Coconut Technology Day celebrated at AICRP centre Ratnagiri

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Coconut sector in Maharashtra

Coconut is a major irrigated horticultural crop of Konkan region of Maharashtra. The agro-climatic conditions are very much congenial for its cultivation in Konkan and Western Maharashtra. Maharashtra Government has launched an ambitious Employment Guarantee Scheme (EGS) for fruit crop cultivation in 1990, because of which the total area has been increased to 43320 ha with productivity of 4885 nuts/ha. Maharashtra occupies the 7th place in area and the 9th place in production of coconut with the annual production of 209.87 million nuts. Over a period of 33 years from 1986-87 to 2020-21, the area under coconut has increased from 6900 ha to 43320 ha and production from 76.32 million nuts to 209.87 million nuts. The maximum area under coconut is in Sindhudurg district followed by Ratnagiri.

District wise Area, Production and Productivity of Coconut in Maharashtra State

Sr. No	Districts	Area (ha)	Production (Lakh nuts)	Productivity (Nuts/ha)
1	Sindhudurg	17929	1457.0	4845.0
2	Ratnagiri	5556.0	406.0	
3	Raigad	2248	107.0	
4	Thane	1161.7	8.0	
5	Palghar	1473.9	16.0	
6	Other	14852	96.0	
7	Total	43320	2098	

(Source;Joint Director of Agriculture report.2019)

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Celebration of one day coconut technology day

Modified ground pollination for hybrid coconut production

Regional Coconut Research Station, Bhatye, in Ratnagiri district of Dr. Balasheb Sawant Konkan Krishi Vidyapeeth, Dapoli is catering to the needs of coconut growers in this region through the network of All India Coordinated Research Project on Palm since its establishment in the year 1955.

This research station has contributed to develop one hybrid variety and seven varieties of coconut which are popularly planted by coconut growers in this region. The technology of coconut developed at this station is helpful for coconut growers. The coconut based multistoried cropping system studied under AICRP on palms and recommended by Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli and developed at this station is popular as "Lakhi Baug" among the farmers which generates income of Rs. One lakh from one acre per year.

Repercussions of Nisarga Cyclone

Severe Cyclonic Storm Nisarga was the strongest tropical cyclone to strike the Indian state of Maharashtra since 1891. It was also the first cyclone impact to Mumbai since cyclone phyan of 2009. Nisarga strongly hitted on 3rd June and dissipated on 4th June 2020, making landfall in Maharashtra with winds of 110-120 km/h (70 mph), Though the coconut crop was performing well in Konkan region of Maharashtra the cyclone observed during June. 2020 caused major loss to the coconut estate. The cyclone hit about 3373 ha area loosing young and productive 6-7 lakh coconut trees in the seacoast of Maharashtra.

Challenges

In Maharashtra, the coconut plantation sector is confronted with challenges which is resulting in to abating yield. This down fall needs to be checked and management of garden be improved with standard operating practice and recommended package of practices advocated by the AICRP on palms, Bhatye centre,Ratnagiri. (M.S.)

Mitigation strategies

Our aim for mitigation strategies should be long term and short term planning to achieve fully developed and globally competitive coconut industry to meet the ever growing demand under a changing climate and dwindling natural resources. The marginal and small holding farmers may be trained to mitigate the climate change threats, it is felt necessary to give them training and awareness for economic, efficient and eco-friendly technologies since from planting to end use of coconut. Tracking of challenges in a systematic and holistic way by utilizing the natural resources efficiently can also be done. The key strategies are,

- Raising and supply of quality improved and hybrid seedlings prepared by SAU, DSP farms and registered nursery to nisarg affected farmers and to newly planters.
- Proper planting, after care and soil health management.
- Enhancing the yield with sustainable and recommended package of practice.
- Awareness through mass extension activities like of technological day and melas etc.

Coconut technology day—a way forward

After realising the threats, it was felt that more

Vermicompost preparation -demonstration

attention may be given to this crop to avoid threat from such calamities. faced the farmer community and admistration. The Regional Coconut Research Station, Bhatye Centre, Rastriy Chemicals and Fertilizers, Mumbai and the State Agriculture Department (M.S.) jointly organised a collaborative one day coconut technology day to create awareness and demonstrated coconut technologies among the farmer and coconut growers of Konkan region. Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli through Regional Coconut Research Station, Bhatye one day coconut technology day was celebrated on 27th Jan, 2021. Dr Sanjay Sawant, Hon. Vice Chancellor, Dr. B.S.K.K.V., Dapoli Dr. Parag Haldankar, Director of Research, DBSKKV, Dapoli, Shri. Deelip Zende, Director Inputs and Quality Control from State Agriculture Department, Shri, Madhukar Pacharane, Deputy General Manager, RCF, Pune, Dr. S. B. Kadrekar, Ex. Vice Chancellor, Dr. B.SKKV Dapoli along with Shri. Bal Mane ex. MLA, Ratnagiri attended the programme.

In the opening remarks Shri. Deelip Zende, Director (Agricultural Inputs and quality control) emphasized on the efforts being made by the state agricultural department for the area expansion & marketing of coconut, Hon. Vice Chancellor. Dr. Sawant in his presidential address focused on the need of value addition in coconut as well as proper scientific crop management aspects of coconut palm.

Regional Coconut Research Station, Bhatye organised live demonstration on the following technologies.

1. Coconut tree climbing (FOCT)
2. Virgin coconut oil preparation (VCO)
3. Coconut harvesting through hydraulic machine (HC)
4. Neera production
5. Modified ground pollination technology in coconut (MGPT)
6. High density multispecies cropping system (HDMCS) for konkan region
7. Cinnamon bark harvesting
8. Plant protection management in coconut(INM,IPM,IDM)
9. Vermicompost preparation (VP)
10. Metarizum preparation (MP)

239 farmers from Konlan region were participated in the function. Further, the farmers were given training on new coconut planting technologies, incorporation of green manure legumes in to coconut basin/ interspaces, drainage, manuring and moisture conservation practices, mulching etc.

Most of the farmers were keen and showed interest in VCO preparation & coconut based enterprenship development, as coconut oil and VCO are gaining global importance as a contributing factor for health, nutrient and wellness of human being. Multiple medicinal and nutraceutical properties of coconut were brought to the notice of the coconut growers. This new development in health sector has brought an un precedented increase in the demand of coconut oil.

Coconut products were exhibited at the venue, showcased everything about coconut products and by-products. During this programme the coconut varities developed and recommended by the centre, mode and method of planting, HDMSCS with spices, spice live samples, coconut chips, hydraulic harvester, modified ground pollination kit, neera tapping kit and virgin coconut oil samples were exhibited. The exhibition brought industries, farmers, stakeholders, processors, investors and policy makers together to a common platform.

Plant Protection Technologies

The programme demonstrated various plant

protection technologies for creating awareness among the farmers about coconut pest and disease management.

▶ *Rhinoceros beetle:*

A unit consisting of installation of pheromone traps with application of neem cake and sand (1:1) putting of naphthalene balls, application of botanical cake and making of pits for trapping of grubs of rhinoceros beetle. All the technologies were disseminated with preparation of palm model with treatments. Farmers were very happy to see the palm models.

▶ *Eriophyid mite:*

A live sample was created near the programme which was having eriophyid mite infested nuts. Root feeding technology disseminated by decoration of suitable root, its proper colour solution in plastic bag with rubber band and spraying of sulphur on nuts. The sample palm was self explanatory about mite management.

▶ *Red palm weevil:*

Stem injection with Imidacloprid technology was demonstrated to artificially infected palm having red palm weevil infestation. Identification of symptoms of damage caused by red palm weevil on stem and crown region was the attraction of farmers during rally.

▶ *Rugose spiralling whitefly:*

An invasive pest, rugose spiralling whitefly management technology was demonstrated with live specimen and use of botanicals like neem oil and water spray and also rearing and conservation of Encarsia at field condition. Farmers were very happy to see the live specimen of RSW and bioagents demonstration.

Besides that the bud rot disease management technology, black headed caterpillar management by bioagents with special emphasis on Reduviid bugs, preparation of vermicomposting, harvesting of vermiwash, Indian beekeeping with special emphasis on Trigona beekeeping technologies were demonstrated during farmers rally.

Feedback from farmers

The farmers were happy as they experienced the technological day with the extension principle "Seeing is believing & learning by doing". Most of the farmers pointed out the need and requirement of hybrid coconut seedlings for new coconut planting during forth coming season. Increase in percentage of senile palms is a serious issue in coconut growing garden. A number of gardens are in the process of replanting and rejuvenating. The major constraint in replanting is the unavailability of quality planting materials. The growers focused on the use of mass selection techniques to choose good quality mother palms, seed nuts and seedlings of elite local varieties for the replanting programmes. With increased pressure on land, water and soil nutrients, research should further focus on increasing productivity through development of improved varieties.

Many farmers and coconut growers showed interest to convert the coconut husk and dried leaves in to vermicompost and other fortified material, mannuring. Almost all farmers showed willingness for coconut based cropping system technology with nutmeg, cinnamon and black pepper on top priority.

Literature on INM in coconut based cropping system and plant protection management (IPM) was distributed during the occasion.

Scope for increasing area under coconut cultivation

Small irrigation reservoirs and fresh river water is available for irrigation of coconut in all five districts of Konkan region. Productivity of coconut is high in the Konkan region but this productivity can be increased to about 20,000 nuts/ha with intensive care and management, intercropping and pest control. Product diversification is the need of hour like tender coconut water, coconut powder, coconut charcoal, virgin coconut oil, tender ball copra, coconut chips, coir industry etc. Use of multispecies cropping system to increase yield per unit area of orchards.

Conclusion

Coconut technology day aimed to demonstrate and exhibit the selected technologies used in coconut cultivation to educate farmers about latest research issues, different methods of planting, new hybrids, INM, IPM, IDM and value addition of the coconut products. Such programmes not only convince the farmers about the viability of the technology but also help them in adoption, Such programmes also brings proper feedback. It created not only interest but also confidence among the coconut growers and rural youths. ■