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CDB observed Kisan Bhagidari Prathmika Hamari Campaign under Annadata Devo Bhava

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Articles, research papers and letters on different aspects of coconut cultivation and industry are invited for publication in this Journal. All accepted material will be paid for. The Board does not accept responsibility for views expressed by contributors in this Journal. All remittances and correspondence should be addressed to the Chairman, Coconut Development Board, Kochi - 682 011.

Coconut Development Board

The Coconut Development Board is a statutory body established by the Government of India for the integrated development of coconut cultivation and industry in the country. The Board which came into existence on 12th January, 1981, functions under the administrative control of the Ministry of Agriculture and Farmers Welfare, Government of India, with its headquarters at Kochi in Kerala State and Regional Offices at Bangalore, Chennai, Guwahati and Patna. There are five State Centres situated in the states of Orissa, West Bengal, Maharashtra and Andhra Pradesh and in the Union Territory of Andaman & Nicobar Islands. DSP Farms are located at Neriyamangalam (Kerala), Vegiwada (Andhra Pradesh), Kondagaon (Chhattisgarh), Madehpura (Bihar), Abhayapuri (Assam), Pitapalli (Orissa), Mandya (Karnataka), Palghar (Maharashtra), Dhali (Tamil Nadu), South Hichachara (Tripura) and Fulia (West Bengal) besides a Market Development cum Information Centre at Delhi. The Board has set up a Technology Development Centre at Vazhakulam near Aluva in Kerala.

Functions

❒ Adopting measures for the development of coconut industry. ❒ Recommending measures for improving marketing of coconut and its products. ❒ Imparting technical advice to those engaged in coconut cultivation and industry. ❒ Providing financial and other assistance for expansion of area under coconut. ❒ Encouraging adoption of modern technologies for processing of coconut and its products. ❒ Adopting measures to get incentive prices for coconut and its products. ❒ Recommending measures for regulating imports and exports of coconut and its products. ❒ Fixing grades, specifications and standards for coconut and its products. ❒ Financing suitable schemes to increase the production of coconut and to improve the quality and yield of coconut.

❒ Assisting, encouraging, promoting and financing agricultural, technological, industrial or economic research on coconut and its products. ❒ Financing suitable schemes where coconut is grown on large scale so as to increase the production of coconut and to improve its quality and yield and for this purpose evolving schemes for award of prizes or grant of incentives to growers of coconut and the manufacturers of its products and for providing marketing facilities for coconut and its products. ❒ Collecting statistics on production, processing and marketing of coconut and its products and publishing them. ❒ Undertaking publicity activities and publishing books and periodicals on coconut and its products.

The development programmes implemented by the Board under the project Integrated Development of Coconut Industry in India are- production and distribution of planting material, expansion of area under coconut, integrated farming for productivity improvement, technology demonstration, market promotion and Information and Information Technology. Under the Technology Mission on Coconut, the programmes implemented by the Board are development, demonstration and adoption of technologies for management of insect pest and disease affected coconut gardens, development and adoption of technologies for processing and product diversification and market research and promotion.

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Message

Dear Readers,

The month of May witnessed a flurry of activities in the coconut sector, with major programmes organized across the country to augment the sustained development of the sector. The onset of South West monsoon in May gave busy days for the coconut farmers, since it was also the onset of new planting in the west coast and the north east areas of the country. A series of extension programmes were facilitated by the Board under Annadata Devo Bhava Campaign in the coconut growing states across the country to enable transfer of technology on coconut cultivation.

New planting always brings to focus the need for ensuring availability of quality planting material. Concerted and collaborative efforts from scientists and researchers across the globe in developing rapid multiplication techniques for production of coconut seedlings is a need to be addressed on a priority basis. Such a technique will not only rejuvenate the global coconut sector, but will also provide a means to counter the debilitating Phytoplasma diseases, help in increasing productivity and equip the sector to enhance the production to meet the global demand. The coconut fraternity across the globe joined hands during the Symposium on "Coconut Tissue Culture Technology" organized virtually during 4-6 May 2022 by International Coconut Community(ICC) and the Coconut Genetic Resources Network(COGENT) to discuss the status of rapid multiplication techniques in coconut. The Symposium was successful in unifying international experts on coconut tissue culture and provided them a strategic platform for collaborating their efforts to bridge the gaps in the existing technologies, address challenges in coconut tissue culture paving the way for the development of a protocol for commercial production of plantlets through rapid multiplication techniques. Ten days later, the experts in coconut tissue culture across the globe went one step further to reunite at the Central Plantation Crops Research Institute, Kasargodu where India hosted the First International Tissue Culture Workshop during 16-20 May 2022. The experts brought with them a group of potential young scientists to empower and equip them through hands on training to take the studies forward; this paved the way for generation of innovative ideas; every technology in rapid multiplication was put across the table for discussions and deliberations; the resolve was to come up with a viable tissue culture technology for commercial application within a span of 2-3 years. The sector also had another great moment with the organization of the National Coir Conclave on 5th May 2022 at Coimbatore by Coir Board which brought in all stakeholders under one roof with a single objective of "Return to Nature" concept to develop the coir sector.

The coconut farmers and stakeholders of coconut across the world grieved the loss of Mr. Uron Neil Salum, former Executive Director of ICC. Mr. Salum was a coconut farmer himself and a great leader for the coconut community; he had a lot of friends from among the coconut farmers, scientists, farmer organizations, researchers, entrepreneurs, bureaucrats and policy makers across the globe, both in member and non-member countries of ICC. His departure is an immense loss for the global coconut sector.

Let us stay positive and work together towards attaining a better future for the coconut sector.

Editor

Union Agriculture Minister launched Kisan Bhagidari, Prathmikta Hamari Campaign under Azadi Ka Amrit Mahotsav

CDB observed Kisan Bhagidari Prathmika Hamari Campaign under Annadata Devo Bhava

"Farmers should be willing to experiment and use New Seeds and Technologies:" Narendra Singh Tomar''

Union Agriculture Minister had Virtual Interaction with Farmers in Krishi Vigyan Kendras (KVKs) across the Country

With the objective to lead the nation to the forefront in agriculture sector, to emphasize the role of farmers in producing food for the nation and also to eradicate poverty in the country, Ministry of Agriculture & Farmers Welfare in Association with the Ministry of Food Processing Industries, Ministry of Animal Husbandry, Ministry of Rural Development & Ministry of Co operation organized Annadata Devo Bhava campaign during 26th April and 1st May 2022 as part of Azadi Ka Amrut Mahotsav. Honb'le Union Agriculture Minister, Shri Narendra Singh Tomar launched the programme on virtual platform on 26th April 2022 and addressed the farmers from across the country.

During his address, the Minister called upon the farmers to experiment and change with the times. They should be willing to use new variety of seeds, test the quality of their soil, join Farmer Producer Organisations (FPOs) and utilize technology including drones. Farmers should also be willing to come under the Pradhan Mantri Fasal Bima Yojana (PMFBY).

While interacting with farmers, the Agriculture Minister outlined Prime Minister's vision for the Agriculture Sector which is the backbone of the country. He said that the PM Kisan Samman Nidhi Yojana is an example of transparency with the help of technology. While subsidies are given by states and central government 'atmanirbharta' is necessary for which adoption of technology, diversification of crops and maintaining quality in the export market is necessary, he said.

Shri Tomar said that KVKs and Agricultural Technology Management Agencies (ATMA) are doing their best to take the developed technologies to the farming community. KVKs are pioneers in agricultural progress, having direct contact with the farmers. He said that in the year 2021-22, the export of agricultural and allied sector products was about Rs. four thousand billion. In which the contribution of the farmers is commendable. Hon Minister informed that edible oil worth Rs.80,000 crore is imported in our country. We can stop the import of edible oil if our farmers decide to do the farming of oil crops. Government is giving support for FPOs, hoping that these initiatives will reduce the cost of agriculture considerably; quantity and the quality of the produce will also increase. It is the mission of the government

Meeting organized by the Ministry of Agriculture & Farmers Welfare

to constitute 10000 FPOs so that we could make each small farmer to big farmer, Minister said.

The Minister interacted with farmers from across the country who were present in Krishi Vigyan Kendras (KVKs) in various states across India.The relentless hard work of the farmers, the skill of the scientists and the farmer friendly policies of the government are yielding results and income of farmers is also increasing continuously, which has also been revealed during the interaction with the farmers present at various KVKs across the country during the inaugural campaign.

Inauguration of the Centre of Excellence for Coconut at the DSP Farm of the Board at Dhali, TN by Shri. K Shanmugasundaram, Hon'ble MP, Pollachi

The purpose of the interaction was to make farmers aware of the flagship schemes of Government of India and to assess the achievements and benefits that the farmers are gaining at the grassroot levels.

Shri Kailash Choudhary, Minister of State for Agriculture and Farmer's Welfare who further spoke on the occasion said that Agriculture is the backbone of our country. Farmers should take advantage of all the schemes introduced by the government and adopt the technologies, new seeds and new varieties of crops developed. He also added that under the leadership of Honourable Prime Minister the agriculture budget has been increased from Rs.22-23,000 crore to 1,32,000 crore. He said that by organizing the programme, farmers from all parts of the country got the opportunity to express and share their views with the Hon'ble Union Minister and other farmers.

Shri Manoj Ahuja, Secretary, Agriculture, Ministry of Agriculture and Farmers Welfare, Government of India who spoke on the occasion said that the objective of this programme was to create awareness among the farmers about the various schemes of different Ministries and to make them benefitted by these schemes. He said that the food grain production in 2021-22 reached 316 million tonne and the production in Horticulture sector reached 333.25 million tonnes. These achievements are the outcome of various farmer friendly schemes like Pradhan Mantri Fasal Beema Yojana, Pradhan Mantri Kissan Samman Nidhi, Agriculture Infrastructure Fund, Pradhan Mantri Krishi Sinchai Yojana , online e marketing etc. These schemes will be demonstrated in Krishi Vigyan Kendras and farmers can adopt suitable schemes and avail suitable benefits under these schemes. Dr. Trilochan Mohapatra, Director General of ICAR also spoke during the occasion.

Coconut Development Board also organized a nationwide campaign for coconut farmers along with the Ministry of Agriculture and Farmers Welfare on the theme Kisan Bhagidari Prathmika Hamari campaign under Annadata Devo Bhava programme. The programmes were organized through State Agri/ Horticulture Departments,ICAR institutes, KVK s& FPos/NGOS related to coconut as state level /district level /block level & FPO level programs.

Inauguration of the Office building cum Farmers training Centre in the DSP farm of the Board at Hichachara, Tripura was held as part of the campaign

Inauguration of the Office building cum Farmers training Centre in the DSP farm of the Board at Hichachara, Tripura by Shri.Pranajit Singha Roy, Minister for Agriculture, Government of Tripura

on26th April 2022. Shri.Pranajit Singha Roy, Minister for Agriculture, Government of Tripura inaugurated the programme. Shri Sankar Roy, MLA, Sabroom Constituency, Tripura, Shri Apurba Roy, Secretary, Department of Agriculture & Farmers Welfare, Govt. of Tripura, Shri Saju Vaheed A, IAS,District Magistrate, Shri. Hemachandra, Director, CDB and Shri. B Chinnaraj, Farm Manager, CDB, DSP Farm, Tripura spoke during the occasion. Around 600 coconut farmers and 100 officials participated in the programme

The Centre of Excellence for Coconut at the DSP Farm of the Board in Dhali, Tamilnadu was inaugurated by Shri. K Shanmugasundaram, Hon'ble MP, Pollachi constituency on the same day. Dr S Vineeth IAS, District Collector Tirupur presided over the progarmme. Shri. S. V. Muthuramalingam and Shri. R. Elango members of the Board, Shri.R Vadivelu Joint Director of Agriculture; Shri. V Udhayakumar President Dhali Town Panchayat and Smt T Bala Sudhahari, Director i/c CDB RO, Chennai spoke during the occasion. Around 200 coconut farmers and FPO members participated in the programme.

Shri Ravi Naik,Honourable State Agriculture Minister,Goa inaugurated the State level Seminar in Goa. Around 200 farmers & department officials attended the programme.

A three day Virtual Trade Fair on Coconut Products showcasing a variety of diversified processed products from coconut was also conducted in association with FICCI as part of the programme.

Coconut Development Board conducted 79 programmes including state, district and block level workshops and FPO meetings in the states of Kerala, Karnataka, Goa, Tamilnadu, Andhra Pradesh, Maharashtra, Bihar, Odisha, Chattisgarh, West Bengal, Assam, Tripura, Nagaland & in the Union territory of Lakshadweep wherein deliberations were held on various topics such as scientific technologies in coconut cultivation, processing and value addition, coconut production technologies, integrated crop management practices and integrated pest and disease management practices in coconut, high yielding coconut varieties and hybrids, beneficial schemes of CDB, importance for promoting local coconut varieties suitable for the location,intercropping in coconut for doubling the farmers income, skill development programmes, insurance schemes, TMOC schemes of CDB, role of FPOs in the promotion of coconut sector etc. Accordingly with the concerted efforts, Board could organize the campaign in effective manner across the country which could create general awareness on CDB schemes and activities among the farming community and other stakeholders related to coconut. Exhibition on value added products of coconut, field demonstrations etc. were also organized at some locations along with the seminar. Around 13000 farmers from across the country took part in the programme.

Shri. Ravi Naik, Honble Minister for Agriculture, Government of Goa inagurating State Level Workshop at Tonca, Caranzalem, Panaji, Goa

Assam

Coconut Development Board,Regional Office, Guwahati, Assam organized a Farmer Producer Organisation (FPO) meeting on 28th April 2022 at Regional Office, Guwahati. Around 40 farmers were present from the various FPOs and CPSs.

CDB, Regional Office, Guwahati, Assam in association with Krishi Vigyan Kendra, Kajalgaon, Chirang, district, organized a District Level workshop on 29th April 2022 at Krishi Vigyan Kendra campus. Around 100 farmers attended the programme.

CDB, Seminar Hall, RO Guwahati

KVK Kajalgaon, Chirang Dt.

Bihar

Coconut Development Board, Regional Office, Patna organized District Level programmes at Dera Bhavan Path, Araria District on 27th April 2022 and at Supaul District on 28th April 2022. Another District Level programmes were organized at KVK, Katihar on 29th April 2022 and at E-Kisan Bhawan, Vikram Block on 30th April 2022. 700 farmers took part in the programme in Bihar.

E-Kisan Bhawan, Vikram Block

Tera Path Bhawan, Araria Dt.

KVK Katihar

Supaul Dt.

Nagaland

Coconut Development Board, Regional Office, Guwahati organized one District Level programme in association with Department of Horticulute, Nagaland at State Horticulture Nursery, Dimapur, Nagaland. Around 100 farmers attended the programme.

Karnataka

Coconut Development Board organized one district level workshop at Chitradurga on 26th April 2022, at APMC, Hosadurga under the leadership of Shri. D. Guruswamy, Board Member, CDB. 200 farmers attended the programme.

Coconut Development Board, DSP Farm, Mandya in association with KVK, V C Farm, Mandya organized district level workshop on 27th April 2022 at KVK, Mandya. Around 125 farmers attended the programme.

Coconut Development Board, Regional Office, Karnataka organized a District level workshop in association with 1. Horticulture Research and Extension Centre (HREC), Arasikere, 2. Taralabalu KVK, Devanagare 3. ICAR -KVK Chithradurga and 4. ICAR-KVK, Mudikere on 28th April 2022. More than 400 farmers attended the programme.

Coconut Development Board in association with ICAR JSS Krishi Vigyan Kendra organized District Level Workshop at Suttur, Mysuru and another programme at KVK Magadi, Ramanagara on 29th April 2022. More than 200 farmers attended the programme.

Coconut Development Board, Regional Office, Karnataka in association with KVK and State Department of Horticulture organized five district level workshops on 30th April 2022 at 1.DDH, Uttara Kannada, 2. ICAR-KVK, Tiptur, Tumkur, 3.ICAR-KVK, Mangalore, 4.ICAR-KVK, Sirsi, Uttara Kannada and 5. Department of Horticulture, Uduppi. Around 500 farmers took part in the programme.

KVK, VC Farm, Mandya

KVK, Magadi, Ramanagara

ICAR-KVK, Babbur Farm, Hiriyur

APMC, Hosadurga

Taralabalu KVK, Davanagare

HREC, Arasikere, Hassan Dt.

Maharashtra

CDB State Centre, Thane, Maharashtra, organized vaious District Level programmes in association with KVKs and department of Horticulture at various centres in Maharashtra.

1. KVK Kosabad on 27th April 2022. Around 200 farmers attended the programme.

2. KVK, Nagaon, Thane on 28th April 2022. Around 100 farmers attended the programme.

3. KVK, Gandheli, Aurangabad on 30th April 2022. More than 200 farmers attended the programme.

4. CDB Maharashtra in association with Department of Agriculture, Maharashtra at Sangamner Taluka, Ahmednagar District on 1st May 2022. Around 200 farmers took part in the programme.

KVK, Nagaon, Thane

KVK, MGM, Aurangabad

KVK, Kosabad

Odisha

Coconut Development Board, State Centre, Pitappalli, Odisha in association with the office of Odisha Rural Development and Marketing Society (ORMAS) DRDA, Jagatsinghpur organized a District Level workshop on 28th April 2022 at Balikuda Block Seminar Hall. Around 100 farmers attended the programme.

CDB, State Centre, Pitappalli, Odisha organized two District Level seminars on 29th April 2022 at KVK Sakhi Gopal, Puri and in Khurdha District. Around 200 farmers attended the programme.

CDB, State Centre organized a district level programme at Kendrapara District in association with Department of Horticulture at IMAGE Bhubaneshwar on 1st May 2022.

CDB Organized one district level programme in Kendrapara Dt. in association with Department of Horticulture, Govt. of Odisha on 5th May 2022. Around 200 farmers attended the programme.

Jagatsinghpur

Kendrapara

KVK Puri

Tamil Nadu

Coconut Development Board, Regional Office, Chennai in association with State Department of Agriculture organized a Block Level Seminar at Pollachi North & one district level programme at Udumalpet, Tiruppur District on 26th April 2022. Around 475 farmers attended the programme.

CDB, Regional Office, Chennai in association with State Department of Agriculture organized three Block Level Seminars at Kinathukadavu, Kedimedu and Kottur in Coimbatore district on 27th April 2022. and one district level programme at Ozhugunasery in Kanyakumari District on the same day. Around 450 farmers attended the programme.

CDB, Regional Office, Chennai organized District Level programmes at Arasampatti in Krishnagiri District and at Gopichettipalayam, Erode districts on 28th April 2022. Around 650 farmers took part in the programme.

CDB, Regional Office, Chennai organized District Level programmes at Virudh Nagar, Dindigul Dt. and at Vagaikulam, Thoothukudi Dt. on 29th April 2022. More than 600 farmers took part in the programme.

CDB, Regional Office, Chennai organized a District Level programme at Veerapandi inTheni Dt. district on 30th April 2022. More than 400 farmers took part in the programme.

CDB, Regional Office, Chennai organized a District Level programme in Thuravikadu, Thanjavur Dt. and three Block Level programmes at Sulthanpet, Pooluvapatti and Natchipalayam in Coimbatore Dt. on 1st May 2022. More than 450 farmers took part in the programme.

Sulthanpet

Pollachi South

Kinathukadav, Pollachi

Arasampatti, Krishnagiri Dt.

Tadikombu, Dindugal

Ozhugunassery, Nagercoil

Gopichettipalayam, Erode

Arasampatti, Krishnagiri

Veerapandi, Theni

Vagaikulam, Thoothukudi

Thondamuthur, Coimbatore

Pollachi North

Udumalpet

Kerala

1. Coconut Development Board sponsored a state level seminar at CPCRI, Kayamkulam on 24th April 2022. More than 200 farmers and officials participated in the programme.

2. Krishi Vigyan Kendra, Indian Institute of Spices Research, Peruvannamuzhi organized a Kisan Mela and District level Coconut seminar on 26th April 2022. Around 300 farmers attended from different parts of Kozhikode district.

3. Nilambur Coconut Producer Company organized a district Level workshop on 26th April 2022.Around 300 farmers participated in the programme.

4. Vadakara Coconut Producer Company organized a district level workshop at Peruma Auditorium, Payyoli, Vadakara on 26th April 2022. 320 farmers participated in the programme.

5. Thirukochi Coconut Producer Company Limited under CDB organized district level workshop at SPJY

auditorium, Kumbalam on 26th April 2022. 120 farmers participated in the programme.

6. Thrissur Coconut Producer Company organized a district level workshop at Thrissur on 26th April 2022. 300 farmers participated in the programme

7. Ananthapuri Coconut Producer Company organized a district level workshop at Coconut Research Station, Kattachalkuzhi, Balaramapuram on 26th April 2022. 100 farmers participated in the programme.

8. Coconut Development Board sponsored state level seminar of Bharathiya Janatha Kisan Morcha on 24th April 2022 at Rajendra Maidanam, Ernakulam in connection with Annadata Devo Bhava Campaign. Around 250 farmers participated in the programme.

9. Coconut Development Board organized a district level seminar on 26th April 2022 at Alakapuri Auditorium, Kozhikode. 100 farmers participated in the programme.

10. Kallada Coconut Producer Federation organized a district level seminar at Kadavu convention centre, Kadapuzha on 27th April 2022. 100 farmers participated in the programme

11. Onattukara Coconut Producer Company organized district level seminar at Rino Auditorium, Kattanam on 27th April 2022. 300 farmers participated in the programme.

12. DSP Farm of Coconut Development Board at Neriamangalam organized a Farmers Producer organization (FPO) meeting on 28th April 2022 at the farm premises. 50 farmers attended the programme.

12. Vellayani Farmers Producer Company, a Farmer Producer Organization in Thiruvanathapuram District conducted District Level Workshop on 29th April 2022 at Thiruvanathapuram. 100 farmers attended the programme.

14. Thejaswini Coconut Producer Company (CPC) conducted a District Level seminar on 29th April 2022 at Karuvanchalil Parish Hall, in Kannur District. 118 farmers attended the programme.

15. Kalpasree Federation organized a district level workshop in Kollam District on 30th April 2022. 100 farmers attended the programme.

16. Kadali Farmers Producer Company organized a district level workshop in Thiruvanathapuram District on 1st May 2022. 100 farmers attended the programme.

17. Coconut Development Board organized a district level workshop on 1st May 2022 at Vengara Vyapara Bhavan, Malappuram District as part of Kisan Bhagidari Prathmika Hamari campaign under Azadi Ka Amrit Mahotsav. Shri Narayanan Master, Vice Chairman of CDB inaugurated the programme. 250 farmers attended the programme.

18.Coconut Development Board organized District Level Workshop at Murali Conference Hall,Haripad, Alappuzha on 1st May 2022. 200 farmers attended the programme


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Lakshadweep

Krishi Vigyan Kendra, Kavarathi, Lakshadweep organized a District Level Seminar at Kavarathi on 26th April 2022. Around 100 farmers participated in the programme.

Andhra Pradesh

Coconut Development Board, State Centre, Andhra Pradhesh organized District Level Workshops on 28th and 29th April 2022 at West Godavari and East Godavari Districts. Coconut Development Board, DSP Farm, Vegiwada, organized a Farmer Producer Organization (FPO) meeting on 29th April 2022 at the farm premises and CDB, State Centre organized another Farmer Producer Organization (FPO) meeting on 29th April 2022 at East Godavari. Total 300 farmers attended the campaign in AP.

HRS, Ambajipeta

KVK, Venkatramannagudem

Mahima CPC, Konaseema

West Bengal

Coconut Development Board, DSP Farm Fulia, Nadia Dt. organized a District Level workshop at CITHC, Habibpur, Malda on 26th April 2022 for tribal women and Coconut Development Board, State Centre, Kolkata organized a District Level workshohp in association with KVK, Murshidabad on 27th April 2022. Around 300 farmers attended the programmes.

CDB, State Centre, Kolkata organized a District Level seminar on 29th April 2022 at Sasya Shyamala Krishi Vigyan Kendra, RKMVERI, Sonapur, West Bengal. Around 100 farmers attended the programme.

CDB, State Centre, Kolkata organized a Farmer Producer Organization meeting on 30th April 2022. Around 35 farmers from different FPOs/CPSs attended the programme.

CDB, DSP Farm at Fulia in Nadia Dt. organized a District Level programme on 1st May 2022. Around 100 farmers attended the programme.

KVK, Murshidabad

Habibpur, Malda

CDB State Centre, Kolkata

Goa

Directorate of Agriculture, Goa organized a State Level Workshop at Tonca, Caranzalem, Panaji on 27th April 2022. Around 200 farmers attended the programme.

Tripura: Krishi Vigyan Kendra, Tripura, organized a District Level Workshop at KVK, Jubaijilla on 27th April 2022.

Report prepared by Mini Mathew, Publicity Officer, CDB.

Media Coverages

प्रहार

कोसबाड कृषी विज्ञान केंद्रामध्ये शेतकरी मेळावा उत्साहात पडला

കേര കർഷക ബോധവത്കരണം

উন্নয়ন পর্ষদের নতুন অফিস ভবনে উদ্বোধনে কৃষি মন্ত্রী

নারিকেল চাষিদের প্রশিক্ষণ

നാളികേര വികസന ബോർഡ് പ്രചാരണ പരിപാടി തുടങ്ങി

ദീപിക

হিচাছড়া ফার্মার্স ট্রেনিং সেন্টারের…

പെരുവണ്ണാമൂഴി കൃഷി വിജ്ഞാന കേന്ദ്രത്തിൽ ജില്ലാതല നാളികേര…

…ଶ ବୋର୍ଡର ସେମିନାର

കേരകർഷക ബോധവത്ക്കരണ പരിപാടി 26 മുതൽ മെയ് 1 വരെ

CDB nation-wide campaign

Coconut Development Board under the Ministry of Agricultures and Farmers Welfare will organise a nation-wide awareness campaign from April 26 to May 1, as part of Azadi ka Amrut Mahotsav. The motto of the campaign is 'Priority for Participation of Farmers'. The campaign would be inaugurated by Union Minister Narendra Singh Tomar through video conference.

IN BRIEF

Coconut Board conducts campaign

KOCHI

The Coconut Development Board on Tuesday organised a nation-wide campaign for coconut farmers in association with the Union Ministry of Agriculture and Farmers Welfare. Union Agriculture Minister Narendra Singh Tomar inaugurated the programme online and said that the farmers should take advantage of all schemes introduced by the government and adopt advanced technologies.

THE HINDU

Experiencing coconut cultivation in a sloping terrain

A unique saga of Sri. A. Narayanan Nair from Thonikkadavu village, Kasaragod, Kerala

Thamban. C., A.C. Mathew, S. Jayasekhar, P. Subramanian and **M.K Rajesh**
ICAR-Central Plantation Crops Research Institute, Kasaragod

Thonikkadavu is a small village nestled in the hilly tracts of Kasaragod district in Kerala. In this picturesque setting, farming is the main source of income. Agriculture crops such as coconut, arecanut, and rubber dominate in this scenic location. Mr. Adukkadukkam Narayanan Nair, an elderly farmer from this hamlet, is 85 years old and passionate about farming, particularly coconut farming. Even though he is in his eighties, he still wants to be linked with farming. He still keeps a close eye on agricultural activities, even though he no longer participates in physical activities due to age-related health difficulties. Mr Ravichandran, his oldest son, is entrusted with the management of the farm.

Mr. Narayanan Nair treasures the memory of toiling in the soil and the difficulties he had in farming to provide for his family's needs. When he was five years old, he lost his father. They were living in another village, Kuniyeri in Muliyar panchayat at that time. His family's financial predicament prevented him from attending school and receiving a formal education. His family moved from Kuniyeri to Thonikkadavu when he was 18 years old. To begin farming, a tiny plot of land was purchased and toiled on. The farm was gradually expanded by purchasing surrounding additional property with minor savings and by taking loans. His property in Thonikkadavu village presently covers 27 acres, including coconut in 12 acres, arecanut in five acres and other crops in the remaining area.

Cultivation of coconut in the sloping terrain

Cultivation of coconut in the sloping terrain and utilisation of 'Surangam', an indigenous water harnessing technique for irrigation are the unique features of farming in Narayanan Nair's farm. Further, he could realise high productivity from 'Bedakam thengu' a popular local tall ecotype of coconut.

Soil and water conservation and irrigation

The coconut garden is situated on one side of a steeply sloping hillside. He turned the steep hillock into a series of terraces, which helps the garden conserve soil and water. The breadth of the terrace varies depending on the slope of the soil. To lower the vertical height between terraces, steeper slopes were changed to thin slopes. When the slope drops, wider terraces were used. The terraces were flat with a little incline towards one end to let water flow itself by gravity. To transport irrigation water, a tiny channel was cut on the upstream, inner side of each terrace.

Water sources

The farmer has about 27 acres of irrigated agricultural land. He has six 'surangams,' a unique water-harvesting structure. Surangams can be found in the mountainous portions of Kerala's Kasaragod district and surrounding areas of Karnataka's Dakshina Kannada district. It is a unique indigenous technology used by farmers to collect groundwater in steep terrain. Water pours out of the edge of a horizontal tunnel excavated into a laterite hilltop. Some local specialists used to locate good surangam construction sites in the hilly area based on the slope, topography, and soil qualities. Surangam building, like open dug wells, requires a certain level of competence and is normally constructed by skilled persons. Narayanan Nair recalls his laborious surangam-making days in his farm. Water harvested through surangam is primarily used for drinking and other household purposes. Also, a small stream flows through his farm, which by December, gets dried up. However, his main supply of irrigation water is a river called 'Payaswini,' which is about a kilometre away from his farm. During the night, water is pumped from the river and

transferred to a storage tank, where it is kept for irrigation. The storage tank with 1.25 Lakh with capacity is lined is located at the highest point on the farm.

Irrigation and water conservation

Sprinkler and basin irrigation are the two irrigation methods followed by the farmer. Coconut is being irrigated once in a week and arecanut is irrigated twice in a week. Sprinklers are operated for three hours each time. A portion of the arecanut farm is irrigated by flooding its basin using a hosepipe. Basins are made around the palm, below ground level, for this purpose. Basin irrigation is given to majority of the coconuts. Water from the storage tank located at the top of the farm is conveyed through open channels taken along the terraces to individual palms by gravity. When the water reaches the basin the flow is temporarily blocked manually and is diverted to the coconut basin. The process is repeated and it takes three to four days to complete one cycle of irrigation. Mulching is provided in the coconut basin using coconut leaves to reduce water loss by evaporation.

'Bedakam thengu' – Elite local ecotype of coconut

Coconut palms were planted in the farm between 1958 and 1960. As of now, the farm has approximately 1000 coconut palms. Mostly, the seed nuts were collected from the gardens of nearby locations and neighbouring farmers in the Bedadka panchayat. It is noteworthy that this particular area is popular among farmers as a resource hub for coconut seednuts of 'Bedakam thengu', the genetically superior tall local ecotype of coconut. Mr. Narayanan Nair has successfully demonstrated that 'Bedakam thengu' can produce good yields in rainfed gardens with minimal resource consumption and average crop management approaches. Even now farmers from various localities rely on coconut seednuts of 'Bedakam thengu' procured from selected coconut holdings in Bedadka panchayat. Mr. Narayanan Nair is delighted and optimistic that a collaborative farmer participatory initiative of ICAR-CPCRI, Department of Agriculture and Bedadka grama panchayat would provide a very positive dimension in the already scattered efforts of the farmers of Bedadka in popularizing the potential of 'Bedakam Thengu'.

Crop management practices

During earlier times, coconut growers were following rigorous procedures for seednut selection. Seednuts when put into water bodies or large vessels float vertically with the embryo portion up were used for sowing. Seedlings were planted at a spacing of 25 feet. In the first phase, coconut was planted in five acres in Narayanan Nair's farm. After 28 years coconut was planted in an additional area of seven acres. Narayanan Nair remembers that few of the coconut seedlings thus planted started flowering from the third year after planting and within seven years all the palms started yielding.

About 20 kg of farmyard manure and 30-40 kg of green leaf manure are regularly applied per coconut palm every year as organic manure. Besides, 15 kg of fish meal also is given per palm. To ameliorate acidity one kg lime is applied regularly. Except the application of Muriate of Potash, not much chemical fertilizers

are applied to the palms. According to Mr. Narayanan Nair if quality seedlings and soil health management practices are ensured high yield can be realised from any crop. It is very pertinent for coconut, he added.

Though eriophyid mite, whitefly and rhinoceros beetle infestation are observed in the coconut garden it's level of infestation is low and hence no significant crop loss is resulted due to this. According to him, earlier palm climbers were having the skill to clean the crown of coconut palms and also mechanically collect and destroy rhinoceros beetles using beetle hooks. But now a days climbers neither are skilful enough nor show any interest to take up such practices. They just climb palms and harvest nuts.

Yield and income from coconut farming

Narayanan Nair is able to realise very good yield from coconut. The average per palm yield of coconut from his farm is 150 nuts per year. Due to the scarcity of climbers, the frequency of harvesting coconut palms is reduced and is currently done only thrice a year. Retail merchants procure coconut from the farm itself so that they need not bother about the transportation of nuts to the market. Last year on an average Narayanan Nair could get a price of Rs. 32-35 per kg of nut. According to Narayanan Nair lack of labour, especially skilled climbers, and high wage rates are the major constraints in coconut farming. Of course, price fluctuation of coconut in the market is a perennial problem and the current price of coconut is less than Rs. 25 per kg, he added.

Due to his family's low financial position during his childhood, Mr. Narayanan Nair was unable to pursue formal schooling. He was, nonetheless, determined to provide his children with a solid education. Mr. Ravi Chandran (his eldest son) and Valsala (his daughter) are graduates, while his other two sons, Mr. Asokan and Mr. Ratnakaran, are engineers. Mr. Ratnakaran, his youngest son, who formerly worked in the computer industry, is into farm tourism since the past two years. 'Green Hills Thonikkadavu', his company, is attracting both foreign and

domestic tourists. Tourists visiting the farm, according to Narayanan Nair, very much appreciate the greenery, variety of crops, topography and ethnic foods.

Recognitions

Mr. Narayanan Nair has received several accolades and has been recognised by numerous institutions for his contributions to agriculture. During the Farmers' Day celebrations in 2017, the Bedadka Krishi Bhavan honoured him as the best organic farmer. Institutions such as the Lion's Club Kundamkuzhy and the Agricultural Improvement Society Kundamkuzhy also honoured him for his achievements.

Despite the numerous obstacles to sustainable coconut production, Mr. Narayanan Nair believes that coconut is still a solid source of revenue for farmers. He stated that the government and other agencies responsible for the growth of the coconut sector should support farmers by providing need-based incentives and promotional interventions to ensure a bright future for the coconut sector. ■

Innovations in Neera production and its value added products in Lakshadweep Islands

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Introduction

The Lakshadweep islands are so picturesque due to their pristine beaches and lush greenery of coconut palms. The group of islands in Lakshadweep accommodates 10.42 lakh coconut trees with a total production of about 11 crore nuts every passing year. The islanders depend on coconut palms for their livelihood. The productivity of coconut in Lakshadweep is considered to be very high with 100 nuts/palm/year which is above national average and in the world. A recent study by ICAR-Central Plantations Crops Research Institute (CPCRI), Kasaragod and KVK-Lakshadweep concluded that since few years there has been a declining trend in coconut production and productivity. The study through interactions with farmers across islands indicated that the average productivity of coconut palms realized at present is about 70-100 nuts/palm/year (*Shameena, et al., 2022*).

Low production and productivity of coconut has a direct bearing on the livelihoods of islanders. This also has unswervingly affected the value addition and processing sector of coconut in the island. The livelihood options with coconut in Lakshadweep are by marketing fresh coconuts and dry copra and extracting oil and converting coconut to value added products. Major value added coconut products are coconut water and kernel based. Coconut oil, virgin coconut oil, neera (coconut inflorescence sap), coconut powder, coconut vinegar, desiccated coconut powder are few of the important value added

Table: 1Comparative assessment of traditional and CSC methods of neera production		
Indicators	**Traditional Method**	**Coconut sap Chiller**
Device	Coconut shells, plastic bottles, buoys and other indigenous materials	High Density Polyethylene (HDPE)- A device made for this purpose
Cost of the device	Used materials like plastic bottles which are negligible costs	Rs. 1200 (including the transportation)
Drudgery	Less	High (Easy method of tying with ropes and pulling towards the spadix). The device weighs 1.8 kg without ice.
Additional materials required	Nil	1. Plastic covers for collection of sap inside the device
		2. Ice (500 gms/device)
		3. Ropes for pulling the device to the spadix
Hygiene	Low	High
Capacity	1-2 litres	3 litres/day
Contaminants	Ants, insects, pollen and others	Nil
pH	4.00-4.50	7.00-7.50
Colour of neera	Oyster white	Orange brown (honey colour)
Flavour	Harsh odour	Sweet
Fermentation	Within 2-3 hours under ambient temperature	In open condition it can be fresh for 12 hours. Under refrigeration it can sustain its freshness upto 45 days

products in the islands with established enterprises by the government and private entrepreneurs.

Though many studies have been conducted on coconut and its products of the islands, Neera (coconut inflorescence sap) is one product which has not been adequately studied and brought for strategic interventions. Every part of the coconut palm is used for economic purpose and few for aesthetic purposes like the handicrafts made out of shell and husk. "Neera" is one of the important health drinks, being traditionally tapped from coconut spadix and consumed by rural communities (Hebbar, et al., 2015). Lakshadweep is not an exception of that. Across the islands neera tapping is carried out by islanders characterized with a specific skill. The technical aspect of neera is about preventing conversion to alcohol due to fermentation. The fermented sap is called "toddy". There have been several legal battles across the country on restrictions for tapping coconut palms for neera production. Coconut is included as an excise tree from which both fermented and unfermented sap is interpreted to be as toddy.

ICAR-CPCRI, Kasaragod innovated a device "Coconut Sap Chiller" for extracting unfermented neera. The new coconut sap chiller which is a two fold layered box made of High Density Polyethylene (HDPE), protected by polyurethane froth in the middle of the layers. The device has an arrangement of placing ice, a coconut sap storing compartment, a spadix holder, top cover, a pipe and arrangement to attach the container on the tree top. This sap chiller can collect three liters of coconut sap. The sap collected as Neera can be kept in open temperature

Table 2: Perceived attributes of neera production innovation and incentives for adoption	
Attributes of Innovation	**Reflections of Neera Tappers**
Relative Advantage (Economic profitability, Social Prestige and other benefits)	The innovation is economically profitable in production of Kalparasa. However, the cost of Kalparasa is a serious concern and the innovation will be more profitable if popularized and health benefits are known to communities.
Compatability (Consistent with the existing values, past experiences and needs of potential adopters)	Highly compatible with the existing values. Lakshadweep islands is dry and it is under total prohibition. Kalparasa being a zero alcoholic beverage it will have demand from larger sections of the community. Potential adopters of the technology will be high as the price of Kalparasa will be high compared to the neera tapped through traditional method
Complexity (Relatively difficult to understand and use)	The innovation is simple to understand and the requires minimum level of skill to practice.
Trialability (Innovation may be experimented with on a limited basis)	The innovation can be trailed out on a limited basis. The cost of innovation is merely Rs. 1200 which can be purchased by a tapper. However, the source of technology has to be known by the tapper to purchase.
Observability (Results of the Innovation are visible to others)	The physical characteristics of neera extracted using coconut sap chiller is clearly visible and has a difference with the traditional method. Taste and other parameters are clearly viable to the tappers and buyers

for more than four hours which maintain its chillness and can be served as a non-alcoholic beverage. The cost of this coconut sap chiller is about Rs. 1000 which is manufactured by a firm from Mangalore, Karnataka. This article discusses about different dimensions of incremental innovations on efficient neera tapping and its value added products introduced and assessed for the first time in Lakshadweep islands by KVK-Lakshadweep and ICAR-CPCRI.

Neera Tapping in Lakshadweep

Before discussing about the innovations of value addition in neera there are certain concerns about this sector. The changing social structure has created shortage of climbers. In most of the islands skilled climbers from mainland perform the activity of coconut climbing in the recent years. There is always a relationship between coconut climbers and neera tappers as they are twin professions performed by the same person. A climber may not a tapper, but a tapper will be a climber.

There is no prevailing data on different features of neera tapping in Lakshadweep. Tapping of neera in the island is performed from time immemorial and literature is very scanty.The number of tappers in all islands are not documented by the government agencies. On an average there are about120 tappers who depend on neera as a livelihood option in the islands. As discussed earlier, coconut climbers are often the skilled manpower involved in the tapping of neera. In certain islands like Kavaratti there are only few tappers. Tappers are more in the islands like Androth, Agatti, Kalpeni, Kadmat and Minicoy. The pattern of occupation of these tappers ranges from few seasonal to permanent i.e throughout the year. The neera tappers have both occupations of tapping neera and coconut climbing. However, a development scheme was operated by the Department of Agriculture towards promoting neera in the island. In the scheme, the neera tappers are engaged from the local government (Village Dweep Panchayat) by paying honorarium for the neera collected. The Neera thus collected is sold to the public. At present this scheme has been stopped by the Government.

Through interactions with the tappers at different localities it was observed that efficacy of neera extraction from palms depend upon many factors including the characteristics of palm itself, weather conditions, and above all skill of the tapper too. Traditionally tappers in the island use coconut shells, PVC or boya, mud pots or plastic bottles for collecting neera. On an average these tappers tap 10 coconut palms every day which is collected two times/day. Each tapper extracts 0.5-4.5litres/spadix/day which is in line with the study of Shameena et al. 2022. Tappers use their own coconut palms or may be through lease for neera extraction. The lease amount, which is on an average Rs. 400/tree/year, to palm owners are paid as products like neera, jaggery

or vinegar. Customers for neera in the island are towards consuming as fresh drink, Jaggery or vinegar. The cost of neera depends on the demand and the availability in the island. At present the price of neera is Rs. 200/litre in Kavaratti, Rs. 150/litre in Agatti and Rs. 50/litre in Androth. The selling price of neera is decided by the tapper. Higher the price of neera in an island indicates that tappers are fewer in number in that island. As such it can be concluded that there is no organized marketing structure for neera in Lakshadweep though there is huge potential. A rough estimate of neera production in the islands accounts to 720 KL worth Rs.7.2 crores whereas fresh neera consumption accounts to 20 KL. To improve efficiency and for quality neera production, KVK-Lakshadweep took three innovations as on farm trials (OFTs). The results of each innovation is presented in the below sub sections.

Innovation-I: Production of Kalparasa

The fresh, hygienic and unfermented sap is called "Kalparasa" which is a trademark. During 2021-22, KVK-Lakshadweep with the support of ICAR-CPCRI distributed 40 Coco Sap Chillers (CSC) for quality neera production (Kalparasa). Mr. Jamaluddeen, native of Agatti island is a tapper from his younger age. Mr. Jamal is a professional tapper associated with KVK to produce coconut sugar for the first time at Kavaratti island during 2021-22. He is a tapper who produces neera by administering the traditional practice using mud pots, plastic buoys and plastic bottles. He produces 30-40 litres of neera/day. Mr. Jamal was provided with 10 coconut sap chillers and was trained to produce Kalparasa. He used to produce jaggery and vinegar from neera based on requests demand from buyers. The content of neera with traditional method and CSC had differences in terms of properties. The sap collected through traditional method was acidic with pH ranging

Table: 3 Efficiency of Jaggery extraction from Neera using traditional and coco sap chiller method

Island	No of tappers involved	Traditional method for making Jaggery-1 kg (neerain litres)	Coco sap chiller method for making Jaggery-1 kg (neera in litres)
Kavaratti	1	10.00	7.5
Kalpeni	3	11.00	7.5

from 4.0-4.5 and 7.0-7.3 using CSC method. The fermentation in traditional method happens as the sap flow is slow and highly prone to fermentation which is not the case with the CSC method. Based on selected indicators the following observations were made on comparative assessment of traditional and CSC methods of neera production (table 1).

The perceived attributes of an innovation influence the rate of adoption of an innovation. The five attributes of innovations viz., relative advantage, compatibility, complexity, trialability and observability of the innovation on neera production were studied among neera tappers in Kavaratti, Agatti, Amini and Kadmat islands (Table: 2).

All attributes of the innovation were evident towards a high rate of adoption in future among the tappers. Though the rate of adoption in future may be high, market for these products should fetch high price through branding and marketing. The positive outcomes of the attributes of innovation are highly towards an increased rate of adoption especially with the attributes viz., compatibility, complexity, trialability and observability (Table 1). The concern

over the product of Kalparasa is about the pricing as it is new to island. If the price of price of Kalparasa is Rs. 350/litre, the income of a tapper will be Rs. 3500 for 10 litres/day, compared to Rs. 2000 for 10 litres/day through traditional method.With the attributes of innovation, it could be understood that Kalparasa can have a higher rate of adoption.

Innovation-II Production of Jaggery from Kalparasa

Attempts were made towards identifying the efficiency of extracting jaggery from neera extracted using traditional method of neera tapping and using Coconut Sap Chillers. As indicated earlier the coco sap chillers from ICAR-CPCRI was provided to 12 tappers in five islands viz., Kavaratti, Kalpeni, Agatti, Kadmat and Amini islands. All the tappers were trained on the use of coco sap chillers and were able to produce Kalparasa. In Kalpeni and Kavaratti three tappers extracted Jaggery from Kalparasa. The results of the observations made are as follows:

Tappers were informed to produce jaggery using neera produced from both the methods (traditional and CSC). It was observed that to produce 1 kg of Jaggery 10 litres of neera were required in Kavaratti and 11 litres in Kalpeni using neera produced through traditional tapping. However, using Kalparsa extracted using coco sap chiller method only 7.5 litres of neera was required to produce 1 kg jaggery. Coco sap chiller method was apparently efficient for production of jaggery as tappers could save 2.5 litres of neera to produce one kg of required jaggery (Table: 3).

Innovation-III Production of Coconut Sugar from Kalparasa

Coconut sugar is a high value product made from neera. For first time in Lakshadweep islands with the technical guidance of ICAR-CPCRI, the KVK of Lakshadweep produced coconut sugar on trial basis as foundation for scaling up. In Kavaratti, the Neera was collected and heated in a larger pan using firewood for 30 minutes. Heating of neera with continuous stirring was performed to avoid charring. After 30-45 minutes of heating and continuous stirring, neera started turning to crystal form which is the sugar granules. During this period, it was made to cool suddenly. The process continued with stirring upon cooling to break the lumps. The content was sieved to get uniform particle size which helped to produce quality sugar. Hebbar et al (2015) have indicated that coconut tree can produce as high as 19 tonnes/ha/yr sugar compared to 5-10 tonnes of sugarcane. The innovation was tested and found successful for the first time in Lakshadweep. The neera required for producing coconut sugar was seven litres.

Conclusion

The innovations pertaining to value added coconut products viz., Kalparasa, jaggery form Kalparasa and coconut sugar have been proven to be viable under the micro farming situations prevailing in Lakshadweep islands. The results of assessment of these innovations were encouraging and can be scaled up through possible information dissemination and development interventions by the UT administration of Lakshadweep. KVK-Lakshadweep and ICAR-CPCRI have proposed plans to work on a Detailed Project Report(DPR) for intended tappers to initiate small and medium scale enterprises in the island for further scaling up. Any community aggregation method like SHG, Farmer interest's groups or Farmer Producers Company can initiate interventions for producing these innovative value added coconut products for higher income and employment opportunities.

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A Summer Cruise through the Coconut World

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Coconut is Nature's gift to mankind – the super food which is natural, healthy, adds to wellness and also enhances immunity. It is a trustworthy companion to humans across the globe. Processing and product diversification of coconut into innovative products occurred later in India in comparison with other major coconut producing countries like Indonesia and Philippines. We were more into domestic consumption of tender and mature coconut and value addition through traditional products like coconut oil, copra and desiccated coconut. Diversification into various products not only opened up a new array of innovative products but also created market avenues in newer areas and among newer segments across the globe. Export prospects increased for coconut products, initially among the Indian diaspora abroad followed by slow penetration to the other segments too. Market promotional activities were facilitated by the Board by extending support for brand promotion, quality certification, participation in international and domestic trade fairs and exhibitions, organizing buyer seller meets etc where coconut products by Indian manufacturers were showcased. The Board facilitated participation of entrepreneurs and exporters in major trade fairs across the globe to create market access for coconut products, to expand markets and develop niche markets for specialized products. The coconut sector was thus slowly cruising and making its own pathway in the export market when the pandemic struck. The activities came to a standstill and lost momentum. It is in this context that the Board thought of creating alternate avenues for market development for coconut products.

To stay relevant and progress further in this digital world, we have to move forward and stay focused. Meetings had already switched to online mode during the pandemic. This was when there came through a thought – why not provide a digital platform for promoting coconut products of processing units facilitated and supported by CDB. Based on discussion with various stakeholders and export organisations, CDB joined with Federation of Indian Chambers of Commerce and Industry(FICCI) to create a Three day Coconut World – a World which showcased the natural beverages, the nutritious sweeteners, the heavenly nectar, the healthy edible oils, the fibre rich foods, curios, artefacts etc – all from the Tree of Life ie., coconut.

The Coconut Cruise

Coconut World was indeed a Virtual Trade Fair that showcased a variety of diversified processed products from the different parts of coconut – ranging from food, sweeteners and beverages to non-food products. It provided an opportunity for potential buyers and traders from across the globe to undertake a three day sojourn through the diverse coconut products.

The Virtual Trade Fair was organized during 26-28, April 2022, coinciding with the Annadata Devo Bhava Campaign organized by the Ministry of Agriculture and farmers Welfare, Government of India to commemorate the 75th anniversary of Independence- Azaadi ka Amrutosav. The trade fair undertook showcasing of the coconut products of manufacturers and processors to the domestic and international market.

A Virtual Convention Centre was created by FICCI in the FICCI Bike Platform where the Virtual Trade Fair on Coconut Products 2022 was organized with event branding, walkway in the exterior platform. The trade fair had a lobby area, information desk for technical support, feedback counter and way to the exhibition/conference halls/B2B meeting rooms. Separate registration links were provided to the buyers and sellers in advance so that by the 26th of April all had been onboard the virtual platform.

The Coconut Entrepreneurial Dignitaries

Around 54 major manufacturers of coconut products, mostly edible products, had participated in the Virtual Trade Fair. The manufacturer participation was coordinated by CDB. Further with the support of FICCI, the Board facilitated the onboarding of the individual manufacturers on the platform. The seller's booth had the options of Text chat/Video-Audio chat/ display posters on the back wall, logo display, fascia name, display of around ten PDF posters/brochures/ product profiles on back wall; an LED screen with the option of films/JPEG files created could be played in loop and live demo option. The manufacturers had used the platform to display product images and videos, brochures, posters, corporate videos showcasing the facilities in the processing centres and the process of production, contact details etc. Live interaction facility with manufacturers was also extended with business enquiry forms to support enquiries. There were visitor logs accessible to each entrepreneur to facilitate offline interactions. The participants had the facility to arrange B2B meetings with registered visitors. The manufacturers could generate report of the buyers visiting the stall, queries received, meetings scheduled etc for further follow up action too.

The Coconut Seekers

FICCI promoted the event through the various unit offices of FICCI in India for sourcing domestic buyers and the international offices for sourcing overseas buyers. The trader directory of the International Coconut Community was also utilized by the Board for sourcing international buyers. FICCI also organized campaigns in the social media platforms such as Facebook, Instagram, Twitter, LinkedIn , Google Ads, You Tube, Whatsapp and Email Marketing. Around 347 buyers from across the globe had registered as buyers in the platform. There were over 1100 visits by interested buyers to the various booths in the platform during the three day period. The fair had an extended one day period and the enquiries could be traced back by the manufacturers for a further three week period in order to capitalize and undertake follow up through activities for each and every enquiry received virtually.

Outcomes of the event

Four B2B sessions were organized with leading players like Lulu Group, NESTO group, Flipkart and Amazon. The buyer groups explained in detail on the registration process and the modus operandii for inclusion as vendor and display of products for sale. The manufacturers actively participated with queries on the packaging, quality parameters, credit period, mode of payments, promotional activities etc. All four groups were interested to organize promotional drives for coconut products in association with the Board and FICCI within and outside India, especially the Middle East.

Apart from the group business events, around 371 individual B2B meetings were scheduled during the event days of Virtual Trade Fair. These events were organized using the provision extended by the platform by sending meeting requests and scheduling meetings with the mutual consent of the buyers and the sellers.

The take aways

The fair provided an opportunity for the micro and small enterprises to reach out to the consuming world with quality products. It was indeed a learning experience for the small scale manufacturers of coconut products to package and present their products in the virtual world portraying their strong

Obituary - Sugata Ghose

Coconut sector in India lost a scholar and leader during the month of May who contributed much to the coconut community. Shri. Sugata Ghose, former Chief Coconut Development Officer, Coconut Development Board passed away in Kolkata on 7th May 2022. He served as the Chief Coconut Development Officer of the Board from December 2012 to 31st October 2015.

Shri. Sugata Ghose, a postgraduate in Plant Pathology started his official career in Tea Board in 1979. He joined Coconut Development Board in 1986 as Deputy Director and subsequently served as Director at various offices of the Board. He had provided unstinted support to the Board in the preparation and implementation of various schemes of the Board in the country. He was a voracious reader and had definite opinions on the developmental initiatives for the coconut sector. He maintained very good relations with the collaborating institutions and worked hand in hand for the sustained development of the sector. Though a pathologist, he was very strong in economics and made valid contributions to the various recommendations from the Board for improving trade of coconut and its products . Shri. Ghose had represented the country at the International COCOTECH Conference and Exhibition organized by Asian and Pacific Coconut Community (APCC) in Sri Lanka in 2014. He was very motivating to the officers and was instrumental in deputing CDB officials for the International Training on Coconut organized by Coconut Research Institute, Chinese Academy of Tropical Agriculture Sciences(CRI-CATAS), China. He was the plenipotentiary delegate from India during the APCC Session meeting held in the Federated States of Micronesia. He was also a member of the Technical Working Group of APCC and had participated in the meetings in Kochi, Bangkok in 2015 and Bali in 2016. He represented India at the International Conference on Coconut Oil in Bangkok in 2015. He is survived by his wife Reeta Ghose and son Sahaj Ghose. Coconut Development Board family deeply mourn the death of Shri. Sugata Ghose.

points –nutritive, medicinal or health attributes and also look ahead for improving quality, packaging and promotions. The objective was to exploit the potential of the virtual platform to the benefit of the numerous coconut product manufacturers. The manufacturers gained access to retail giants like Flipkart, Lulu, Amazon and Nesto which could be further followed through by one to one interactions resulting in business relations. The virtual trade fair was also a learning experience for the Board and gave insights into the needs of the buyers and the ways and means to improve the market promotional activities of coconut products. With increased competitiveness for Indian manufacturers with the convergence of the international and domestic prices, the potential for export of coconut products is on the rise and we hope that the entrepreneurs are able to capitalize the opportunities that have opened up. This will not only stabilize India's position as a leading exporter of coconut products but will also transfer the benefits back to the millions of small holder coconut farmers. ■

National Coir Conclave

Coir is a traditional product which had a glorious past in our country, especially in South India. Coir is produced from coconut husk and is an integral part of the coconut industry. India leads in the export of coir and coir products in the world. The significance and relevance of coir and its products is increasing day by day with thrust on sustainable agriculture and use of biodegradable materials. The development of the coir sector is very much dependent on the production and productivity in the coconut sector and progress of both sectors is highly interlinked.

The National Coir Conclave 2022 and the Presentation of the Coir Industry Awards was organized under the auspices of Coir Board, Ministry of MSME, Government of India at Coimbatore, TamilNadu on 5th May 2022. The Hon. Union Minister

for MSME Shri. Narayan Rane inaugurated the event in the presence of the Hon. Minister of State for MSME, Shri. Bhanu Pratap Singh Verma. Hon Minister for MSME, Government of Tamilnadu Shri. T.M. Anbarasan, Hon. Minister of MSME, Government of Assam, Member of Legislative Assembly Coimbatore Smt. Vanathi Srinivasan, Principal Secretaries/ Directors from various states and other officers participated at the event. Shri. B.B. Swain, Secretary MSME, Smt. Alka Arora Joint Secretary MSME and Shri. D. Kuppuramu, Chairman Coir Board graced the occasion. The highest performers in coir industry were facilitated through the Coir Industry Awards for the years 2015-16 to 2018-19. A total of 44 awards in 16 categories were distributed during the occasion. The release of books on coir and the launching of new coir products were undertaken by the dignitaries. During the occasion, the Market Development Assistance was also handed over to the State Governments.

The afternoon session comprised of two seminars organized side by side - National Seminar on Application of Coir Geotextiles and National Seminar on Application of Coir pith and other coir products. The Enterprise India National Coir Conclave 2022 discussed on the implementation of the Coir Vikas Yojana, the need for enhanced coconut cultivation and production of coconut, increase in husk utilization, value addition in the coir sector, potential for mandatory procurement of coir products by the State Governments, Market Development Assistance, Export facilitation programmes and various other initiatives. Representatives from State Governments of coconut growing states participated. Coconut Development Board had also participated in the event and offered suggestions and shared thoughts for the integrated development of the sector. A Marathon was also arranged on the succeeding day.

A tearful farewell
to the Global leader of Coconut

Mr. Uron Neil Salum has moved to eternity. The Coconut Community across the globe was deeply shocked and saddened by this untimely demise of a simple, down to earth person who made friends with people across the globe who loved coconut. He was indeed a coconut man who always dreamt of the day when coconut industry will be at the zenith. He was the former Executive Director of the International Coconut Community(ICC). He had served ICC as Executive Director for 6 years from 2014 to 2020.

The global coconut community was introduced to Mr. Salum once he took charge as the Executive Director of the Asian and Pacific Coconut Community(APCC) in 2014. He is from Papua New Guinea (PNG) and had served the coconut industry and the agriculture sector in PNG since 1983. Being a farmer himself with a large plantation of over 100 acres in Karkar island in the Madang province of Papua New Guinea, he was always a farmer's man. He has served his country in various capacities in the major institutions working on coconut and cocoa viz., Chairman of Kokonas Indastri Koporesan(KIK), Executive Chairman/CEO and Executive Director of PNG Cocoa and Coconut Institute, Director of Copra Marketing Board etc. He has led many delegations related to coconut, cocoa and coffee development in the global arena.

He had made many contributions to the coconut sector during his tenure as Executive Director of APCC/ICC. He was instrumental in the genesis of the ICC from the earlier APCC, thus making it a global, intergovernmental organisation. His efforts in the constitution of the Scientific Advisory Committee on Health proved a strong move when the Community stood together to counter the negative propagation against coconut oil by the American Heart Association. He had realized the need for planting material and reached out to CICY Mexico in his efforts to update the scientific community on the advances in micro propagation in coconut which led to the first Symposium on coconut tissue culture in Thailand in 2017. His soul would be really happy to see the conduct of the 2nd tissue culture Symposium and the Workshop on tissue culture organized this month in India. He took the lead role in bringing COGENT under ICC and during the discussions with ACIAR on the funding.

Mr. Salum believed in collaboration and convergence of activities for the development of the global sector. He laid the foundation for collaborations of ICC with various institutions like Centre for Agriculture and BioScience International (CABI), Malaysia; Centre de Investigacion Cientifica de Yucatan(CICY), Mexico and The Pacific Community (SPC). He strongly advocated for empowering the development officers in the coconut sector on integrated coconut development and after a series of discussions with the Coconut Research Institute Sri Lanka, the International Certificate Course for Coconut Development Officers was launched. Now two trainings have been completed and developmental officers from different coconut growing countries have got trained on the cultivation and processing aspects of coconut.

He travelled across all the member countries, had discussions with NLOs, senior bureaucrats and policy makers for the benefit of the coconut farmers. He was very down to earth and made friends with people around him, wherever he went. His friends circle in the coconut community included bureaucrats, policy makers, scientists, researchers, entrepreneurs, industrialists, farmers, farmer groups, youth etc. He was a man of very few words, he always listened first, absorbed the ideas and concepts being conveyed and then chose his words carefully before delivering his reply, that too in a very low voice which demanded attention. These attributes that he possessed were

ICC team visits CDB

Dr. Jelfina C. Alouw, Executive Director of the International Coconut Community based in Jakarta, Indonesia visited Coconut Development Board head office in Kochi on 23rd May 2022. The visit was primarily to discuss the major programs and projects of ICC for the fiscal year 2022. Dr. Alouw was accompanied by Ms. Mridula K, Assistant Director, Mr. Alit Pirmansah, Market and Statistics Officer and Mr. Klaudio D. Hosang, Administration and Finance Officer of ICC. The team discussed with the senior officials of the Board regarding the conduct of two international programmes in India during the year. Discussions were also held on the potential for improving export of coconut products, the forthcoming ICC COCOTECH Conference, the proposed visit of officials to Indonesia and the possible collaborations for development and strengthening of the sector.

very instrumental in his relation with the NLOs, ANLOs and other senior Government officials in member countries. He facilitated discussions between member countries, at times in between meetings, under the guise of a coffee moment. But at the same time, with the coconut farmers, he was one among them.

He had travelled across the globe and had rich experience in trade of agricultural commodities. He had a great sense of humour and was a good story teller. He used to have staff meetings in ICC after his travel to a member country and share the experiences through presentations. His laughter was very different and unique, which any person who interacted with him at least once would never forget. He had a temper which rose many a time, but once it subsided, he was apologetic and was never short of words. He always gave utmost respect to the country representatives, resource speakers, invited guests and farmer groups and also ensured that the same respect and hospitality is extended by the ICC staff to the invitees. He made very close friendships with many stakeholders in different countries and maintained them. His facebook page was always talking about coconut or motivating and inspiring the youth. He was a coffee man and his chamber always had the aroma of coffee. He was a foodie and liked to try different types of food; at times he used to have food he did not favour, but just to make his host happy. His signature was very unique and he had a story to tell regarding the signature too; it resembled the view of his island from the sky.

To India, he was a great friend. During his tenure he visited India many times, and traversed the coconut growing terrain of the country. He made friends with the Farmer Producer Organisations and spent a lot of quality time with them, sharing his experiences and listening to their ideas and issues. He had many friends in CDB across all segments and was always in search of Masala tea, once he set his foot in India. He had visited many institutions, industrial units and farms of progressive farmers in India. This news on the demise of Mr. Uron Salum will be a shock to all who knew him. He was indeed a very good person.

His untimely passing is a huge loss to the coconut sector across the globe. On relieving from ICC, he was serving as the General Manager of the Coconut Resource Limited (a subsidiary company of KIK) and as Strategic Advisor to KIK. He was busy with activities to promote processing and value addition in coconut in his home country while fate took him away from all of us. His motto was that after attaining the age of 60, one has to give back to the world what he learnt and experienced, free of cost. He was working towards bringing his country to the forefront in coconut cultivation and processing. He has left unfinished dreams on developing the coconut sector in PNG which will be taken up by KIK.

On behalf of the coconut community we wish to express our heartfelt condolences to Mr. Uron Neil Salum. May the soul of the departed rest in peace and we extend our sincere prayers to the grieving family of Mr. Uron Neil Salum. ■

Cultivation practices for coconut-June

Sowing of seednuts in nursery

Well-drained, coarse-textured soil near dependable irrigation water source should be selected for raising the nursery. The seed nuts can be sown in flat beds if there is no drainage problem. The seeds are to be sown in raised beds, if water stagnation is a problem. Nursery can be raised either in the open with artificial shade or in gardens where the palms are tall and the ground is not completely shaded. The seed nuts should be sown in long and narrow beds at a spacing of 40 cm x 30 cm either vertically or horizontally in 20-25 cm deep trenches. Advantage of vertical planting cause less damage during transit of seedling. However, in delayed planting, when the nut water goes down considerably, adopt horizontal sowing. It is better to go for horizontal sowing of seed nuts for better germination.

Seedling selection for planting

Only good quality seedlings are to be selected from the nursery for field planting. In tall varieties, vigorous seedlings which are one year old, more than 100 cm in height with 5-6 leaves and girth of 10 cm at the collar should be selected for planting. In dwarf varieties, the girth and height of good quality seedlings should be more than 8 cm and 80 cm, respectively. Early splitting of leaves is another character preferred for selecting good seedlings. Generally, one year old seedlings are preferable for planting. However, for planting in water-logged areas, 1½ to 2 years old seedlings are to be preferred.

Seedlings raised in poly bags perform better. The advantage of polybag seedlings is that, there is no transplanting shock since the entire ball of earth with the root system can be placed in the pits and the seedlings establish early and more vigorously. But the disadvantages include difficulty for transportation and higher cost of seedling production.

Planting

In well drained soils, seedlings can be transplanted with the onset of south-west monsoon during June. A spacing of 7.5 m x 7.5 m to 8.0 m x 8.0 m in the square system is generally recommended for coconut. This will accommodate 177 and 156 palms per ha, respectively. If the triangular system is adopted, an additional 25 palms can be planted. Hedge system can also be adopted giving a spacing of 6.5 m along the rows and 9.5 m between rows. For facilitating multiple cropping in coconut gardens, it is advisable to go for wider spacing of 10 m x 10 m so as to provide ample opportunity to accommodate a number of perennial and annual crops in the interspaces.

The depth of planting pits will depend upon the type of soil. In laterite soil with rocky substratum, deeper and wider pits, 1.5 m length x 1.5 m breadth x 1.2 m depth may be dug and filled up with loose soil, powdered cow dung and ash up to a depth of 60 cm before planting. In case of laterite soil, application of 2 kg of common salt will help in loosening the soil. In loamy soils with low water table, planting in pits of 1 m x 1 m x 1 m filled with top soil to height of 50 cm is generally recommended. The coconut seedlings are planted in the centre of the pit by making small hole within the pits and the soil around the seedlings must be firmly pressed, but soil should not be allowed

to bury the collar region of the seedling or enter into the leaf axils. However, when the water table is high, planting at the surface or even on mounds may be necessary. While planting on the surface or mounds also, digging pits and soil filling has to be done. While filling the pits with soil, it is advisable to use top soil. Two layers of coconut husk (with concave surface facing up) can be arranged at the bottom of the pit before filling up. This will help in conserving the moisture. The seedlings, after field planting, are to be protected from heavy wind by staking and from sunlight by proper shading using plaited coconut leaves or palmyrah leaves or any other suitable shading materials. If there is no rain after planting, seedlings are to be adequately irrigated.

Further, if continuous heavy rain occurs after planting, care should be taken to avoid water stagnation in the pit by providing drainage. Bund should be made around the planting pit using bottom soil to avoid run-off water entering the pit.

Application of fertilizers

Under rainfed conditions one third of the recommended dose of chemical fertilizers can be applied to the coconut palms with the onset of south west monsoon. Application of 500 g N, 320 g P2O5 and 1200 g K2O per palm per year is generally recommended for adult plantations. To supply one-third of the above nutrients it is necessary to apply about 0.36 kg urea, 0.5 kg rock phosphate (in acidic soil) or 0.7 kg Super Phosphate (in other soils) and 0.7 kg of Muriate of potash (MOP). The recommended dose of fertilizers may be spread around the palms within the radius of 1.8 m and forked in. It is always advisable to test soil in the coconut garden periodically (once in 3 years) based on the results of which, type and dosage of chemical fertilizers can be decided. Skipping of phosphatic fertilizer application is recommended if the available soil phosphorus is above 20 ppm.

If the coconut palms are maintained under irrigation, one fourth of the recommended dose of chemical fertilizers should be applied to the coconut palms during June.

It is always advisable to analyse the soil and leaf once in three years and based on the results, fertilizer application should be done.

Application of soil amendments

If application of soil amendments has not been done during May because of non-receipt of summer showers 1 kg of dolomite or 1 kg of lime may be applied per palm during June at least 15 days prior to the application of chemical fertilizers.

Application of biofertilizers

Biofertilizer application should coincide with the onset of monsoon, especially when the palms are maintained under rainfed condition. Formulations containing *Azospirillum spp*. and Phosphate solubilising bacteria prepared in carriers such as talc or vermicompost each are to be applied @100 g per palm.

'Kera Probio' (a talc formulation of *Bacillus megaterium,* a phosphate solubilising bacteria) can be applied to coconut seedlings @ 25 g per seedling mixed with vermicompost or farm yard manure while planting. Similarly an Arbuscular Mycorrhizal Fungal (AMF) bioinoculant, '*KerAM*' can be applied @50 g per seedling.

Basin management with legume cover crops

Green manure legumes like *Pueraria phaseoloides*, *Calopogonium mucunoides*, cowpea (*Vigna unguiculata*), sunhemp (*Crotolaria juncea*), horse gram (*Macrotyloma uniflorum*), daincha (*Sesbania aculata)* and *Sesbania spinosa* can be raised in the coconut basin and incorporated into the soil as green manure at 50% flowering stage. Seeds of these crops @ 100 g per basin can be sown in the palm basin at a radius of 1.8 m during June.

Dismantling of drip irrigation system

After the monsoon sets in during June, laterals of the drip irrigation system should be dismantled and rolled back and kept tied on a pole or on a coconut tree trunk at the starting point of the irrigation system in the coconut garden.

Planting of intercrops

Planting of suitable inter/mixed crops can be taken up in coconut garden during June. Intercrops like banana, pineapple, ginger, turmeric, tapioca, sweet potato and perennials like, black pepper, nutmeg, clove, cinnamon, vanilla, cocoa etc. can be planted.

Plant protection

Peninsular India, the dominant coconut growing region in the country would receive South-West monsoon showers during the period of June. Palms therefore would re-adjust from dryness to wetness with the active formation of feeding roots in this period. Palm health need to be rejuvenated with soil-test based nutrition along with prophylactic management module and routine scouting to tackle pests and diseases. Heavy monsoon showers are likely to wipe away the sucking pest complex including coconut eriophyid mite and invasive whiteflies and also suppression of black headed caterpillar to a greater extent. Two major coconut pests, viz., coconut rhinoceros beetle and red palm weevil are a major concern in this period and the emergence of adult beetles of white grub would be quite prominent with receipt of monsoon showers which would be the right time for mechanical collection of beetles. Farmers should adopt all prophylactic measures such as leaf axil filling with neem cake admixed with sand and also application of 1% Bordeaux mixture in bud rot endemic zones. Timely prophylactic treatment in bud rot endemic zone is very critical to save the palm, as spotting the disease symptoms would be difficult in the initial stage of infection for which Unmanned Aerial Vehicle are smart tools in pest surveillance.

Pests

Rhinoceros beetle (*Oryctes rhinoceros*)

Being a ubiquitous pest, the incidence of rhinoceros beetle is quite common during all periods. However its damage is well pronounced during monsoon phase when seedlings are also planted. In seedlings just planted, the spear leaf gets damaged and distorted by beetle damage. Juvenile palms are also prone to pest attack and sometimes appearing as elephant tusk-like symptoms. Damaged juvenile palms are stunted and get delayed in flowering. Of late incidence of nut boring symptoms are also noticed. Moreover, the attack by rhinoceros beetle would invariably incite egg laying by red palm weevil as well as entry of bud rot pathogen in this period.

Life stages of the pest

▶ *Management*

- Prophylactic treatment of top most three leaf axils with either botanical cake [Neem cake /marotti cake / pungam cake (250 g)] admixed with equal quantity of sand or placement of 12 g naphthalene balls covered with sand.
- Routine palm scrutiny during morning hours along with brushing of teeth and hooking out the beetle from the infested site reduces the floating pest population. This strategy could reduce the pest population significantly.
- Shielding the spear leaf area of juvenile palms with

Nut damage

Elephant-tusk like symptom

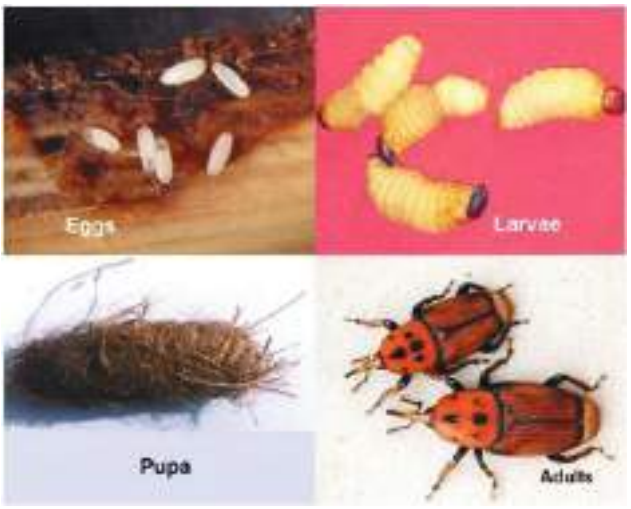
fish net could effectively entangle alighting rhinoceros beetles and placement of perforated sachets containing 3 g chlorantraniliprole / fipronil on top most three leaf axils evade pest incursion.

- Dairy farmers could treat the manure pits with green muscardine fungus, *Metarhizium anisopliae* @ 5 x 1011spores /m3 to induce epizootics on the developing grubs of rhinoceros beetle. Area-wide farmer-participatory approach in technology adoption could reduce the pest incidence very effectively and forms an eco-friendly approach in pest suppression.
- Incorporation of the weed plant, *Clerodendron infortunatumin* into the breeding pits caused hormonal irregularities resulting in morphogenetic transformational aberration in the immature stages of the pest.
- Crop diversity induced by intercropping and ecological engineering principles would disorient pests and provide continuous income and employment as well.

Metarhizium packets

Red palm weevil (*Rhynchophorus ferrugineus*)

This is the fatal enemy of coconut and any injury to palms will predispose pest invasion. Dwarf genotypes and palms aged between 5-15 years are relatively more susceptible. All life stages of the pest were noticed inside the infested palms. Leaf splitting at base, yellowing of middle leaves, presence of boreholes and oozing of brown fluid are some of the visible damage symptoms. Correct geometry is very crucial for accommodating



Life stages of the pest

intercrops as well as pest avoidance due to multiple odour cues.

▶ *Management*

- Field sanitation is very critical and all residual population in crown toppled palms should be destroyed
- Avoiding palm injury is very critical to disorient the gravid weevils away from the field and therefore leave out at least one metre from palm trunk when petioles are cut.

Red palm weevil infestation on palms

- Crop geometry and correct spacing is very crucial to reduce pest attack.
- Timely and targeted spot application of imidacloprid 0.002% (1 ml per litre of water) or indoxocarb 0.04% (2.5 ml per litre of water) on infested palms would kill the feeding grubs and induces recovery of palms by putting forth new spear leaf.
- Crop-habitat diversification (Ecological Bio-engineering) through coconut based cropping system strategy inciting defenders and pollinators would diffuse the palm-linked volatile cues and encouraged pest suppression. Diversified cropping system reduces pest incidence than mono-cropping.

Summer ploughing

White grub (*Leucopholis coneophora)*

This subterranean pest feeds on the roots of coconut and cause yellowing of leaves, premature nut fall, delayed flowering, retardation of growth and reduction in yield. Since grubs are hidden in soil, symptom diagnosis is very crucial in the identification of pest damage. Grubs initially feed on organic materials, roots of grasses and intercrops before feeding on the palm roots. Adults emerge from the soil during the month of June. The pest is very severe in certain sandy belts of Kasaragod, Kerala and parts of Karnataka.

White grubs

Adult beetles

▶ *Management*

- Repeated summer ploughing to expose the immature stages for predation
- Handpicking of adult beetles during evening of two weeks commencing from the onset of monsoon.
- Application of neem cake in the palms basin @ 5 kg /palm for regeneration of roots.
- Soil application of aqua suspension of entomopathogenic nematode, *Steinernema carpocapsae* @ 1.5 billion Infective Juveniles /ha and need based repeated application.

Diseases

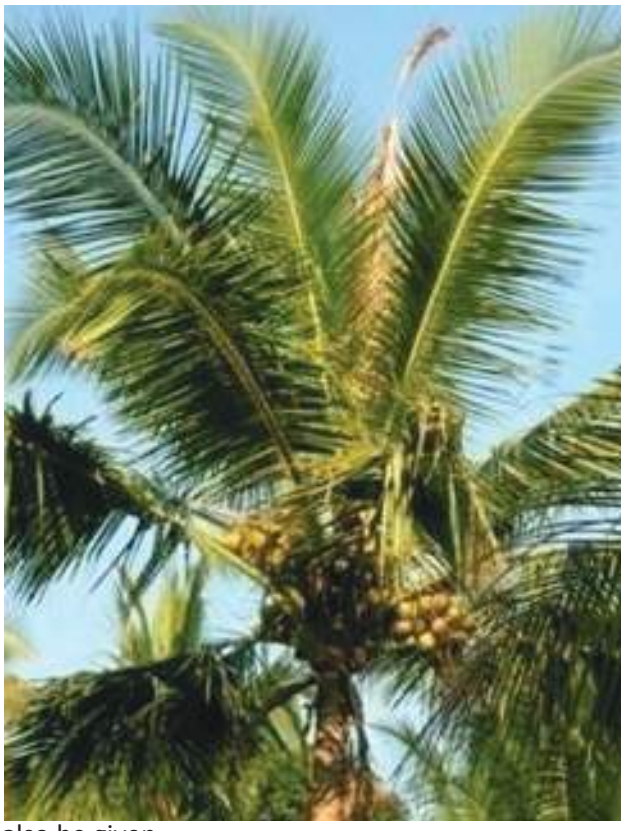
1) Leaf rot disease (*Colletotrichum gloeosporioides, Exserohilum rostratum*)

It is commonly observed on palms affected by root (wilt) disease wherein foliar necrosis of terminal spear leaf and adjacent leaves are registered. The disease is prominently noticed in the post-monsoon phase during the month of December. Affected leaves turn necrotic and are not detachable from the palm and remain intact. This disease could be initially observed as minute lesions which later enlarge, coalesce and cause extensive rotting affecting the photosynthetic

efficiency of palms. The disease is endemic to root (wilt) affected regions of Southern Kerala

▶ *Management*

- Need based pruning and destruction of disease affected regions of spear leaf and other adjacent leaves in the terminal region
- Spot application of hexaconazole 5 EC 2 ml in 300 ml water on the affected spear leaf region .In disease endemic areas prophylactic fungicide treatment can



also be given.

Bud rot or immature nut fall (*Phytophthora palmivora*)

In certain humid locations bud rot occurred regularly killing hundreds of trees.In India, bud rot incidenceis recorded as less than one per cent. Pathogen attacks the bud region leading to rotting of bud and death of palms. The first visible symptom is withering of the spindle marked by pale colour. The spear leaf or spindle turns brown and bends down. The affected spear leaf can easily be pulled out as the basal portion of the spindle is completely rotten emitting a foul smell. Temperature range of 20- 24ºC and relative humidity of 98% - 100% were found optimum for the development of the bud rot disease. Contiguous occurrence of such "favourable days" during rainy seasons determines the development of the disease and the intensity of infection. As Phytophthora diseases are known to be extremely fatal, a close scrutiny is mandatory during monsoon period to assess the health of the palm especially the spear leaf zone.

▶ *Management*

- Regular cleaning of the crown and prophylactic spraying of Bordeaux mixture (1%) to the crown just before the onset of monsoon and one more spray after 35-40 days help in reducing the bud rot incidence.
- Field sanitation and provide proper drainage during rainy season.
- Placement of two Trichoderma (*Trichoderma harzianum* CPTD28 isolate) enriched coir pith cakes in the inner most leaf axils just before the onset of monsoon and again after every two months as prophylactic measure.
- In disease affected palms, remove the entire rotten

portion of the spindle by cutting with a sharp knife and apply 10% Bordeaux paste to the wound and cover with polythene sheet to prevent entry of rain water. The protective covering has to be retained till normal shoot emerges.

Area wide and farmer-participatory adoption of prophylactic management practices could reduce the inoculum pressure of pest /disease even in favourable weather condition. Greater emphasis should be given for correct diagnosis and timely adoption of pest management practices. The concept of ecological engineering should be given due importance to obtain regular income from the farm and induce pest regression as well. Soil test based nutrition is also very crucial for improving palm health and endure biotic stresses. ■

(Prepared by: Thamban, C. and Subramanian, P., ICAR-CPCRI Kasaragod and Joseph Rajkumar ICAR-CPCRI Regional Station, Kayamkulam)

Market Review – April 2022

Domestic Price

Coconut Oil

During the month of April 2022 the price of coconut oil opened at Rs. 15700 per quintal at Kochi, and Alappuzha and Rs. 15800 per quintal at Kozhikode market. The price closed with a net loss of Rs. 300 per quintal at Kochi and Alappuzha market and a net loss of Rs. 400 per quintal at Kozhikode market.

The price of coconut oil closed at Rs. 15400 per quintal at Kochi , Alappuzha and Kozhikode market.

During the month, the price of coconut oil at Kangayam market opened at Rs. 13467 per quintal and closed at Rs. 13333 per quintal with a net loss of Rs. 134 per quintal.

Weekly price of coconut oil at major markets Rs/Quintal)				
	Kochi	Alappuzha	Kozhikode	Kangayam
01.04.2022	15700	15700	15800	13467
09.04.2022	15500	15500	15800	13467
16.04.2022	15500	15500	15700	13133
23.04.2022	15400	15400	15700	13000
30.04.2022	15400	15400	15400	13333

Milling copra

During the month, the price of milling copra opened at Rs.9500 per quintal at Kochi and Rs.9400 per quintal at Alappuzha and Kozhikode market.

The prices of milling copra closed at Rs. 9200 per quintal at Kochi market, Rs. 9150 per quintal at Alappuzha market and Rs. 9250 per quintal at Kozhikode market with a net loss of Rs.300 at Kochi, Rs. 250 per quintal at Alappuzha and Rs. 150 per quintal at Kozhikode markets.

During the month the price of milling copra at Kangayam market opened at Rs.8900 and closed at Rs. 8700 per quintal with a net loss of Rs.200 per quintal.

Weekly price of Milling Copra at major markets (Rs/Quintal)				
	Kochi	Alappuzha (Rasi Copra)	Kozhikode	Kangayam
01.04.2022	9500	9400	9400	8900
09.04.2022	9300	9200	9350	8800
16.04.2022	9300	9200	9250	8650
23.04.2022	9200	9150	9250	8500
30.04.2022	9200	9150	9250	8700

Edible copra

During the month the price of Rajpur copra at Kozhikode market opened at Rs. 15400 per quintal and closed at Rs. 16200 per quintal with a net gain of Rs. 800 per quintal.

Weekly price of edible copra at Kozhikode market (Rs/Quintal)	
01.04.2022	15400
09.04.2022	16000
16.04.2022	16000
23.04.2022	16500
30.04.2022	16200

Ball copra

The price of ball copra at Tiptur market opened at Rs. 16400 per quintal and closed at Rs.17250 per quintal with a net gain of Rs.850 per quintal.

Weekly price of Ball copra at major markets in Karnataka (Rs/Quintal) (Sorce: Krishimarata vahini)	
01.04.2022	16400
09.04.2022	17000
16.04.2022	16911
23.04.2022	16800
30.04.2022	17250

*NR-Not reported

Dry coconut

At Kozhikode market, the price of dry coconut opened at Rs.13000 and closed at Rs. 11500 per quintal with a net loss of Rs.1500 per quintal.

Weekly price of Dry Coconut at Kozhikode market (Rs/Quintal)	
01.04.2022	13000
09.04.2022	13000
16.04.2022	12800
23.04.2022	12300
30.04.2022	11500

Coconut

At Nedumangad market in Kerala, the price of coconut opened and closed at Rs. 17000 per thousand nuts during the month.

At Pollachi market in Tamilnadu, the price of coconut opened Rs. 26000 per ton and closed at Rs.24500 per ton during the month with a net loss of Rs. 1500 per ton.

At Bangalore market in Karnataka, the price of coconut opened at Rs. 22500 and closed at Rs. 20000 per thousand nuts during the month with a net loss of Rs. 2500 per thousand nuts.

At Mangalore market in Karnataka, the price of coconut opened Rs. 30000 per ton and closed at Rs.32000 per ton during the month with a net gain of Rs. 2000 per ton.

Weekly price of coconut at major markets				
	Nedumangad (Rs./1000 coconuts)#	Pollachi (Rs./MT) ##	Bangalore Grade-1 coconut,(Rs./ 1000 coconuts) ##	Mangalore Black coconut (1 tonne) ##
01.04.2022	17000	26000	22500	30000
09.04.2022	17000	25000	22500	30000
16.04.2022	17000	25000	22500	30000
23.04.2022	17000	24500	22500	30000
30.04.2022	17000	24500	20000	32000

International price

Coconut

The price of coconut quoted at different domestic markets in Philippines, Indonesia, Srilanka and India are given below.

#(Source: Epaper,Kerala Kaumudi), ##(Source: Star market bulletin)

Weekly price of dehusked coconut with water				
Date	Domestic Price (US$/MT)			
	Philippines	Indonesia	Srilanka	India*
02.04.2022	241	248	187	340
09.04.2022	242	273	179	327
16.04.2022	239	264	179	327
23.04.2022	238	264	168	321
30.04.2022	239	263	176	321
				*Pollachi market

Coconut Oil

International price of coconut oil expressed a downward trend during the month.

International price and domestic price of coconut oil at different international/ domestic markets are given below.

Weekly price of coconut oil in major coconut oil producing countries					
	International Price(US$/MT)	Domestic Price(US$/MT)			
	Philippines/ Indonesia (CIF Europe)	Philippines	Indonesia	Sri lanka	India*
02.04.2022	2155	NR	NR	2734	1762
09.04.2022	2257	2193	NR	2567	1762
16.04.2022	2104	NR	NR	2567	1718
23.04.2022	2029	NR	NR	2315	1701
30.04.2022	1939	NR	NR	2267	1745
					*Kangayam

Copra

The price of copra at different domestic markets in Philippines, Srilanka, Indonesia, and India are expressed a downward trend during the month.

The price of copra quoted at different domestic markets in Philippines

Weekly International price of copra in major copra producing countries				
Date	Domestic Price (US$/MT)			
	Philippines	Indonesia	Srilanka	India* * Kangayam
02.04.2022	1229	1015	1158	1165
09.04.2022	1218	974	1107	1152
16.04.2022	1199	940	1107	1132
23.04.2022	1197	936	986	1112
30.04.2022	1175	936	1009	1138
				* Kangayam

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