

## VII. Publications

During the period, 39 research publications in peer reviewed journals, 59 paper presentations in national level seminars/ symposia/ conferences/ workshops, 82 papers in semi technical journals/ magazines, six technical bulletins, eight extension pamphlets, five book chapters, six books, 20 training manuals, five e-publications and two interactive DVDs were published from the institute.

### Research papers

- Ajithkumar P. and Samsudeen K. 2018 Seasonal variation in the fatty acid composition of oil from mohachao narel, a sweet endosperm coconut (*Cocos nucifera* L.) population from Maharashtra. *Trends in Biosciences*, **11**(7): 995-1002.
- Ajithkumar P. and Samsudeen K. 2018 Seasonal variation and developmental changes in the biochemical composition of coconut kernel in Mohachao Narel, a sweet endosperm coconut (*Cocos nucifera* L.) population from Maharashtra. *Trends in Biosciences*, **11**(7): 1599-1603.
- Anok Uchoi, Shoba N., Balakrishnan S., Gopal N.O. and Uma, D. 2018. Impact of canopy management on flowering and yield attributes of cocoa (*Theobroma cacao* L.) under tropical condition of Tamil Nadu. *International Journal of Chemical Studies*, **6**(5): 629-633.
- Apshara S.E. and Krithika K.J. 2018. Evaluation of selective cocoa clones from Central and South America in their initial years of growth. *Journal of Plantation Crops*, **46**(3): 218-220.
- Arivalagan M., Roy T.K., Yasmeen A.M., Pavithra K.C., Jwala P.N., Shivasankara K.S., Manikantan M.R., Hebbar K.B. and Kanade S.R. 2018. Extraction of phenolic compounds with antioxidant potential from coconut (*Cocos nucifera* L.) testa and identification of phenolic acids and flavonoids using UPLC coupled with TQD-MS/MS, *LWT - Food Science and Technology*, **92** :116-124.
- Bhalerao P.P., Maheswarappa H.P., Sumitha S. and Elain Apshara S. 2018. Performance of cocoa clones as intercrop in coconut gardens under South Gujarat condition. *International Journal of Innovative Horticulture* **7**(2): 120-122.
- Chalapathi Rao N. B. V., Nischala A., Ramanandam G. and Maheswarappa H. P. 2018. Biological suppression of coconut black headed caterpillar *Opisina arenosella* outbreak in East Godavari district of Andhra Pradesh – eco friendly technology. *Current Science*, **115**(8): 1588-1594.
- Chowdappa P., Hebbar K.B. and Ramesh S.V. 2018. Arecanut and Human Health. *Current Science* **115** (6): 1025-1026.
- Das R., Arora V., Jaiswal S., Iquebal M.A., Angadi U.B., Fatma S., Singh R., Shil S., Rai A. and Kumar D. 2018. PolyMorphPredict: A universal web-tool for rapid polymorphic microsatellite marker discovery for whole genome and transcriptome data. *Frontiers in Plant Science*, **9**: 1966.
- Gawankar M. S., Haldankar P. M., Malshe K. V., Arulraj S. and Maheswarappa H. P. 2018. Fertigation schedule for the cultivation of Tenera oil palm in Konkan Coastal Region of Maharashtra. *Indian Journal of Agricultural Sciences*, **88** (11): 1804–1807.
- Gawankar M. S., Haldankar P. M., Salvi B. R., Haldavanekar P. C., Malshe K.V. and Maheswarappa H. P. 2018. Intercropping in young oil palm plantation under Konkan region of Maharashtra, India. *International Journal of Current Microbiology and Applied Science*, **7**(12): 2752-2761.
- Hebbar K.B., Helan M. Rose, Anusree R. Nair, Kannan S., Niral V., Arivalagan M., Alka Gupta, Samsudeen K., Chandran K.P., Chowdappa P., and Vara Prasad P.V. 2018. Differences in *in vitro* pollen germination and pollen tube growth of coconut (*Cocos nucifera* L.) cultivars in response to high temperature stress. *Environmental and Experimental Botany*. **153**: 35-44.

- Hebbar K.B., Pandiselvam R., Manikantan M.R., Arivalagan M., Shameena Beegum and Chowdappa P. 2018. Palm sap-quality profiles, fermentation chemistry, and preservation methods. *Sugar Tech*, **20**(6): 621-634.
- Jayasekhar S. and Hughes S.A. 2018. Sectoral equations of sustainability: Narrative of plantation sector in India. *Journal of Plantation Crops*, **46**(3): 210-217.
- Jayasekhar S. and Isaac Ndung'u. 2018. Review of economic history of cocoa with special reference to India. *Journal of Plantation Crops*, **46**(2): 133-138.
- Jeena M., Krishnakumar V., Srinivasan V., Ravi Bhat, Nampoothiri C.G.N. and Haris A. A. 2018. Standardization of critical boron in soil and leaves of coconut palms grown in a tropical Entisol. *Journal of Soil Science and Plant Nutrition*, **18**(2):376-387.
- Murali Gopal and Alka Gupta. 2019. Building plant microbiome vault: a future biotechnological resource. *Symbiosis*, **77**(1): 1-8.
- Murali Gopal, Alka Gupta and Chowdappa P. 2018. Value addition to recalcitrant and voluminous palm biomass residues through vermicomposting technology. *International Journal of Innovative Horticulture* **7**(2): 63-70.
- Muralikrishna K.S., Sabana A.A., Midhuna K., Anitha Karun and Rajesh M.K. 2018. DNA extraction method from endosperm of *Areca concinna* Thwaites, a wild relative of arecanut. *International Journal of Innovative Horticulture*, **7**(1):50-53.
- Muralikrishna K.S., Sharadraj K.M., Gangaraj K.P., Nagaraja N.R., Anitha Karun, Rajesh M.K. and Chowdappa P. 2018. *In vitro* assay for screening of *Areca* spp. for *Phytophthora* resistance. *International Journal of Innovative Horticulture*, **7**(2):139-142.
- Nair K.M., Haris A.A., Jeena M., Srinivasan V., Dinesh R., Hamza H., Subramanian P., Thamban C., Chandran K.P., Krishnakumar V., Ravi Bhat, Hegde R. and Singh S.K. 2018. Coconut-growing soils of Kerala: 2. Assessment of fertility and soil related constraints to coconut production. *Journal of Plantation Crops*, **46**(2): 84-91.
- Nihad K., Krishnakumar V., Haris A. A., Bhat R. and Chowdappa P. 2018. Heliconias: A potential intercrop in coconut ecosystem. The Bulletin - A Journal of the Zingiberales *Heliconia Society International*, **24**(4): 8-9.
- Pandiselvam R., Manikantan M.R., Kothakota A., Rajesh G.K., Beegum S., Ramesh S.V., Nirali V. and Hebbar K.B. 2018. Engineering properties of five varieties of coconuts (*Cocos nucifera* L.) for efficient husk separation. *Journal of Natural Fibers*, <https://doi.org/10.1080/15440478.2018.1507863>.
- Pandiselvam R., Manikantan M.R., Sunoj S., Sreejith S. and Beegum S. 2018. Modeling of coconut milk residue incorporated rice-corn extrudates properties using multiple linear regression and artificial neural network. *Journal of Food Process Engineering*, **42**(2), p.e12981. <https://doi.org/10.1111/jfpe.12981>.
- Pandiselvam R., Subhashini S., Banu Priya E.P., Kothakota A., Ramesh S.V. and Shahir S. 2018. Ozone based food preservation: a promising green technology for enhanced food safety. *Ozone: Science and Engineering*, **41**(1). 17-34.
- Prathibha P. S., Kumar A. R. V., Subaharan K. and Vibina V. 2018. Influence of abiotic factors on adult emergence pattern of coconut white grub, *Leucopholis coeneophora* Burm. (Scarabaeidae: Melolonthinae: Coleoptera) *Phytoparasitica*, **46**(3): 341 – 353.
- Prathibha V.H., Hedge V., Sharadraj K.M., Rajesh M.K., Rachana K.E. and Chowdappa P. 2018. Differentiation of *Phytophthora* species associated with plantation crops using PCR and high-resolution melting curve analysis. *Journal of Plant Pathology*, **100**(2): 233-240.
- Priya G., Alka Gupta, Murali Gopal, Litty T. and Thomas G.V. 2018. Systematic screening strategies for identifying elite plant growth promoting rhizobacteria for coconut (*Cocos nucifera* L.). *International Journal of Current Microbiology and Applied Science* **7**(5): 1051-1074.
- Rachana K.E., Gangaraj K.P. and Rajesh M.K. 2018. Characterization, structural modeling and docking study of CnCNLR1, a CC-NBS-LRR protein from coconut. *International Journal of Pure and Applied Biosciences*, **6**(3):137-145.
- Rajeela, K.T.H., Alka Gupta, Murali Gopal, Vinayaka Hegde and Thomas G.V. 2018. Evaluation of combinatorial capacity of coconut and cocoa plant growth promoting rhizobacteria (PGPR) with biocontrol agent *Trichoderma harzianum*. *Curr. Inves. Agri. Curr. Res.* **3**(4): 404-409.
- Rajesh M.K., Rachana K.E., Kulkarni K., Sahu B.B., Thomas R.J. and Karun A. 2018. Comparative transcriptome profiling of healthy and diseased Chowghat Green Dwarf coconut palms from root (wilt) disease hot spots. *European Journal of Plant Pathology*, **151**(1): 173-193.

- Sabana A.A., Ginny A., Rahul C.U. and Rajesh M.K. 2018. *In silico* identification of miRNAs and their targets associated with coconut embryogenic calli. *Agri Gene*, **7**: 59-65.
- Selvamani V. and Duraisami V.P. 2018. Evaluating the primary yield limiting leaf nutrient deficiency of coconut (*Cocos nucifera* L.) in a major coconut growing zone of Tamil Nadu. *Journal of Plantation Crops*, **46** (2): 112-117.
- Shareefa M., Thomas R. J. and Nampoothiri C. K. 2018. Standardization of seednut storage techniques for Kalpasree variety of coconut. *Indian Journal of Horticulture*, **75**(4):728-731.
- Shil S., Das K.K. and Saxena V.K., 2018. Identification of protein motifs in phytoplasma associated with root (wilt) disease of coconut (*Cocos nucifera*) using an improved statistical measure. *Agricultural Research*, **8**(1):56-64.
- Srinivasan T., Rajamanickam K., Chandrika Mohan, and Maheswarappa H.P. 2018. Validation of integrated pest management strategy against coconut rhinoceros beetle, *Oryctes rhinoceros* L. *Journal of Plantation Crops*, **46** (1): 8-11.
- Sujatha S. Bhat R. and Apshara, S. E. 2018. Climate change, weather variability and associated impact on arecanut and cocoa in humid tropics of India. *International Journal of Innovative Horticulture*, **7**(1): 27-37.
- Thube S. H., Chandrika Mohan, Pandian R.T.P., Saneera E. K., Sannagoudra H. M. Hegde V. and Chowdappa P. 2018. First record of the invasive neotropical ambrosia beetle *Euplatypus parallelus* (Fabricius, 1801) (Coleoptera: Curculionidae: Platypodinae) infesting arecanut in Karnataka, India. *The Coleopterists Bulletin* **72**(4).

### Presentation in conference/seminar/symposium:

- Alka Gupta, Indhuja S., Vrinda K.B. and Gopal M. 2018. Diversity of macrofungi in coconut ecosystem. *In: Patil S., Roobak Kumar A., Krishna Reddy P. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 126.*
- Anes K.M., Merin Babu, Jinu Sivadasan and Josephraj Kumar A. 2018. New distributional record of *Steinernema hermaphroditum* (Nematoda: Steinernematidae) from Kerala, India. *In: Abstracts: First International Conference on Biological Control, (Eds.) M. Mohan et al. 2018, September 27-29, Bengaluru, pp17.*
- Anitha Karun, Jyothisha K.V., Muralikrishna K.S., Sajini K.K. and Rajesh M.K. 2018. Cryopreservation of cocoa shoot tips using V-cryomesh and D-cryomesh methods. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 54.*
- Anitha Karun, Kavya P., Muralikrishna K.S., Sajini K.K., Afeeda K.T. and Rajesh M.K. 2018. Effect of carbon nanoparticles in the cryopreservation of coconut zygotic embryos by vitrification. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 52.*
- Anithakumari P., Nagaraja N.R., Sit A.K., Indhuja S, Chowdappa P. and Krishnakumar V. 2018. Enabling inclusiveness and integration of knowledge systems through ICT among small and marginal farmers. E-Proceedings of International Conference 'Research Frontiers in Precision Agriculture', Indian Institute of Technology (IIT), Powai, 24-26th October 2018. pp 441- 443.
- Aparna V., Krishna Prakash, Neema M., Muralikrishna K.S., Samsudeen K. and Anitha Karun 2018. Pollen preservation at low temperature: An efficient short term storage method in coconut. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 38.*
- Chandran K.P., Jose C.T., Muralidharan K., Jayasekhar and Sandip Shil 2018. Crop insurance in plantation crops- Where do we stand? *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 154.*
- Chandrika Mohan, Anithakumari.P. and Josephraj Kumar.A. 2018. Area-wide Farmer participatory bio-management of rhinoceros beetle in coconut plantations. *In: Abstracts: First International Conference on Biological Control, 2018, (Eds.) M. Mohan et al. September 27-29, Bengaluru, pp 127.*
- Chandrika Mohan, Josephraj Kumar.A., Hegde V., Krishnakumar, V. and Chowdappa.P. 2018. Area-wide suppression tactics of red palm weevil,

- Rhynchophorus ferrugineus* Oliv., infesting coconut palms in India. ESA, ESC, and ESBC Joint Annual Meeting of the Entomological Society of America (ESA), November 11-14, 2018, Vancouver, BC Canada. Abstract No 2384. p 227.
- Devakumar K., Regi Jacob Thomas and Anitha Karun. 2018. A durable pollination raincoat for coconut hybridisation during monsoon. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 11.*
- Devakumar M., Anand K.B., Poornima V., Murali Gopal and Alka Gupta. 2018. Enhancement of recycled coarse aggregate properties using *Bacillus megaterium*. *In '3rd International Conference on Advances in Materials and Manufacturing Applications, Amrita Vishwa Vidyapeetham, Bangalore, Aug. 16-18, 2018.*
- Gangaraj K.P., Rajesh M.K., Prathibha, V.H. and V. Hedge. 2018. Identification of RxLR effectors in coconut bud rot pathogen *Phytophthora palmivora* through dual transcriptomics study. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 43.*
- Gayathri U. and Niral V. 2018. Sprouting characteristics and seedling traits in a core set of coconut germplasm. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 16.*
- Geethu V., Gangaraj K.P., Muralikrishna K. S. and Rajesh M.K. 2018. Core reactions of fatty acid biosynthesis in coconut reconstructed based on assembly and annotation of genome and transcriptome data. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 53.*
- Hegde V., Prathibha V.H., Pandian T.P.R. and Chowdappa P. 2018. Alternate fungicide for the management of fruit rot disease of arecanut. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 127.*
- Indhuja S., Anju R., Merin Babu, Haris A.A., Krishnakumar V. 2018. Phytobeneficial root endophytes of root (wilt) disease resistant coconut palm. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 123.*
- Indhuja S., Merin Babu, Alka Gupta, Murali Gopal, Thomas R.J., Haris A.A. and Krishnakumar, V. 2018. Identification of plant growth promoting rhizobacteria from healthy coconut palms in root (wilt) diseased tract of Kerala. *In: 'International Conference on Microbiome Research- 2018, National Centre for Microbial Resources, Pune (Maharashtra), 19-22 Nov., 2018. Abstract No. ICMR-2018EVM0276, pp. 117, Abstract Book.*
- Jayasekhar S, and Chandran K.P. 2018. Domestic value chain of arecanut in India: Traversing uncertainties *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 156.*
- Jayasekhar S, Chandran K.P., Thamban C., and Muralidharan K. 2018. Coconut sector in India experiencing a new regime of trade and policy environment: A critical analysis *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 152.*
- Jayasekhar S., Chandran K.P., Thamban C. and Muralidharan K. 2018. Sustainable plantation crops for inclusive growth: Indian scenario, issues, challenges, and coping strategies. *Agricultural Economics Research Review. 31 (Conference Number) 2018: 241.*
- Jeena Mathew, A. Abdul Haris, Chinchu M Raj, V.Krishnakumar, Ravi Bhat, K. Muralidharan and Susan John 2018. Nutrient partitioning in root (wilt) disease affected *vis-a-vis* healthy coconut palms grown in an Entisol of humid tropics. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 80-81.*
- Josephraj Kumar A. and Chandrika Mohan 2018. Gradient Outbreak of Coconut Pests and Mitigation Strategies. *In: Book of Abstracts-National Seminar on Climate Change, Habitat Destruction and Emergence of Insect Pests and Vectors, (Ed.) D.A. Evans, October, 11-12, 2018, Department of Zoology, University College, Thiruvananthapuram, pp 1-3.*
- Khadke G. Niral V., Kulkarni M. S., Sandhyarani N. 2018. Coconut *var. Spicata* specific molecular markers: identification and validation. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 14.*



- Krishna Prakash, Aparna V, Neema M, Muralikrishna K.S., Sabana A.A., Rajesh M.K. and Anitha Karun. 2018. Somatic embryogenesis and plantlet regeneration from immature inflorescence explants in arecanut dwarf hybrids. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 42.*
- Krishnakumar V., Jeena Mathew., Haris, A.A., Ravi Bhat and Nair K.M. 2018. Soil fertility management in coconut based land use system. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 64-65.*
- Mathew A.C., Thamban C., Manoj P. Samuel, Jayasekhar S. and Muralidharan P. 2018. Effect of terracing and vegetation on water erosion in the hilly tracks of Western Ghats. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 78.*
- Murali Gopal and Alka Gupta 2018. An easy 'push-pull/pull-pull' method to harvest earthworms from coconut leaf vermicomposting units. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 106.*
- Murali Gopal, Alka Gupta, Shahul Hameed K., Chandra Mohanan R. and Thomas G.V. 2018. Farmer-enabled mass-multiplication of plant-beneficial microbes using coconut water and rice gruel medium. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 89.*
- Muralikrishna H. 2018. A bit of information for those who in search of seedlings. 5th July, 2018. <http://www.surahonne.com/?p=20237>
- Muralikrishna H. 2018. Biting menace, trembling owner. 31st May, 2018, <http://www.surahonne.com/?p=19896>
- Muralikrishna H. 2018. Importance of Bordeaux mixture. 19th July 2018 <http://www.surahonne.com/?p=20368>
- Muralikrishna H. 2018. Importance of Bordeaux mixture. *Karaval Daily*, 23rd July, 2018, p 2.
- Muralikrishna H. 2019. Arecanut tender nut dropping. *Karaval Daily* 2nd March, 2019, p 2.
- Nagaraja N. R., Niral V. and Chowdappa P. 2018. Compendium of abstracts. Workshop on Breeding Strategies in Plantation Crops. ICAR-CPCRI, Regional Station, Vittal. 27<sup>th</sup> April 2018. 19 pp.
- Nagaraja N.R. 2018. Polyembryony in *Areca catechu* L. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 20.*
- Nagaraja N.R., K.S. Ananda and M.K. Rajesh. 2018. Assessment of genetic diversity in arecanut germplasm using SSR markers. *In: Patil, S., Roobak Kumar, A., Krishna Reddy, P. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 57.*
- Nagaraja N.R., Ramesh S.V., Arivalagan M., Sushmitha C.H., Hebbar K.B., Bhavishya, Ananda, K. S., Chowdappa P. 2018. Variegations in *Areca catechu* L. (var. Mangala and South Kanara Local) - A case study. *In: Proceedings of International Conference on Global Research Initiatives for Sustainable Agriculture and Allied Sciences Rajasthan Agricultural Research Institute, Jaipur, Rajasthan. pp.39-40.*
- Namitha M.S., Gangaraj K.P., Muralikrishna K.S., Rajesh M.K. and Anitha Karun 2018. Mining of core cell cycle linked genes in coconut genome. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 55.*
- Neema M. , Hareesh G.S., Aparna V., Krishna Prakash, Chandran K. P. and Anitha Karun. 2018. Electrical induction enhances the callus growth in plumular explant of coconut (*Cocos nucifera*) *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 44.*
- Neenu S, Selvamni V., Paulraj S. and Ravi Bhat 2018. Inorganic Phosphorus Fractions and Phosphorus Availability in Long term fertilizer cum Manurial trials under Coconut cultivation. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 79.*
- Nihad K., Haris A.A., Krishnakumar V., Jeena M., Indhuja S. and Neenu S. 2018. Integrated nutrient management for Hybrid Bajra Napier in coconut based farming system. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. Pp. 68-69.*

- Prathibha P. S., Rajesh M. K., Sabana A. A. Rachana K. E. and Subaharan K. 2018. Distinguishing palm white grub complex, *Leucopholis* spp. (Coleoptera: Scarabaeidae: Melolonthinae) using high resolution melting (HRM) analyses. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 107.*
- Prathibha V.H., Hegde V., Gangaraj K. P. and Rajesh M. K. 2018. *Lasiodiplodia theobromae* responsible for severe dieback disease on cocoa in Andhra Pradesh & Kerala regions, India. *Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 122.*
- Priya George, Alka Gupta, Murali Gopal, Litty Thomas, George V. Thomas. 2018. Elite plant growth promoting rhizobacteria from coconut: their growth promotion potential, molecular and phenotypic characterization. *In: Patil, S., Roobak Kumar, A., Krishna Reddy, P. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 87.*
- Rajesh M.K., Muralikrishna K.S., Swapna S. Nair, Subrahmanya T.M., Subaharan K. and Anitha Karun 2018. Coconut inflorescence sap (Kalparasa™) mediated synthesis of silver nanoparticles and antimicrobial properties in arecanut *in vitro* cultures. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 67.*
- Rajkumar, Jaganathan D., Shivaji Thube, Harsha K., Sujithra M and Vinayaka Hegde 2018. Application of *Steinernema carpocapsae* aqua formulation for integrated management of white grub infestation in arecanut gardens of Western Ghats from Karnataka, India. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 96.*
- Ramesh S.V., Hebbar K.B., Rajesh M.K., Archana P. 2018. Soil water-deficit differentially modulates the expression of stress associated genes (SAGs) of *Cocos nucifera* L. seedlings with contrasting water-use efficiency (WUE). *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 93.*
- Ramesh S.V., Arivalagan M., Hebbar K.B. 2018. Coconut: A treasure trove of nutrition and health benefits. *In: Proceedings of CAFT on Biochemistry of Food crops: From omics studies to nutrient analysis (Eds. Praveen S., Kumar R.R., Goswami S., 2018) 25-Sep-2018 to 15-Oct-2018, ICAR-IARI, New Delhi. pp: 44-49.*
- Ramesh S.V., K.B. Hebbar, Neenu S, Rajesh M.K 2018. Expression dynamics of nutrient transporter genes of *Cocos nucifera* L. grown in soil and aerated static-solution culture. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 9.*
- Sabanaa A.A., Gangaraj K.P., Rajesh M.K. and Ginny Antony. 2018. *In silico* prediction of long non-coding RNAs associated with coconut embryogenic calli. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 44.*
- Santhi C.K.V., Gangaraj K.P. and Rajesh M.K. 2018. Genome-wide identification of auxin response factor (ARF) gene family in coconut (*Cocos nucifera* L.). *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 51.*
- Shafeeq R. and Rajesh M.K. 2018. Molecular dissection of gibberellic acid biosynthesis machinery in coconut: From comparative genomics to differential expression profiling. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 48.*
- Shareefa M., Regi. J. Thomas, J.S. Sreelekshmi and Anitha Karun. 2018. Occurrence of *in vitro* flowering in coconut (*Cocos nucifera* L.). *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23<sup>rd</sup> Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 18.*
- Singh L.S., Alpana Das, V. Niral and G.C. Acharya. Participated and presented poster on Study on flowering behavior of some local coconut genotypes under Assam condition in the 8<sup>th</sup> Indian Horticulture Congress, 2019 held at Indira Gandhi Krishi Viswavidyalaya, Raipur, Chhattisgarh from 17<sup>th</sup> to 21<sup>st</sup> January, 2019.

- Subramanian P., R. Surekha, V. Selvamani, Alka Gupta, S. Neenu and Ravi Bhat 2018. Effect of different nutrient management practices on fodder yield of hybrid Bajra Napier var. CO5 grown as intercrop in coconut. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 73.*
- Sudha R., V. Niral, Y. Diwakar, M.K. Rajesh and K. Samsudeen. 2018. Genetic variability studies in a population of West Coast Tall coconut. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 12.*
- Sujithra M., V.H. Prathibha, Rajkumar and Vinayaka Hegde 2018. First report of *Simplicillium* sp., infesting rugose spiralling whitefly, *Aleurodicus rugiperculatus*. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 113.*
- Thamban C., Jayasekhar, S., Chandran, K.P., Leena, S. and Jesmi Vijayan 2018. 'Friends of Coconut Trees' for Sustainable Coconut Development – Field Level Experiences and Impact of an Innovative Capacity Building Initiative for Rural Youth. *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 149.*
- Thomas R.J., Shareefa, M., Rajesh, K.S., Ganesh Khadke and Niral, V. 2018. Refining ground pollination technique for hybridization in coconut (*Cocos nucifera* L.). *In: Patil S., Kumar, A.R., Reddy, P.K. et al. (Eds.). Book of Abstract, 23rd Plantation Crops Symposium, 6-8 March, 2019, Chikkamagaluru, Karnataka. pp. 17.*

## Popular articles

- Aarathi R.B., Sreelekshmi J.S., Shareefa M. and Thomas R.J. 2018. Community nurseries for producing quality coconut seedlings. *Indian Cocon. J.*, **61** (7): 15-16.
- Alka Gupta and Murali Gopal. 2018. *Vermicompost teji se banaane ke liye nariyal patton ko pees le. Bharatiya Nariyal Patrika*, **29**(2): 16-19 (In Hindi).
- Anithakumari P. 2018. E kalpa- A mobile App to know about coconut and to inform on field problems. *Indian Naleekera Journal*, **9** (11): 6-9.
- Anithakumari P. and Nimisha Augustine 2018. E kalpa-information at finger tips for farming community. *Kerala Karshakan*, **63** (4): 44-45.
- Anithakumari P., Augustine, N. and Renjith, P.B. 2018. Sreekeerthy - An ideal intercrop in coconut gardens. *Indian Naleekera Journal*, **9** (10): 9-11.
- Anithakumari P., Merin Babu and Indhuja.S. 2018. Inch of land with bunch of enterprises. *LEISA India*. **20** (3): 16-21.
- Anithakumari P., V. Krishnakumar and P. Chowdappa 2019. E kalpa: coconut information on your fingertips. *Indian Cocon. J.*, **61**(9): 14-17.
- Bhat R. and Subramanian, P. 2018. Integrated farming for doubling the income (in Kannada). *Negila Midita*, **4**(10): 16-18.
- Chandrashekar, G. S., Maheswarappa, H. P., Manjunath Hubballi, Siddappa, R. and Gangadhar Narabench. 2018. Importance of *Perena nigronilata* parasitoid in black headed caterpillar affected coconut garden. *Bharatiya Tengu Patrike*, **29**(3): 5. (In Kannada).
- Chandrika Mohan, Josephraj Kumar, A., Merin Babu, Arya Krishna and Krishnakumar, V. 2019. Occurrence of Invasive Bondar's Nesting Whitefly on coconut in Kerala. *Indian Cocon. J.*, **61**(9): 17-18.
- Chandrika Mohan, Josephraj Kumar, A., Singh, L.S. and Alpna Das 2018. New Distributional Record of rugose spiralling whitefly on coconut in Kamrup and Nalbari districts of Assam. *Indian Cocon. J.*, **61** (4): 19-21.
- Chowdappa P., Hedge V. Chandrika Mohan, A. Josephraj Kumar and Merin Babu 2018. Tales of coconut countries and Islands around the world. *Indian Cocon. J.*, **61** (2): 20-23.
- Chowdappa P., Hedge V. Chandrika Mohan, A. Josephraj Kumar and Merin B. 2018. Pest and disease free coconut. *Indian Cocon. J.*, **60** (22): 24-28.
- Jeena Mathew, Haris, A.A., Krishnakumar, V. 2018. Sub soil constraints and their management for sustainable coconut productivity. *Kerala Karshakan (E- Journal)*, 26-30.

- Jeena Mathew, Kalavathy. S. and Induja, S. 2018. Care and nourishment to soil for sustained coconut productivity (*In Tamil*) *Krishijagan*, **2** (8): 40-44.
- Jissy George. 2018. Amla preserve. *Karshakasree*, **24**(9): 53.
- Jissy George. 2018. Banana powder and Fig. *Karshakasree*, **24**(10): 89-90
- Jissy George. 2018. Diet cafe. *Karshakasree*, **24**(5): 105.
- Jissy George. 2018. Incubation centre for Entrepreneurs. *Karshakasree*, **24**(12): 145-146.
- Jissy George. 2018. Jack fruit can be dried and powdered. *Karshakasree*, **24**(6): 104-106.
- Jissy George. 2018. Jack fruit related enterprises. *Karshakasree*, **24**(4): 96-97.
- Jissy George. 2018. Marketable products from Amla. *Karshakasree*, **24**(11): 90.
- Jissy George. 2018. Tasty value added products from nutmeg Rind. *Karshakasree*, **24**(8): 106.
- Jissy George. 2018. Use of food preservatives. *Karshakasree*, **24**(7): 106.
- Jissy George. 2018. Value added products from ginger. *Karshakashree*, **25**(1): 90.
- Jissy George., Anju, K.A., Muralidharan, P. 2019. Income generation from Banana Products. *Kerala Karshakan*, **64**(6). 39-40.
- Jissy George., Muralidharan P., Anju K.A. 2018. Marketable value added products from vegetables. *Krishiyankanam*, **1**(3): 31-32.
- Josephraj Kumar A., Chandrika Mohan and Krishnakumar V. 2018. Taming coconut pests by Green Warriors. *LEISA* (Biological Crop Management), **20**(2):6-9.
- Josephraj Kumar A., Chandrika Mohan, Merin Babu, Arya Krishna and Krishnakumar V. 2019. Bondar's Nesting Whitefly, *Paraleyrodes bondari* Peracchi – Yet another invasive pest recorded on coconut from India. *eKerala Karshakan*, **6**(7): 29-30.
- Josephraj Kumar A., Chandrika Mohan, Thomas R.J. and Krishnakumar V. 2018. Ecological bioengineering in coconut system to deter pests. *Indian Cocon. J.*, **61**(6): 16-18.
- Kalavathi S., Chandrika Mohan and Thamban C. 2018. Technology support for plant protection campaign in coconut. *Indian Cocon. J.*, **61**(2):10-14.
- Karthika K.S., Neenu, S and Hemalatha B. 2018. Sustainable agriculture: Need for Soil testing. *Indian Farmer*, **5**(11): 1281-1285.
- Krishnakumar V. 2018. Orola poyal orukula poyi (Malayalam). *Indian Cocon. J.*, **9** (8): 9-11.
- Lekha G and Muralidharan P. 2018. Grafts for overcoming tomato wilt. *Karshakasree*, **24**(12):133.
- Lekha G., Muralidharan P. 2018. Tomato grafts to resist bacterial wilt. *Karshakasree*, **24**(12), 32.
- Maheswarappa H. P. and Jilu V. S. 2018. Coconut Research in AICRP on Palms. *Bharatiya Tengu Patrike*, **29**(3): 8-12. (*In Kannada*).
- Murali Gopal and Alka Gupta. 2018. Bioinoculant preparation simplified for farmers : 'produce and use' on-farm system. *Indian Cocon. J.*, **61**(8): 24-26.
- Murali Gopal and Alka Gupta. 2018. Why coconut farmers should take up vermicomposting of coconut leaves...? *Indian Cocon. J.*, **61**(7): 9-11.
- Muralidharan P., Ravi S., Rajeev M.S., Jissy George. 2018. Farmer Producer Company for regaining turmeric production in Alappuzha district. *Kalpadhenu*, **38**(3), 42-45.
- Muralidharan P., Ravi S., Rajeev M.S., Sajnanath K. 2018. Integrated Farming. *Kerala Karshakan*, **63**(9): 10-12.
- Muralidharan P., Sajnanath K. 2018. Nutrient mixture - Sampoorana. *Kerala Karshakan*, **63**(14), 41.
- Muralikrishna H. 2018. A bit of information for those who in search of seedlings. 5th July, 2018. <http://www.surahonne.com/?p=20237> (*In Kannada*).
- Muralikrishna H. 2018. Biting menace, trembling owner. 31st May, 2018, <http://www.surahonne.com/?p=19896> (*In Kannada*).
- Muralikrishna H. 2018. Importance of Bordeaux mixture. 19th July 2018 <http://www.surahonne.com/?p=20368> (*In Kannada*).
- Muralikrishna H. 2018. Importance of Bordeaux mixture. *Karaval Daily*, 23rd July, 2018, p 2. (*In Kannada*).
- Muralikrishna H. 2019. Arecanut tender nut dropping. *Karaval Daily* 2nd March, 2019, p 2. (*In Kannada*).
- Nath J.C., Sumitha S. and Maheswarappa H. P. 2018. Black pepper- a promising intercrop in coconut garden of Assam. *Indian Cocon. J.*, **61**(8): 27-28.



- Nihad K. 2018. Heliconia: A companion crop for coconut (In Malayalam). *Krishijaganan*, **2**(9): 36-39.
- Nihad K., Krishnakumar V. and Haris A. A. 2018. Marigold in coconut groves: A season oriented approach for income maximization. *Kerala Karshakan*, **6**(3): 19-21.
- Niral V., Sudha R. and Chowdappa P. 2018. Tender coconut: Importance and suitable varieties (in Tamil). *Valarum Velanmai*, **9**(12):14-20.
- Rajesh M.K., Thomas R.J., Samsudeen K., Vijayan J. and Muralikrishnan K.S. 2018. Towards establishing a molecular marker based accreditation laboratory for coconut hybrids. *Indian Cocon. J.*, **59** (6): 12-13.
- Rani S., Maheswarappa H.P. and Sumitha S. 2018. Coconut + Cocoa+ Nutmeg cropping system at the foot hills of Western Ghats - Success story. *Indian Cocon. J.*, **61**(6): 14-15.
- Ravi S, and Muralidharan P. 2018. Fodder cowpea cultivation for dairy animals. *Karshakasree*, **24**(12):32.
- Ravi S., Muralidharan P. 2018. CO(FS)8 cowpea: A good leguminous fodder grass for livestock.. *Karshakasree*, **24**(12): 133.
- Ravi S., Muralidharan P. 2018. Kusum oil (*Puvethenna*) to control external parasite in livestock. *Karshakasree*, **24**(9): 68-69.
- Ravi S., Rajeev M.S., Muralidharan P.( 2018). Sorghum CO (FS) 29: New variety fodder grass suitable to Kerala climatic condition. *Karshakasree* (Malayalam), **24**(4): 50.
- Sajnanath K., Muralidharan P. 2018. Organic manure from bio-waste. *Krishijaganan*, **2**(11): 50-51.
- Samsudeen K. and Thamban C. 2019. Farm conservation and utilization of coconut diversity, *Indian Cocon. J.*, **61** (10) 5-10.
- Shareefa M., Josephraj Kumar A. and Thomas R. J. 2018. Nursery management of dwarf varieties of coconut *Agriculture World*, **4** (4): 52-55.
- Shareefa M., Thomas R.J. and Josephraj Kumar A. 2018. Tales of coconut counties and islands around the world. *Indian Cocon. J.*, **61** (2): 20-23.
- Shareefa M., Thomas R.J., and Josephraj Kumar A. 2018. Tales of coconut counties and islands around the world (In Malayalam). *Indian Naliker Journal*, **9** (7): 19-21.
- Shareefa M., Thomas R.J., and Josephraj Kumar A. 2018. Tales of coconut counties and islands around the world. *Cocoinfo International*, **25** (1): 37-40.
- Shivaji Hausrao Thube, Pandian R.T.P., Apshara S.E. and Saneera E.K. 2018. *Conogethes punctiferalis* Guenee- A devastating pest of cocoa. *The Cashew and Cocoa Journal*, **3**: 9-11.
- Sivakumar T. 2018. Itha karshakarkkum padasala. *Krishijaganan*, **2**(9): 42-44.
- Sivakumar T. 2018. Maanium Manushyanum sheemakonna. *Karshakan*, **2**(9): 42-44.
- Sivakumar T. 2018. Management of stem fly in vegetable cowpea. *Kerala Karshakan*, **63**(9): 64-65.
- Sivakumar T. 2018. Morris sirum nellile shalabhangalum. *Karshakan*, **26** (8): 32-33.
- Subramaniam P., Josephraj Kumar A. and Chowdappa P. 2018. Impact of the gaja cyclone on coconut in Tamil Nadu. *Indian Cocon. J.*, **61**(8): 6-10.
- Subramaniam A., Maheswarappa H. P. and Sivakumar V. 2018. San Ramon, high copra yielding coconut variety of Western Ghats of Tamil Nadu. *Indian Cocon. J.*, **61**(8): 29-30.
- Sunayana S., Devilekshmi S., Shareefa M. And Thomas R.J. 2018. Project for production of coconut seedlings (In Malayalam). *Kerala Karshakan*, 50-51.
- Thamban C. 2018. Jalajeeranathinte anantha sadhyathakal (in Malayalam). In: Rajatham-Silver Jubilee Souvenir of Decentralised planning. Kerala Institute of Local Administration (KILA), Thrissur and Kasaragod District Planning Committee. pp: 39-52
- Thamban C. 2018. Susthira kera vikasanam-Sadhyathakalum sameepanangalum. *Indian Naliker Journal*, **9** (8): 12-17
- Thamban C. and Jayasekhar S. 2018. Evolving a sustainable coconut sector in Kerala: prospects and perspectives. *Indian Cocon. J.*, **61**(5):25-29
- Thamban C. and Jesmi Vijayan. 2018. Coconut farming can be remunerative-Kerakesari K.T.Francis. *Indian Cocon. J.*, **61**(7):17-19.
- Thamban C. and Jesmi Vijayan. 2018. Ezhupathiyarilum thengu kayattam Ammadinte arogyarahasyam. *Indian Naliker Journal*, **9** (8): 20
- Thamban C., Chandrika Mohan., Jesmi Vijayan. and Ravindran, P. 2018. Naliker vilam samrakshanam karyakshamamakkan pankalitha vijnana vyapana padhathi. *Indian Naliker Journal*, **9** (10): 5-6.

- Thamban C., Mathew, A. C., Subramanian, P. and Jayasekhar, S. 2018. Functional linkages and stakeholder interface for improved performance and sustained use of microirrigation technology in coconut farming. *Indian Cocon. J.*, **61**(7):6-8
- Thamban C., Subramanian, P. and Jayasekhar, S. 2018. Pralayabhathitha pradeshangalile thengin thottangalude paripalanam. *Indian Naliker Journal*, **9** (10): 34
- Thamban C., Subramanian, P. and Jayasekhar, S. 2018. Management of coconut garden during rainy season. *Indian Cocon. J.*, **61**(3):4-8
- Thava Prakasa Pandian, R., Shivaji Hausrao Thube, Chaithra, M. and Elain Apshara, S. 2018. *Phytophthora*- A menace in monsoon to cocoa. *The Cashew and Cocoa Journal*, **3**: 29-31.
- Thava Prakasa Pandian, R., Shivaji Hausrao Thube, Elain Apshara, S. and Najeeb Naduthodi. 2018. Bordeaux mixture- An universal recipe for *Phytophthora* management. *The Cashew and Cocoa Journal*, **3**: 25-28.
- Thomas, R.J., Haris, A.A. and Shareefa, M. 2018. Scientific management of young coconut palms (*In Tamil*) *Krishi Jagaran*, **2** (6): 52-58.

### Technical bulletin

- Apshara S.E., Purandhara C., Sandhesh M and Deppashri, Y. 2018. *Cocoa to Chocolate (Kannada)*. Technical bulletin No. 140, CPCRI, Kasaragod and DCCD, Kochi, 13 p.
- Apshara S.E., Shivaji Hausrao Thube, Thava Prakasa Pandian, R., Najeeb Naduthodi and Suchithra, M. 2018. *Cocoa Guide*. Technical bulletin no.134, CPCRI, Kasaragod and DCCD, Kochi, 53 p.
- Apshara S.E., Venkatesh Hubballi, N. and Alpana Das 2018. *Calendar for Cocoa- Assamese (Cocoa Khetir Mahili Panji)*. Technical bulletin 130, CPCRI, Kasaragod. 30 p.
- Nagaraja N.R., and V. Niral. 2019. Thengina sudharitha thaligalu mattu sankaranagalu (Kannada). Technical bulletin No. 141. ICAR-CPCRI, Kasaragod, Kerala. 34 pp.
- Samsudeen K., V. Niral, Ganesh N. Khadke, M.K. Rajesh. 2019. CPCRI Research Centre, Kidu – Conserving genetic resources for livelihood security. ICAR-CPCRI, Kasaragod, India. 12p.
- Subramanian P., Thamban C., Vinayaka Hegde, Hebbar K.B., Bhat R., Krishnakumar V, Niral V., and Josephraj Kumar A. 2018. Coconut, Technical Bulletin No. 133, ICAR-CPCRI, Kasaragod, 56 p.

### Extension folder

- CPCRI. 2018. Pest and disease management in coconut – multicolor handout in *Malayalam*.
- Farmer participatory decentralized production of coconut planting material. Extension pamphlet No. 266. ICAR-CPCRI, Kasaragod, India in collaboration with Department of Agriculture Development and Farmers' welfare, Govt. of Kerala.
- Farmer participatory decentralized production of coconut planting material. Extension pamphlet No. 267. (in Malayalam) ICAR-CPCRI, Kasaragod, India in collaboration with Department of Agriculture Development and Farmers' welfare, Govt. of Kerala.
- Kirshnakumar V., Anithakumari P., Josephraj Kumar A., Shareefa M. and Indhuja S. 2018. *Amma Thengu programme*, a farmer participatory intervention of *Mera Gaon Mera Gaurav*.
- Rajkumar, Jaganathan D., Shivaji Thube, Chandrika Mohan, Josephraj Kumar A., Leena S. and Vinayaka Hegde 2018. Entomopathogenic nematode (EPN) for the management of root grub in arecanut. Extension handout, ICAR- CPCRI, Kasaragod. p1-2.
- Rajkumar, Jaganathan D., Chandrika Mohan, Leena S., Josephraj Kumar A., Vinayaka Hegde and Radhakrishnan V. 2018. *Mitra nimavirakalilude kavungile verutheeni puzhukkale niyanthrikkam* (in Malayalam). Extension folder No. 265, ICAR - CPCRI, Kasaragod. p6.
- Rajkumar, Jaganathan D., Shivaji Thube, Chandrika Mohan, Vinayaka Hegde and Surekha 2018. *Bearuhulagalab badhaegae janthuhulu* (EPN) (in Kannada). Extension folder No. 264, ICAR - CPCRI, Kasaragod.
- Shareefa M., Indhuja S., Josephraj Kumar A. and Anithakumari P. 2018. Mother palm and best coconut seedlings (*Amma thengum Thaikalum*). Extension Folder.

## Book

- Chowdappa, P., Chandrika Mohan and Josephraj Kumar, A. 2018. *Pests of Plantation Crops*, Daya Publishing House, New Delhi, 256 p.
- Chowdappa P., Hebbar K.B., Ramesh S.V. 2018. ICAR-CPCRI. Proceedings of the workshop on Arecanut and Human Health 24-25 July, 2018. ICAR-CPCRI, Kasaragod, 12p.
- Hebbar K.B., Ramesh S.V. 2018. Abstracts: An interactive workshop on Arecanut and Human Health, 24-25 July, 2018. ICAR-CPCRI, Kasaragod, 64p.
- Nagaraja, N. R., Niral, V. and Chowdappa, P. 2018. Compendium of abstracts. Workshop on Breeding Strategies in Plantation Crops. ICAR-CPCRI, Regional Station, Vittal. 27<sup>th</sup> April 2018. 19 p.
- Nampoothiri, K.U.K, Krishnakumar, V., Thampan, P.K and Achuthan Nair, M.(2018). The coconut palm (*Cocos nucifera* L.). Research and Development Perspectives. Springer Nature Singapore Pte.Ltd 834p.
- Nihad K., Anes K.M., Josephraj Kumar A. and Krishnakumar V. 2018. Countering Plastic Pollution through Coconut. *Proceedings of One-day Seminar on Boost up Coconut to Beat out Plastics*. ICAR-CPCRI, Regional Station, Kayamkulam, 44p.

## Book chapter

- Anitha Karun. 2018. Strengthening the distribution and the safe movement of germplasm - Chapter 3. Where we need to be to secure diversity and promote use. *In: A Global Strategy for the Conservation and Use of Coconut Genetic Resources 2018-2028*, R. Bourdeix & A. Prades (Eds.). Bioversity International, Montpellier, France. pp.152-155.
- Anitha Karun and Haeng-hoon, K. 2018. Transfer of germplasm via embryo culture and pollen - Chapter 3. Where we need to be to secure diversity and promote use. *In: A Global Strategy for the Conservation and Use of Coconut Genetic Resources 2018-2028*, R. Bourdeix & A. Prades (Eds.). Bioversity International, Montpellier, France. pp.154.
- Anithakumari P. and Remya L. 2019. Database of FFP participant farmers. Published by Director, ICAR CPCRI, January 2019. pp.40.
- Bhat R., Karthika K.S. and Selvamani V. 2018. Role of soil testing in sustainable agriculture, *In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'*, ICAR-CPCRI, Kasaragod. (Eds.) Selvamani, V. and Neenu, S. pp.1-5.
- Bhat R., Selvamani V. and Karthika K.S. 2018. Importance of soil test based fertilizer recommendation for arecanut and cocoa, *In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'*, ICAR-CPCRI, Kasaragod. (Eds.)Selvamani, V. and Neenu, S. pp.50-56.
- Bhat R., Subramanian P., Selvamani V. and Neenu S. 2018. Nutrient management in coconut based farming system – Concept and practices. *In: Training Manual on Coconut Based Integrated Farming System* (Eds. Ravi Bhat and P. Subramanian). ICAR-CPCRI, Kasaragod. pp. 36-55.
- Chandrika Mohan, Josephraj Kumar A. and Chowdappa P. 2018. Coconut *In: Pests of Plantation Crops*, (Eds.) P. Chowdappa, Chandrika Mohan and A. Josephraj Kumar, Daya Publishing House, New Delhi, pp 1-54.
- Chowdappa P. 2018. Reducing the crop losses through advanced plant protection technologies. *48<sup>th</sup> APCC Cocotech Handbook*. p 21.
- Chowdappa P., Chandrika Mohan and Josephraj Kumar A. 2018. *Pests of Plantation Crops*, Daya Publishing House, New Delhi, 256 p.
- Cristeta A Cueto, Vinayaka Hegde, Fabian Pilet 2018 Safe movement of germplasm. Chapter 2. Where we are today *In: A global strategy for the conservation and use of coconut genetic resources, 2018-2028*. Bourdeix Roland (ed.), Prades Alexia (ed.). Montpellier: Biodiversity International, pp. 116-117. ISBN 978-92-9043-984-4.
- Dollet M., Karun A., and Arachchi V.R.M.V. 2018. Disease indexing and quarantine centres - Chapter 3. Where we need to be to secure diversity and promote use. *In: A Global Strategy for the Conservation and Use of Coconut Genetic*

- Resources 2018-2028, R. Bourdeix & A. Prades (Eds.). Bioversity International, Montpellier, France. pp. 154-155.
- George V. Thomas, Krishnakumar, V. Dhanapal, R. and Srinivasa Reddy, D.V. (2018). "Agro management practices for sustainable coconut production", In: "The Coconut Palm (*Cocos nucifera* L.) - Research and Development Perspectives": Chief Editor-KUK Nampoothiri, Editors-V.Krishnakumar, M.Achuthan Nair and P.K.Thampan, M/s Springer India. pp:227-322.
- Haris A.A., Nihad K. and Jeena Mathew. 2018. Climate Change and Soil Pollution. In: *Soil Pollution management for sustainable crop production systems*. ICAR-CPCRI, Regional Station, Kayamkulam. pp 47-53.
- Hebbar K.B., Subramanian P., Mathew A.C., Ramesh S.V., Abhin S., Karun A. (2019). Impact of climate change on coconut, arecanut, cocoa and adaptation strategies. In. PLACROSYM XXIII-Souvenir (Eds. Suresh Kumar et al) 23<sup>rd</sup> Biennial symposium on Plantation Crops, 6-8<sup>th</sup> Mar 2019, Central Coffee Research Institute, Coffee Research Station (Post) 577 117, Chikkamagaluru, Karnataka. pp 16-21.
- Indhuja, S. and Jeena M. 2018. Recent microbiological advances for combating soil pollution. In: *Soil pollution management for sustainable crop production systems*. ICAR-CPCRI, Regional Station, Kayamkulam. pp 110 -117.
- Iyer R., Gunasekharan M. and Hegde V. 2018. Coconut: Maladies and Remedies In: Nampoothiri, K.U.K. et al. (Eds.) *The Coconut Palm (Cocos nucifera L.)- Research and Development Perspectives* ©Springer Nature Singapore Pte Ltd. Pages: 489-518.
- Jeena M., Haris A.A., Krishnakumar V., Bhat R. and Anilkumar K.S. 2018. Compendium on '*Soil pollution management for sustainable crop production systems*', ICAR-CPCRI, Regional Station, Kayamkulam, 121p.
- Josephraj Kumar A., Rajesh M.K. and Chowdappa P. 2018. Insect neuropeptides and applications in pest management. In: *Pests of Plantation Crops*, (Eds.) P. Chowdappa, Chandrika Mohan and A. Josephraj Kumar, Daya Publishing House, New Delhi, pp 221-231.
- Karthika K.S. and Neenu S. 2018. Soil and leaf sampling procedure in arecanut and cocoa. In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'. (Eds. Selvamani V. and Neenu S.). ICAR-CPCRI, Kasaragod. pp.11-13.
- Karthika K.S. and Selvamani V. 2018. Laboratory safety measures, In: Training manual on 'Hands on training in soil testing and fertilizer recommendations', ICAR-CPCRI, Kasaragod. (Eds.) Selvamani, V. and Neenu, S. pp.106-107.
- Khan H.H. and Krishnakumar V. 2018. "Soil Productivity and Nutrition", In: *The Coconut Palm (Cocos nucifera L.) - Research and Development Perspectives*: Chief Editor-KUK Nampoothiri, Editors-V. Krishnakumar, M.Achuthan Nair and P.K.Thampan, M/s Springer India, pp:323-442.
- Konan J.L., Sileye T., and Niral V. 2018. Diversification of coconut genebanks - Chapter 3. Where we need to be to secure diversity and promote use. In: *A Global Strategy for the Conservation and Use of Coconut Genetic Resources 2018-2028*, R. Bourdeix & A. Prades (Eds.). Bioversity International, Montpellier, France. pp. 122-123.
- Konan J.L., Sileye T., and Niral V. 2018. Diversification of coconut genebanks - Chapter 3. Where we need to be to secure diversity and promote use. In: *A Global Strategy for the Conservation and Use of Coconut Genetic Resources 2018-2028*, R. Bourdeix and A. Prades (Eds.). Bioversity International, Montpellier, France. pp. 122-123.
- Manikantan M.R., Shameena Beegum P.P., Pandiselvam R. and Hebbar K.B. 2018. Entrepreneurship Oriented Processing and Value Addition Technologies of Coconut. In: *Entrepreneurship and Skill Development in Horticultural Processing*, 237-268, (Eds. Sudheer, K.P. and Indira, V.), New India Publishing Agency, New Delhi. pp. 432.
- Neenu S. and Bhat R. 2018. Integrated nutrient management for combating soil pollution. In: *Soil Pollution Management for Sustainable Crop Production Systems* (Eds. Jeena Mathew, A. Abdul Haris, V. Krishnakumar, Ravi Bhat, K. S. Anilkumar). ICAR-CPCRI, Kasaragod. pp. 55-59.
- Neenu S. and Karthika K.S. 2018. Plant Nutrition. In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'. (Eds. Selvamani V. and Neenu S.). ICAR-CPCRI, Kasaragod. pp. 108-111.
- Neenu S. and Selvamani V. 2018. Determination of soil physical properties. In: *A hands on training in "Soil Testing and Fertilizer Recommendation*. ICAR-CPCRI, Kasaragod. (Eds.) Selvamani, V. and Neenu, S. pp.101-105.



- Neenu S., Priya U.K. and Selvamani V. 2018. Analytical protocol for exchangeable Ca and Mg in soil (Versenate method). *In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'*. (Eds. Selvamani V. and Neenu S.). ICAR-CPCRI, Kasaragod. pp.31-37.
- Nihad K. and Haris A.A. 2018. Cropping Systems: An adaptive strategy for mitigating soil pollution. *In: Soil Pollution management for sustainable crop production systems*. ICAR-CPCRI, Regional Station, Kayamkulam. pp. 69-73.
- Nihad K. Haris A.A., Thomas R.J. and Krishnakumar V. 2018. Training manual for Skilled Support Staff, ICAR-CPCRI, Regional Station, Kayamkulam. 53p.
- Rajkumar and Josephraj Kumar A. 2018. Entomopathogenic nematodes in pest management *In: Pests of Plantation Crops*, (Eds.) P. Chowdappa, Chandrika Mohan and A. Josephraj Kumar, Daya Publishing House, New Delhi, pp 233-250.
- Rajkumar and Sujithra, M. 2018. Biosuppression of coconut pests with entomopathogenic nematodes. *In: Training manual on Integrated Pest and Disease management in coconut* (Eds. Rajkumar, Pratibha V. H. and Sujithra M.). ICAR - CPCRI, Kasaragod. p. 46 - 55.
- Ramos SRR, Niral, V. & Konan, J.L. 2018. 2.3.5 *Ex situ* collection management - Chapter 2. Where we are today. *In: A Global Strategy for the Conservation and Use of Coconut Genetic Resources 2018-2028*, R. Bourdeix & A. Prades (Eds.). Bioversity International, Montpellier, France. pp. 63-64.
- Rivera R.L., Allou K. and Niral V. 2018. 3.2.1 Crucial importance of field genebanks - Chapter 3. Where we need to be to secure diversity and promote use. *In: A Global Strategy for the Conservation and Use of Coconut Genetic Resources 2018-2028*, R. Bourdeix & A. Prades (Eds.). Bioversity International, Montpellier, France. pp. 122.
- Sairam, V and Jayasekhar, S. 2018. World coconut economy: Sectoral issues, markets and trade. *In: The coconut palm (Cocos nucifera L.)-Research and development perspectives* (Eds. Nampoothiri, K.U.K, Krishnakumar, V., Thampan, P.K., Achuthan Nair, M.). Springer publication, 801-819.
- Selvamani V. and Neenu S. 2018. Plant nutrient analysis. *In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'*. (Eds. Selvamani V. and Neenu S.). ICAR-CPCRI, Kasaragod. pp. 37-42.
- Selvamani V. and Subramanian P. 2018. Role of integrated nutrient management in coconut based cropping system for sustainable productivity, *In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'*, ICAR-CPCRI, Kasaragod. (Eds.) Selvamani V. and Neenu S. pp.68-76.
- Selvamani V., Neenu S. and Karthika K.S. 2018. Soil and leaf sample collection from coconut based cropping system for analysis, *In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'*, ICAR-CPCRI, Kasaragod. (Eds.)Selvamani, V. and Neenu, S. pp.6-10.
- Selvamani V. and Neenu S. 2018. Plant nutrient analysis, *In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'*, ICAR-CPCRI, Kasaragod. (Eds.) Selvamani, V. and Neenu, S. pp.31-36.
- Solomon J.J., Hegde V., Merin B. and Geetha L. 2018. Phytoplasmal Diseases *In: Nampoothiri, K.U.K. et al. (Eds.) The Coconut Palm (Cocos nucifera L.)-Research and Development Perspectives*, Springer Nature Singapore Pte Ltd. pp. 519-556.
- Subramanian P. 2018. Climate resilient agricultural practices for sustaining coconut yield. *48<sup>th</sup> APCC Cocotech Handbook*. p. 27.
- Subramanian P., Thomas G.V., Krishnakumar V., Alka Gupta, Murali Gopal and Selvamani V. 2018. Organic farming in coconut, *In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'*, ICAR-CPCRI, Kasaragod. (Eds.)Selvamani, V. and Neenu, S. pp.77-95.
- Sujithra M. and Rajkumar 2018. Climate change and pest outbreaks in Palms. *In, Training manual on Integrated Pest and Disease management in coconut* (Eds. Rajkumar, Pratibha, V. H. and Sujithra, M.). ICAR - CPCRI, Kasaragod. p. 105 - 108.
- Sujithra M. and Rajkumar 2018. Mass production of Entomophaga and entomopathogens invading coconut pests. *In: Training manual on Integrated Pest and Disease management in coconut* (Eds. Rajkumar, Pratibha V. H. and Sujithra M.). ICAR - CPCRI, Kasaragod. p. 76 – 81.
- Thomas R.J., Shareefa M. and Nair R.V. 2019. Varietal resistance in coconut. *In: The Coconut Palm (Cocos nucifera L.) - Research and Development Perspectives* (eds. Nampoothiri, K.U.K., Krishnakumar, V., Thampan, P.K. and Nair, M.A.), Springer International Publishing AG Switzerland: 157-190.

## Training Manual

- Anes K.M., Merin B., Josephraj Kumar A., Chandrika Mohan and Krishnakumar, V. 2018. Training Manual on *Advances in Coconut Health Management*, ICAR-CPCRI, Regional Station, Kayamkulam, 45 p.
- Bhat R. and Subramanian P. (Editors). 2018. Training Manual on Coconut Based Integrated Farming System (MANAGE Off-Campus Training Programme). ICAR-CPCRI, Kasaragod. 139 p.
- Bhat R., Karthika K.S. and Selvamani V. 2018. Role of soil testing in sustainable agriculture, In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'. (Eds. Selvamani, V. and Neenu, S.). pp.1-5. ICAR-CPCRI, Kasaragod.
- Bhat R., Selvamani V. and Jeena M. 2018. Nutrition and Palm Health. In: Training Manual on Integrated Pests and Disease Management in Coconut (Eds. Rajkumar, V. H. Prathibha and M. Sujithra). pp. 5-16.
- Bhat R., Selvamani V. and Karthika K.S. 2018. Importance of soil test based fertilizer recommendation for arecanut and cocoa, In: Training manual on 'Hands on training in soil testing and fertilizer recommendations'. (Eds. Selvamani, V. and Neenu, S.) pp.50-56. ICAR-CPCRI, Kasaragod.
- Bhat R., Subramanian P., Selvamani V. and Neenu S. 2018. Nutrient management in coconut based farming system – Concept and practices. In: Training Manual on Coconut Based Integrated Farming System (Eds. Ravi Bhat and P. Subramanian). pp. 36-55. ICAR-CPCRI, Kasaragod.
- Bhat R. 2018. Agronomic Practices for Enhancing Kalparasa Yield. In: Training manual on Kalprasa - Tapping and Value Addition. (Eds. M. R. Manikantan, R. Pandiselvam and P. P. Shameena Beegum). pp. 39-45. ICAR-CPCRI, Kasaragod.
- Chandrika Mohan, Josephraj Kumar A. and Anes K.M. 2018. Biological Pest Suppression and Good Agricultural Practices in Coconut. In: *MANAGE Off-campus Training Manual on Integrated Pest and Disease Management in Coconut*. (Eds.) Rajkumar, Prathibha, V.H. and Sujithra, M., 24-28<sup>th</sup> April, 2018 pp. 29-39.
- Chandrika Mohan, Josephraj Kumar A., Anes K.M., Merin B., and Krishnakumar V. 2018. Training Manual on *Advances in Palm Health Management*, ICAR-CPCRI, Regional Station, Kayamkulam, p 30.
- Haris A.A., Nihad K., Thomas R.J. and Krishnakumar V. 2018. Training manual on 'Orientation Training Programme for Skilled Support Staff'. ICAR-CPCRI, Regional Station, Kayamkulam. 40p.
- Indhuja S., 2018. Bioresources management in coconut plantations (*In Tamil*) In: *Training Manual on 'Integrated Crop management in Coconut plantations'* (Eds. Indhuja S., Josephraj Kumar A, P. Subramanian, Krishnakumar, V.) 5<sup>th</sup>-7<sup>th</sup> Sept 2018. pp 33-37.
- Indhuja S., Josephraj Kumar A., Subramanian P. and Krishnakumar V. 2018. Training Manual on *Integrated Crop Management in Coconut Plantations* (in Tamil) ICAR-CPCRI, Regional Station, Kayamkulam, 71 p.
- Josephraj Kumar A., Chandrika Mohan and Anes K.M. 2018. Innovative Approaches in Pest Management. In: *MANAGE Off-campus Training Manual on Integrated Pest and Disease Management in Coconut*. (Eds.) Rajkumar, Prathibha, V.H. and Sujithra, M., 24-28<sup>th</sup> April, 2018, pp. 56-61.
- Josephraj Kumar A., Chandrika Mohan, Merin B. and Anes K.M. 2018. Biodiversity and Biosecurity Risks in Coconut. In: *MANAGE Off-campus Training Manual on Integrated Pest and Disease Management in Coconut*. (Eds.) Rajkumar, Prathibha, V.H. and Sujithra, M., 24-28<sup>th</sup> April, 2018, pp. 67-75.
- Josephraj Kumar A., Chandrika Mohan, Merin B., Anes K.M. and Thomas R.J. 2018. Pest and Disease Management in Coconut Nursery. In: *MANAGE Off-campus Training Manual on Integrated Pest and Disease Management in Coconut*. (Eds.) Rajkumar, Prathibha, V.H. and Sujithra, M., 24-28<sup>th</sup> April, 2018, pp. 82-91.
- Merin B., Daliyamol, Josephraj Kumar A. and Hegde V. 2018. Overview of Phytoplasmal Diseases of Coconut: Diagnosis and Management. In: *MANAGE Off-campus Training Manual on Integrated Pest and Disease Management in Coconut*. (Eds.) Rajkumar, Prathibha, V.H. and Sujithra, M., April 24-28, 2018, 24-28<sup>th</sup> April, 2018, pp 62-66.
- Selvamani V. and Neenu S. 2018. *Training Manual on Hands on Training in Soil Testing and Fertilizer Recommendations*, ICAR-CPCRI, Kasaragod, 111p.
- Subramanian P., Haris A.A., Nihad K. 2018. Integrated crop management in coconut plantations (*In Tamil*). In: *Training Manual on Integrated Crop management*

in *Coconut plantations* (Eds. Indhuja S., Josephraj Kumar A, P. Subramanian, Krishnakumar, V.) 5<sup>th</sup>-7<sup>th</sup> Sept 2018. pp. 18-23.

Thomas R.J. and Shareefa M. 2018. Containing palm pests and diseases through host plant resistance *In: MANAGE Off-campus Training Manual on Integrated Pest and Disease Management in Coconut*. (Eds.)

Rajkumar, Prathibha, V.H. and Sujithra, M., 24-28<sup>th</sup> April, 2018, pp. 92-101

Thomas R.J. and Shareefa M. 2018. Manual on "Hybridization techniques and plant health management in coconut" (*In Malayalam*) ICAR-CPCRI, Regional Station, Kayamkulam, Kerala. 32 p.

## E-publication

Haris A.A., Nihad K., Thomas R.J. and Krishnakumar V. 2018. *Orientation Training Programme for Skilled Support Staff (E-Manual)*. ICAR-CPCRI, Regional Station, Kayamkulam. 40 p.

Muralidharan P. and Rajeev M. S. 2018. Mentoring farmer producer companies by Krishi Vigyan Kendras, AESA Good Practice Notes - 24, September 2018. <http://www.aesa-gfras.net/admin/kcfinder/upload/files/AESA%20GP%2024.pdf>

Nihad K., Anes K.M., Josephraj Kumar A. and Krishnakumar V. 2018. Countering Plastic Pollution

through coconut. *Proceedings of Seminar 'Boost up Coconut to Beat out Plastics'(E-Manual)*. ICAR-CPCRI, Regional Station, Kayamkulam. 44 p.

Nihad K., Haris A.A., Thomas R.J. and Krishnakumar V. 2018. E-manual 'Training programme for Skilled Support Staff', ICAR-CPCRI, Regional Station, Kayamkulam. 53 p.

Rajkumar, Prathibha V. H. and Sujithra M. 2018. Plant health management in coconut. Training E - manual for state agricultural officials of Malappuram, Kerala. 40 p.

## Interactive DVD

Regi J. Thomas and Shareefa M. 2018. Selection of dwarf parental palms and hybridization techniques in coconut. Chief Executive Producer: P. Chowdappa, Concept, Programme Design: Programme co-ordination: Krishnakumar, V., Kalavathi, S., Merin Babu, Udayabhanu, K.P., Sunikumar, P.K.,

Mohammed, H., Anandha Narayanan, Rajesh, K.S., Manoj, K. ICAR-CPCRI, Kasaragod.

Josephraj Kumar A., Chandrika Mohan, Asokan E.R. and Sajjan M. 2019. Bio-suppression of rugose spiralling whitefly. Video produced by Dr. Anitha Karun and Dr. V. Krishnakumar, ICAR-CPCRI 7 min.