

## **REPORT OF NATIONAL SEMINAR ON “PLANTING MATERIAL PRODUCTION IN SPICES”**

A two day National Seminar on “Planting material production in spices” was organized by Directorate of arecanut and Spices Development (DASD), Kozhikode on 21-22 April 2016 under MIDH. A total of 210 delegates registered and participated in the seminar from various parts of the country, including Scientists and experts from Research institutes and SAUs, representatives from 10 state Agri/Horti Departments, progressive farmers from 5 states and representatives from spice industry. The seminar was conducted in 5 sessions covering different aspects of planting material production in spices.

### **INAUGURAL SESSION**

**21<sup>st</sup> April 2016 (9.30 AM to 11.40 AM)**

In the inaugural session, Dr.Homey Cheriyan , Director, DASD welcomed all the esteemed guests, dignitaries, delegates resource persons and other participants. He informed that DASD, is hosting the National Seminar on Planting Material Production in Spices, to provide a platform to address and discuss recent developments in the planting material production technology in spices and the challenges faced in the production of quality planting material in the spices sector. Dr.R.R. Hanchinal , Chairperson , PPVFRA inaugurated the seminar by lighting the lamp and delivered the inaugural address. Dr. P. Rajendran , Vice Chancellor, Kerala Agricultural University presided over the session and Dr. M. TamilSelvan, Addl Commissioner (Hort), Govt. of India delivered the keynote address. Shri. M.S. Dhakad, IFS , Director of Horticulture , Madhya Pradesh and Dr M. Anandaraj, Former Director, ICAR-Indian Institute of Spices Research, Kozhikode were the guests of honour for inaugural session. Dr John T. Zachariah, Acting Director, ICAR-Indian Institute of Spices Research, Kozhikode delivered the felicitation address.

Four publications from DASD were released during the seminar. They are

1. The Seminar Souvenir ‘Advances in Planting Material Production Technology in Spices’ – a compilation of lead and contributory papers on advanced technologies of planting material Production in spices

2. 'Spices Statistics at a Glance 2016' - a book on Spice Statistics which covers the statistics of various spices produced in the country during the last five years

3. Special Issue of Indian Journal of Arecanut, Spices & Medicinal Plants

4. A book on 'Calendar for Arecanut '(Malayalam) – containing calendar of operations in Arecanut cultivation.

DASD also launched a website 'www.spicenurseries.in' as a one stop solution for providing information on the availability of planting material in spices for the benefit of farming community across the country. As a part of Golden Jubilee Celebration of DASD, the former Directors of the directorate - Dr C.K. George, Mr E. Velappan, Dr K. Sivaraman, Mr M. Remold and Dr M. Tamil Selvan, were honoured during the inaugural session. Dr. Femina, Deputy Director DASD & the convener of the seminar proposed the vote of thanks. The inaugural session ended at 11.40 am with National Anthem.

The 1<sup>st</sup> technical session had presentations and discussions by experts on 'Advances in planting material production of vegetatively propagated spice crops - Black pepper, Ginger, Turmeric, Cardamoms, Garlic, Saffron, Nutmeg, Cinnamon, Tamarind and Camboge. Six lead lectures and 17 poster papers were included the session. Different techniques for planting material production of these crops, important varieties recommended for cultivation and nursery management measures were discussed.

The 2<sup>nd</sup> technical session was on 'Advances in production of quality planting materials in seed propagated spices (seed spices, chillies, clove, allspice, curry leaf). Six lead lectures were presented in the session by experts in the respective crops. Method of seed production in chillies and seed spices, hybrid seed production technology in chilli and seed deterioration in seed spices were discussed in the session.

The 3<sup>rd</sup> technical session dealt with 'success stories and innovations at farmer's level and entrepreneurship'. Eight lead lectures on success stories of farmers and entrepreneurs were presented in the session.

'Quality assurance in planting material production of spices' was the theme for 4<sup>th</sup> technical session. Quarantine measures for exchange of planting materials, standards for certification of planting material and guidelines for accreditation of nurseries were discussed during the session.

In the 5<sup>th</sup> technical session , department officials /representatives from 13 spice growing states/ UTs ( Madhya Pradesh, Rajasthan, Andhra Pradesh, Tripura, Andaman & Nicobar, Maharashtra, Tamil Nadu, Karnataka, Telangana, Kerala, Chhattisgarh, Odisha, West Bengal) presented lead lectures on respective states scenario of planting material production in spices.

*(Detailed programme schedule attached as Annexure 1.)*

## **Recommendations of the seminar**

- 1.** The planting material requirements of all the states are huge and the involvement of state horticulture department in the seed multiplication chain is inevitable to meet the demand for quality seeds/planting material.  
*(Action : State Department of Agriculture/Horticulture to take initiative)*
- 2.** Linkage between Universities State Departments and Research Organisations need to be strengthened for popularisation of latest planting material production techniques.  
*(Action : DASD)*
- 3.** State specific strategy for planting material production has to be developed  
*(Action : State Department of Agriculture/Horticulture)*
- 4.** Annual meeting of Stakeholders may be organised to communicate seed requirement, providing indent and free flow of information.
- 5.** The web portal of Directorate of Arecanut and Spices Development shall serve as a platform for disseminating information pertaining to the particulars of planting material produced at various centers/Institutes/organizations
- 6.** In nurseries, production has to be oriented based on demand
- 7.** Production of large scale planting material in spices through farmers participatory approach (seed village concept) may be encouraged with the technical supervision of qualified officers.
- 8.** Apart from KVKs, SAU's and Research Institutes, we should identify and support private initiatives to produce quality planting material.
- 9.** Accreditation of nurseries should be strongly implemented to regulate the quality of planting material.
- 10.** All spices nurseries established under MIDH/SHM in SAUs & State farms and other private nurseries must be brought under accreditation.

11. Renewal notice may be issued for all accredited nurseries at least 2 months before its expiry.
12. Certification standards for quality planting material may be evolved for all the spices and get notified.
13. Nursery/seed act for each state need to be hastened in cases where similar act is not implemented
14. For import of planting materials, permission may not be dependent on the certificate issued from exporting countries but local expert opinion need to be considered
15. Domestic plant quarantine must be given high priority while moving planting materials across States.  
*(Action : Directorate of Plant Protection, Quarantine & Storage)*
16. Regional plant quarantine offices may be established at more places.  
*(Attention: Directorate of Plant Protection, Quarantine & Storage)*
17. Awareness meetings at different universities/institutes regarding quarantine orders need to be conducted.
18. Protected structures or soil less culture must be encouraged for seed production wherever possible
19. Use of Biocontrol agents as fortification in nursery mixture to reduce the use of chemicals
20. Industries should play a role in campaigning and contract farming for adoption of GAPs to reduce pesticide residue
21. To encourage reduced use of pesticide and to compensate loss on account of pest and disease outbreak spices should also be brought under the purview of crop insurance  
*(Action : Ministry of agriculture & Farmers Welfare)*

- 22.** Issues pertaining to seed deterioration under storage must be researched so that the viability of the seed enhanced for further use.
- 23.** The crop chillies must be considered as a spice for inclusion in research, extension and developmental programmes against present treatment considering it as a vegetable.  
(*Attention: ICAR*)
- 24.** Genetic purity of traditional chilli varieties must be restored and maintained.
- 25.** During nursery production in chillies, insect proof nets are not deployed properly causing early infection of viruses. Hence, right use of net houses may be promoted among the farmers.
- 26.** Hi-tech nursery production technology in chillies which will be provided by ICAR-IIHR, Bengaluru may be promoted among nursery growers and farmers by DASD.  
(*Action : IIHR & DASD*)
- 27.** Technologies developed for black pepper (vertical column method, serpentine layering, ICAR-IISR), nutmeg (patch budding, KAU) , cinnamon (air layering, KAU) and cambodge (soft wood grafting, KAU) shall be notified for Quality Planting material production  
(*Action : Committee on Accreditation*)
- 28.** DNA barcoding protocol and organoleptic methods shall be utilized for the identification of *Cinnamomum zeylanicum*
- 29.** The single-bud multiplication method and pro-tray technology developed for ginger and turmeric shall be popularized through accredited nurseries of Directorate of Arecanut and Spices Development.  
(*Action: DASD*)
- 30.** The etiology and epidemiology of “Bellakedu” disease of ginger shall be investigated.  
(*Action : State Agri Universities, ICAR-IISR*)

- 31.** Rapid clonal multiplication need to be adopted for multiplication of small and large cardamom.  
*(Action: Spices Board)*
- 32.** Mixed planting of cardamom clones shall be adopted for field planting of small and large cardamom.  
*(Action: Spices Board)*
- 33.** There are 40 varieties notified in garlic but only 9 varieties developed by NHRDF are in production chain. Nucleus planting material or released varieties from the source institute may be obtained and included in the seed production chain.  
*(Action : State Agri Universities, State Agri/Horti Departments)*
- 34.** The method for artificial storage of garlic developed by NHRDF shall be popularized.  
*(Action : State Agri Universities, State Agri/Horti Departments)*
- 35.** Package of practices for organic cultivation of garlic shall be developed.  
*(Action : State Agri Universities, NHRDF, ICAR)*
- 36.** Standard propagation techniques already developed by Directorate of Onion and Garlic may be obtained & popularised  
*(Action : State Agri Universities)*
- 37.** Protocol for saffron corm production standardized by SKUAST may be adopted for seed material production.
- 38.** DASD may explore the possibility of funding for saffron corm production.
- 39.** As curry leaf is highly nutritious, it must be promoted in general and particularly in North India.
- 40.** Wherever it is possible root suckers may also be used as planting material for curry leaf along with regular practice of using seed.
- 41.** Organically produced herbal spices may be ensured to be free of pathogenic microbes/allergens and safe for human consumption.

- 42.** Indentation for breeder seeds of any spices varieties must be undertaken by the agencies involved in seed production at annual group meetings of AICRP on Spices and breeders should finalize the recommendations  
*(Attention : State Agri/Horti Departments)*
- 43.** DASD should support the maintenance and purification of extant varieties of spices which are not in cultivation.
- 44.** Awareness about the planting material portal is to be brought out to increase the connectivity  
*(Action : DASD)*
- 45.** A quick ready reckoner for identification of varieties need to be developed for ensuring the genetic purity of the multiplied material. Latest IT tools need to be incorporated so that the adulterants can be quickly detected. For eg. Mobile phones/barcoding operators  
*(Action : State Agri Universities, ICAR)*
- 46.** Committees may be formed to finalise SOPs for nursery, planting material production units, accreditation of nurseries and plant quarantine measures to be adopted  
*(Action : DASD)*
- 47.** Stake holders meeting may be conducted at Dharwad, Karnataka involving UAS, Dharwad, UHS Bagalkot, DASD, Kozhikode, Department of Horticulture and entrepreneurs to take measures for purification of Byadgi Chilli (Byadgi kaddi and Byadgi dabbi).
- 48.** Committee consisting of Director – DASD, PC – AICRP on Spices is to be constituted for finalizing SOPs for accreditation and quality planting material. They may co-opt members from SAUs, central institutes and other organizations