisfactory when applied on the coils of 3.3 kV, 400 HP electric motor.

Air Drying type insulating varnish (SHA 64)

The varnish satisfies IS:10026-1982, i.e., dielectric strength (70-72 kV/mm), increased resistance towards tracking and transformer oil. The varnish is suitable for operation in ambient air where high thermal resistance (beyond 80°C) is not required. The film, however, does not melt out, on heating, above this temperature. Baking of the air-dried films provide thermal resistance upto 165°C. Performance of the varnish has been found satisfactory for application on the coils of 6.6 kV 330 kW electric motor.

Dr N Krishnamurthy, Head Org. Coat. Div. IICT Hyderabad; Dr DRC Bakhetia, Sr Entomologist, PAU Ludhiana; Dr KK Kumar Acting Director, ILRI Ranchi; Mr Roshan Lal, MD, Tajna Shellac (P) Ltd. Khunti; Mr M Agarwal, Secretary Maharashtra Lakh Utpadak and Chapra Nirmata Sangh and Mr R Ramani, Sr Sc, ILRI (Member-Secretary).

The following important suggestions were made in the meeting: i) lac cultivation should be promoted in suitable areas of South India ii) A multipurpose pilot plant should be established at the institute.

The committee also reviewed the progress of research made during last year and suggested the following guidelines: lac cultivation under controlled condition, intensive lac cultivation, preparation of product profiles of developed products and processes, promotion of lac consumption in food industry, isolation of food grade dye, use of particle board in furniture industry, evaluation of lac based hot melt adhesives, increasing the frequency of the ILRI Newsletter and to initiate the steps for getting the sales tax abolished for lac and material derived from it.

Other Retirements

Mr BP Banerjee, T-5 w.e.f. 31.1.2000

Mr Tulsiram, T-II-3 w.e.f. 31.1.2000

Strange way of using shellac

Lac is such a versatile material, that it requires only human ingenuity to find a novel way of its application. We have recently come across a strange way of application of lac which we want to share with our readers.

Holi, the spring festival of colours in India symbolizes joy and communal harmony. People who celebrate this festival have developed many interesting ways of throwing colours at each other. In Rajasthan, one such popular colour delivery system is "Gulal gota." Gulal gotas are normally rubber balloons filled with colours. These rubber balloons are fairly heavy and can hurt the person occasionally, leading sometimes to unpleasant situations. People have overcome this problem by developing Gulal gota made up of shellac. These gotas are fashioned by the highly skilled workers who are engaged in making Royal ornaments from lac. They make attractive balloon shaped containers by blowing air into a lump of molten lac. These balloons are then filled with powder or liquid colours. Inspired by their imagination, these workers can make them in to shape of any fruit like orange, grapes, cherry etc. Lac-based Gulal gotas, though delicate, are lighter in weight and safer to play with.

M.L. Bhagat & R. Ramani

Courtesy : Swagat

संस्थान संयुक्त परिषद् की 33वीं बैठक

संस्थान संयुक्त परिषद् की 33वीं बैठक दिनांक 18.1.2000 को आयोजित की गई। बैठक में परिषद् के सभी सदस्यों ने भाग लिया। इस बैठक में कर्मचारियों के सामुहिक कल्याण हेतु प्रस्तुत सुझावों पर विचार किया गया। लिये गये निर्णयों में से प्रमुख हैं : कैम्पस में बिजली व्यवस्था में सुधार हेतु भूमिगत केबल बिछवाना, परिसर में सफाई हेतु निविदायें मंगवाना और दोनों परिसरों में बच्चों के लिये मनोरंजन पार्क की व्यवस्था करना।

डॉ भौमिक नहीं रहे



चपड़ा रसायनशास्त्र के क्षेत्र में विख्यात डॉ. तारापद भौमिक का सात फरवरी को राँची में निधन हो गया। उनका जन्म कोमिल्ला (बंगलादेश) में सात जनवरी 1910 में हुआ था। सन् 1930 में उन्होंने ढाका विश्वविद्यालय से विज्ञान में स्नातक की उपाधि ली थी। 1936 में कलकत्ता विश्वविद्यालय से विज्ञान में स्नातकोत्तर की डिग्री हासिल की। 1938 में डॉ. भौमिक ने लाख अनुसंधान संस्थान में रिसर्च एसिस्टेंट के रूप में पद ग्रहण किया। यहाँ उन्होंने डॉ. एच. के. सेन के नेतृत्व में कार्य किया। 1960 में उन्होंने डॉक्टरेट की। 1970 में डॉ. भौमिक ने सीनियर शैलेक यूटिलाईजेशन ऑफिसर के रूप में अवकाश ग्रहण किया। उनके निधन से लाख अनुसंधान का अपूरणीय क्षति हुई है।