



# काजू समाचार CASHEW NEWS



भाकृअनुप - काजू अनुसंधान निदेशालय, पुत्तूर के अर्धवार्षिक वार्ता पत्र  
HALF YEARLY NEWSLETTER OF ICAR-DIRECTORATE OF CASHEW RESEARCH, PUTTUR

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**Happy and Prosperous New Year 2018**

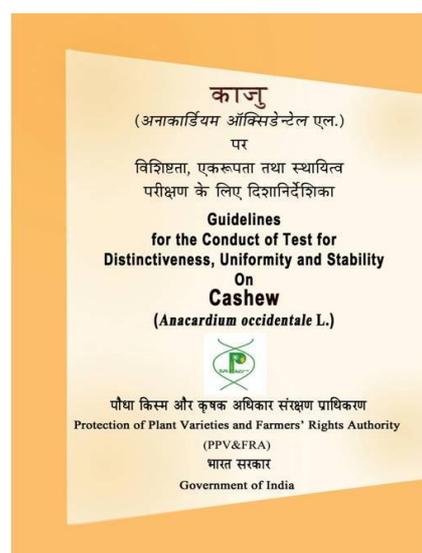
**FROM THE DIRECTOR'S DESK**

**Development of DUS test guidelines and varietal registration in cashew**



Cashew is one of the commercially important plantation crops in India and is exported to many countries earning a considerable foreign exchange. So far, forty three high yielding varieties have been released for cultivation throughout the cashew growing regions of the country. ICAR- Directorate of Cashew Research, Puttur, Karnataka and its 14 AICRP centers located in different states are working to develop improved varieties and hybrids of cashew. Many farmers have also identified promising genotypes in cashew.

However, there is no legal protection for these varieties / hybrids in the current scenario of IPR regimes. Based on the guidelines of UPOV 1999 and UPOV 1978, the Government of India has enacted the Protection of Plant Varieties and Farmers Right Act, 2001. In addition to protection of commercially important high yielding varieties of both private and public sector, this act also recognizes the role of farmers in conserving genetic diversity, developing varieties and their traditional right to promote use of these varieties. This act provides several rights to farmers even for sharing of benefits arising out of the usage of farmer bred varieties. It is obvious that to harness the benefit of Protection of Plant Varieties and Farmers Rights (PPV and FR) Act, public and

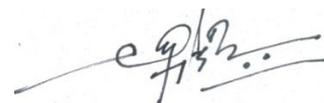


private sectors and, farmers should register their varieties and establish their ownership with Protection of Plant Varieties and Farmers Rights Authority (PPV-FRA), New Delhi.

Proper characterization of uniqueness of commercially important varieties is crucial for registration, leading to their protection. For accomplishing this, development of DUS (Distinctiveness, Uniformity and Stability) test guidelines is the prerequisite and hence a project was undertaken at the ICAR-DCR, Puttur with funding from PPV-FRA, New Delhi. To start with, forty three released varieties have been characterized for 68 characters following cashew descriptor developed by Bioversity International, Italy and these varieties have been conserved and maintained in the National Cashew Field Gene Bank at Puttur. The digital database of different plant parts of all 43 varieties has also been developed.

The DUS test guidelines for cashew was finalized with inputs from several experts during the task force meeting held at the ICAR-DCR, Puttur. The general procedure for DUS testing in cashew involves 6 grouping characters, 25 evaluation characters and 31 example varieties. This document contains both off-site and on-site testing procedures and, illustrations are also included to help in easy recognition of categories under each character. The guidelines can be accessed via <http://plantauthority.gov.in/crop-guidelines.htm> The example varieties indicated in the guidelines have already been established in a separate block at the Directorate.

I take this opportunity to appeal all the public and private sector workers and, farmers to make use of these guidelines to register and protect their varieties. I sincerely hope it will benefit all stakeholders involved and accentuate further the cashew improvement and development in the country.



(M.G. NAYAK)  
Director (Acting)

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## **FOCUS ON RESEARCH**

### **Development of Core Collection in Cashew through Advanced Maximization Strategy with Heuristic Approach**

Mohana, G.S and M.G. Nayak

Cashew being a perennial tree crop, needs more land and other resources to maintain accessions. As it is highly cross pollinated, conservation through seeds is not feasible and tissue culture efforts to regenerate plants from mature explants have not been successful. Hence for efficient conservation and utilization of germplasm, it is essential to focus on very important accessions i.e. core collection representing the spectrum of diversity present in base collection.

Hitherto, approaches based on stratified clustering and genetic distance sampling were used for developing core collections in different crops. However, these methods have resulted in skewed quantitative trait variances in core sets. Hence, a relatively new technique, the Advanced M strategy with Heuristic Approach was deployed which ensures retention of maximum diversity with minimum number of accessions (the resultant core collection was referred as Power Core). The base collection of 478 accessions with 68 characters was subjected to analysis resulting in core collection of 49 accessions. Further, another core collection of similar number was constituted by K- Means clustering method (referred as Cluster Core) for comparing the efficiency of two approaches. The validation parameters like Mean Difference (MD %), Variance Difference (VD %), Coincidence Rate (CR %), Variable Rate (VR %) and Class Coverage (CC %), Principal Component Analysis Distribution Patterns, Range, Mean, Variance, Skewness, Kurtosis, CV (%) for 27 quantitative characters and, Shannon-Weaver diversity and Nei's diversity indices for 41 qualitative characters were worked out. The results clearly revealed that core collection made out of heuristic approach was able to efficiently represent and retain the diversity compared to core made out of clustering method. The designated power core collections are already established in the field at the Directorate. Future conservation and breeding efforts will be concentrated on this core collection of cashew.

Table 1. Validation parameters for assessing the efficiency of core collection methods

Particulars	Power Core	Cluster Core
Number of accessions	49	49
Quantitative characters (27)		
Mean Difference %	4.94	-0.87
Variance Difference %	41.01	6.16
Coincidence Rate %	95.37	69.09
Variable Rate %	129.54	97.35
Qualitative characters (41)		
Shannon Weaver Index	0.63	0.53
Nei's Diversity Index	0.37	0.32

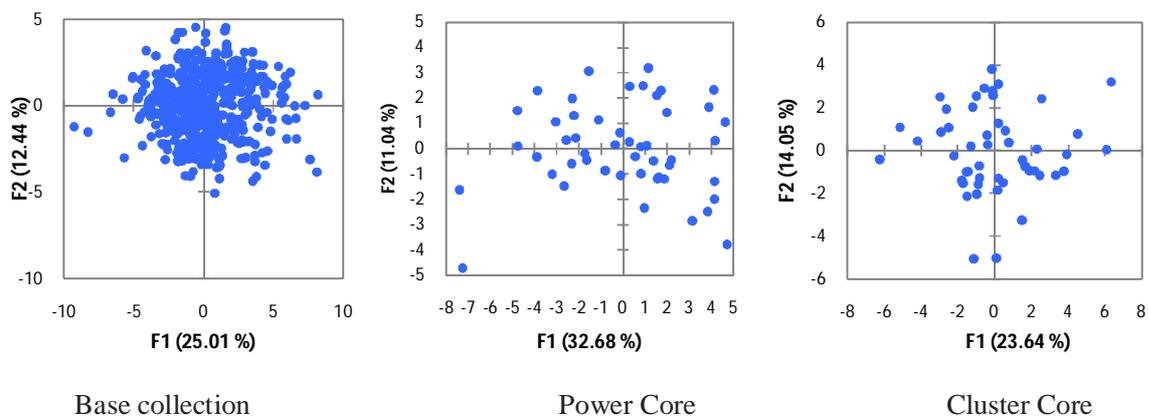


Fig. 1 - 3. PCA distribution patterns for base, power core and cluster core collections

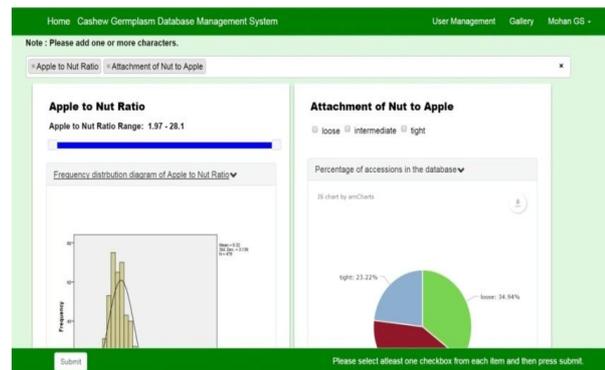
## Unique Decision Support System for Cashew Germplasm Management

Mohana, G.S. and Nayak, M.G.

ICAR-Directorate of Cashew Research, Puttur is the nodal centre for cashew research in India. The institute houses the largest repository of cashew germplasm accessions in the country, in its National Cashew Field Gene Bank. To manage and better utilise these germplasm resources, a robust Decision Support System (DSS) has been developed. The module can be accessed at <https://cashew.icar.gov.in/dcr> Currently the DSS system for cashew hosts data on 478 accessions with 68 evaluation characters (both vegetative and reproductive) in addition to 10 important fields from passport data. The database is open ended and it is possible to add any number of accessions with data and images.

### Access to Information

The DSS aims at retrieval of accessions and related information at two levels *i.e.* 1) General search 2) Search as per descriptor. The major difference between 'General search' and 'Search as per descriptor' sections is the way in which the option for selection is provided for quantitative characters. In 'General Search' the user can specify the required range of the character and get the accessions. Whereas in 'Search as per descriptor', the categories of a character as per cashew descriptor will be displayed and user can select and get the accessions in that category. Images are also provided for each category of characters to facilitate the process of selection. Most importantly, it is possible to select one or many combination of characters and get the accessions in both search options. In the results, it is possible to retrieve images of different plant parts for each accession. The resultant data can also be exported to Microsoft excel sheet for further uses.



### Utility of the system

The DSS for cashew germplasm management helps in selection of accessions based on the requirement of the crop improvement, production, protection and post harvest aspects. The frequency distribution patterns for quantitative characters give an idea of mean, standard deviation, skewness, kurtosis and variability patterns for a particular character. Whereas, pie diagrams for qualitative characters indicate the proportion of accessions for each character. This sort of information is crucial in deciding the novelty/worth of germplasm accessions during survey and collection and, their subsequent inclusion in gene bank. This easy to use interface and simple search facility will be immensely useful for researchers, students and other stakeholders.

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## PROGRAMMES ORGANIZED

### Swachhta Hi Seva

ICAR-DCR launched a campaign on “Swachhta Hi Seva” at its campus at Kemminje, Puttur on 15<sup>th</sup> September, 2017 as a part of the implementation of the Swachh Bharat Mission. A banner “Swachhta Hi Seva” was released and displayed at appropriate places in the campus. The programme continued till 2<sup>nd</sup> October, 2017 by conducting various activities like shramdaan, planting of trees, sanitation and hygiene related competitions.



### Vigilance Awareness week

Vigilance awareness week was observed at ICAR-DCR during 30<sup>th</sup> October to 4<sup>th</sup> November, 2017. The valedictory function was organized in association with District Legal Service Authority, Mangalore and Taluk Legal Service and Bar Association, Puttur. Sri C. K. Basavaraj, Principal Senior Civil Judge and ACJM, Puttur while inaugurating the programme said that honesty and integrity are very important for development of our country. Senior Advocate of Puttur, Shri Rama Mohan Rao gave a lecture on ‘My Vision: Corruption free India’ on the occasion. He said corruption affects public life and he called for making laws simpler to reduce the problems at the administrative level. Mr. Udayashankara Shetty, Advocate and member, District Legal Service Authority, Mangalore, Puttur also spoke on the occasion. In the program, Shri Prakash, P.M., Principal Civil judge and JMFC, Puttur, Puttur Bar association officials - Shri Krishna Prasad Rai, Secretary, Shri Mahabala Gowda, Vice President, Shri M. Govardhana Nayak, Senior advocate and Shri Kumaranath, Treasurer were also present.



### Agricultural Education Day

ICAR - DCR, Puttur organized Agricultural Education Day on 4<sup>th</sup> December, 2017 (designated on 3<sup>rd</sup> December) to commemorate the birth anniversary of first President of Independent India and Union Minister of Agriculture, Bharat Ratna, Dr. Rajendra Prasad. The programme was attended by nearly 200 members representing pre university students and teachers from various colleges in Puttur. Capt. Ganesh Karnik, MLC, Karnataka, the chief guest of the



programme motivated the young minds to choose agriculture which has spectrum of job opportunities for securing the future of both individual as well as nation. The guests of honour were Shri. B. K. Ramesh, General Body member, ICAR and Shri. N. Achutha Moodethaya. A lecture on the “Scope of Agricultural Education” was delivered by Mr. Eradasappa, Scientist, DCR covering different disciplines of agricultural sciences, agricultural universities in Karnataka and India, career opportunities in agriculture and national schemes and scholarships available to promote agricultural education.

## World Soil Day

World Soil Day was celebrated on 5<sup>th</sup> December, 2017 at ICAR-DCR. The programme was attended by 130 participants including farmers from various villages in the Dakshina Kannada district of Karnataka and students of agricultural universities. The Chief Guest, Mrs. Shakunthala T. Shetty, Member of Karnataka Legislative Assembly, narrated how ICAR-DCR was instrumental through its research and extension activities to elevate the status of cashew from a neglected crop to a



commercially important crop and she insisted that adequate attention to soil nutrient management can further increase productivity and farm income. Mr. Nalin Kumar Kateel, Member of Parliament from Dakshina Kannada appreciated the efforts made by the Government in issuing soil health cards to the farmers which will be useful to bring back the soil health. Haji B.H. Khader Bantwal, Chairman, Karnataka Cashew Development Corporation (KCDC), requested farmers to utilize the insights of world soil day. Sri. Prakash S. Netalkar, Managing Director, KCDC mentioned that farmers need to reduce the use of chemical fertilizers and shift to organic manures slowly to improve the soil health. Later soil health cards were distributed to farmers by the dignitaries. Dr. Shamsudheen Mangalassery, Scientist (Soil Science), DCR explained the use of soil health cards to the farmers. Dr. M.G. Nayak, Director (Acting) presided over the function.

## MEETINGS

### Hindi Meeting - राजभाषा हिन्दी कार्यान्वयन

इन छ माही में काजू अनुसंधान निदेशालय में हिन्दी कार्यान्वयन समिति की दो बैठकों का आयोजन किया गया। बैठकों में कार्यालय में हो रही हिन्दी गतिविधियों के बारे में विचार-विमर्श कर आवश्यक सूचना समिति के सदस्यों को दी गई। वार्षिक कार्यक्रम के अनुसार आवश्यक



लक्ष्य प्राप्ती के लिए जरूरी कदम उठाने के बारे में चर्चा की गयी। जुलाई महीने में पुत्तूर नगर राजभाषा कार्यान्वयन समिति की 32वीं अर्ध वार्षिक बैठक का आयोजन किया गया, जिसमें पुत्तूर में स्थित विभिन्न सदस्य कार्यालयों के प्रधान उपस्थित थे। उसी दिन सुबह से दोपहर तक सदस्यों के लिए हिन्दी कार्यशाला का आयोजन किया गया। कार्यशाला में निदेशालय के सभी कर्मचारियों सहित विभिन्न सदस्य कार्यालयों से 40 कर्मचारियों ने भाग लिया।

सितंबर 14-21 तक हिन्दी सप्ताह का आयोजन किया गया। इस अवसर पर कर्मचारियों और विद्यार्थियों के लिए विभिन्न प्रतियोगिताओं का आयोजन किया गया। श्रीमती प्रफुल्ला के, हिन्दी अध्यापिका, मुख्य अतिथि के रूप में उपस्थित थी। सप्ताह के अवसर पर विद्यार्थियों और कर्मचारियों को नकद पुरस्कार से सम्मानित किया गया।

### **Institute Management Committee (IMC) Meeting**

The 46<sup>th</sup> meeting of the Institute Management Committee was held on 25<sup>th</sup> September, 2017 under the Chairmanship of Dr. M.G. Nayak, Director (Acting), DCR, Puttur. The Committee deliberated upon the agenda items including review of action taken on the decisions of previous IMC meeting, progress of research activities, manpower statistics, status of expenditure under DCR grants and issue on recognizing the Ayurvedic Hospital.



### **Research Advisory Committee (RAC) Meeting**

The third meeting of 7<sup>th</sup> RAC was held during 26-27<sup>th</sup> September 2017. The meeting started with the introductory remarks of Dr. R.R. Hanchinal, the Chairman of RAC. Following this, Action Taken Report of previous RAC recommendations was presented by Dr. Mohana, G.S, Senior Scientist & Member Secretary (RAC). Thereafter, presentations on progress of research in Crop Improvement, Crop Management, Crop Protection and Post Harvest Technology were made by scientists of DCR. For each section, many useful suggestions were given by RAC members. Specifically, it was recommended the registration of new cashew varieties may be taken up with PPV-FRA, New Delhi. It was suggested to take help from CGIAR institute like Bioversity International to facilitate visits of institute scientists to biodiversity rich countries. The committee felt that development of root stocks in cashew need to be given importance. The committee also suggested taking up institute technologies for result demonstrations in the farmers' fields.



## Institute Research Council (IRC) Meeting

The 30<sup>th</sup> annual meeting of IRC was held on 28 - 29<sup>th</sup> September, 2017 under the Chairmanship of Dr. M.G. Nayak, Director (Acting). There were five technical sessions chaired by experts of the field viz., Dr. S. Ramesh, Professor (Plant Breeding and Genetics), GKVK, UAS, Bengaluru for 'Crop Improvement', Dr. Lingaiah, H.B., Director of Education, UHS, Bagalkot for 'Crop Management,' Dr. S.U. Patil, Associate Director of Research, ZAHRS, Brahmavar (Shivamoga) for 'Crop Protection' and Dr. Doreyappa Gowda, Principal Scientist and Head, IIHR-CHES, Chettali for 'Post Harvest Technology' session. In each session, the results of various ongoing projects and reports of concluding projects were presented by the scientists of DCR and the details were discussed in detail. New project proposals on the aspects related to development of micro satellite markers, phenology of cashew, standardization of EPN and EPF in managing cashew stem and root borer, development of moisture meter for raw cashewnuts and comparative performance of cashewnut processing system in India were presented.



## Annual Group Meeting of Scientists of AICRP on Cashew

The Annual Group Meeting (AGM) of Scientists of AICRP on Cashew was organized at the Directorate during 21-23<sup>rd</sup> December, 2017. Prof. K.V. Peter, Former Vice Chancellor, Kerala Agricultural University, Thrissur and Director, World Noni Research Foundation, Chennai inaugurated the AGM. More than 75 delegates from coordinating centres of cashew, invitees, ICAR-DCR staff, press and media persons had participated in the meeting. The welcome and the Project Coordinator's report were presented by Dr. M.G. Nayak, Director (Acting), and he highlighted the activities taken up by 14 AICRP Cashew Centers. He said that the centers are maintaining 1710 accessions and 43 high yielding varieties have been released for commercial cultivation. Around 4.45 lakh cashew grafts were produced and supplied to farmers during 2016-17. He emphasized the importance of ultra high density planting system and canopy management in cashew. He informed that AICRP centers are also playing major role in transfer of technologies for cashew cultivation and more than 25 trainings were conducted on different aspects of cashew cultivation for tribal farmers and others.



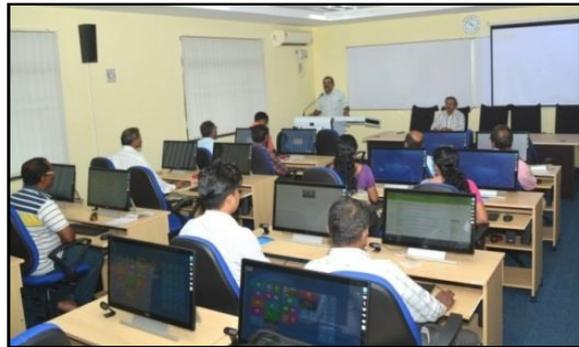
The inaugural address was delivered by Prof. K.V. Peter and he suggested the scientists to focus more on scientific components in AICRP trials and also highlighted the importance of micro nutrients, water use efficiency, soil micro flora and bio fortification in cashew. The Guest of Honour Dr. M.G. Bhat, Former Director, ICAR-DCR, Puttur, flagged the importance of AICRP in dissemination of technologies between states. In his presidential speech, Dr. P. Chowdappa, Director, ICAR-CPCRI, Kasargod, Kerala appreciated DCR for developing ultra density planting and suggested to promote and

transfer the same to farmers' fields. On this occasion three publications viz, 'Report on varietal screening of cashew apple for preparation of RTS and Jam', 'Ultra density planting in cashew' and 'Weeds in cashew plantations' were released. The programme was also attended by Shri B.K. Ramesh, General Body Member of ICAR, Dr. H.P. Maheswarappa, Project Coordinator (Palms), Dr. K.S. Anand, Head, CPCRI-Research Station, Vittal. Later the technical sessions on Crop Improvement, Crop Management and Crop Protection were held. An 'Interface of farmers, scientists, processors and officials from development departments' was also held on 23<sup>rd</sup> December, 2017 in which, more than 100 farmers, officers from the Horticulture Department of Karnataka State, Director of Research, UAHS, Shimoga, and officials of Karnataka Cashew Development Corporation, Kerala State Agency for Cashew Cultivation, Kollam had participated besides the Scientists of AICRP and DCR, Puttur. The session was chaired by Dr. Abraham Varghese, Former Director, ICAR-NBAIR, Bangalore. The problems and suggestions of farmers regarding cashew was discussed at length and the AGM was concluded with the plenary session.

## TRAININGS

- **Basics of MS-Office and usage of ERP**

A one day interactive and hands on training programme on basics of MS-Office and usage of ERP and DCR website was organized by AKMU in the new Audio Visual Lab of the Directorate on 28<sup>th</sup> August, 2017.



- **Nursery Management and Production Technology**

ICAR-DCR, Puttur, in association with Sevabharathi Savayava Krishi Parivar, Puttur and Samrudhi gida-gelaethana Sanga, Puttur organised one day training programme on nursery management and production technology in cashew on 11<sup>th</sup> September, 2017 at Puttur. The programme was sponsored by Directorate of Cashew and Cocoa Development Board (DCCD), Cochin. More than hundred cashew growers attended the programme. The chief guests were Dr. Venkatesh N. Hubballi, Director, DCCD, Cochin, and Mr. R.K. Bhaskar, President, Samrudhi gida-gelaethana Sanga, Puttur.



The chief guest, Dr. Hubballi advised the cashew growers to take the suggestions from scientists of ICAR-DCR for adopting new technologies in cashew production to increase the productivity. Mr. R. K. Bhaskar expressed the cordial relationship between the farmers and ICAR-DCR, Puttur in dissemination of technologies for last 25 years. Dr. M.G. Nayak, in his presidential remarks emphasized that adoption of new technologies like high density planting, plant protection measures and quality planting material are

very much essential for increasing the productivity. The inaugural programme was followed by presentation on Soft wood grafting technique and nursery management in cashew by Dr. M.G. Nayak. Field visits were also arranged for the participants.

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## **TRANSFER OF TECHNOLOGY**

### **Field day and awareness programme on soil health management**

Two field days cum awareness programmes on soil health management were undertaken on 10<sup>th</sup> and 21<sup>st</sup> November, 2017. They covered different villages in Puttur taluk of Dakshina Kannada district namely, Balegudi, Madaka, Irde, Perlathadka, Uppalige, Bettampady, Mundur, Chavadi Mane, Balayer Mane, Thingaladi, Kedambadi Chavadi Mane, Keyyur and Kavuu. The importance of soil testing was explained and proper methods of soil sampling were demonstrated in farmers' field. Farmers were encouraged to take soil samples from their fields. A total of 54 soil samples were collected during the programme for analysis.



### **Exhibition**

ICAR- DCR, Puttur participated in the World Food India (WFI), a global event organized by the Ministry of Food Processing Industries, Government of India during 3-5<sup>th</sup> November, 2017 at New Delhi. WFI was the largest gathering of investors, manufacturers, producers, food processors, policy makers, and organizations from the global food ecosystem. The Directorate exhibited technologies on cashew apple based value added products namely, Cashlime (cashew apple lemon blend RTS), Cider, Jam and Jelly along with posters. Various entrepreneurs, established business people and farmers visited ICAR-DCR's stall and showed interest in buying the technologies.



### **Advisory visits / Consultancies**

Dr. M.G. Nayak, Director (Acting) made many advisory visits related to cashew production practices and Dr. D. Balasubramanian, Principal Scientist (AS&PE) provided consultancy related to cashewnut processing aspects to different private firms/factory as well as farmers.

## TV programmes / Radio talk

Dr. M.G. Nayak	Delivered a talk on high density and ultra high density planting in cashew - telecasted in DD Chandana.	13 <sup>th</sup> September 2017
Dr. M.G. Nayak	Delivered a talk on varietal recommendations for various regions of cashew cultivation - telecasted in Suddi TV, Bengaluru	19 <sup>th</sup> November 2017

## Supply of planting material

A total of 2,48, 930 cashew grafts of high yielding and recommended varieties were produced under institute revenue generation programme and supplied to the farmers and developmental agencies from this Directorate during July - December, 2017.

## Technical publications

1. Report on varietal screening of cashew apple for preparation of RTS and Jam - authored by Dr. Sobhana, A., Dr. Mohana, G.S. and Dr. M.G. Nayak.
2. Folder on Ultra Density Planting in cashew – authored by Dr. M.G. Nayak.

## Visit of Dignitaries

Name	Address	Date of visit
Mr. Chhabilendra Roul	Additional Secretary (DARE) & Secretary (ICAR)	06-07-2017
Mr. Nagaraja, IFS	Managing Director, Karnataka Cashew Development Corporation	27-07-2017
Mr. Harihar Nath Giri	Representative, Caju Business Conclave	27-07-2017
Mr. Prakash S. Netalkar, IFS	Managing Director, Karnataka Cashew Development Corporation	04-08-2017 & 05-12-2017
Dr. Ranveer Singh	Principal Scientist, (HS) Division, ICAR, Krishi Anusandhan Bhavan-II, Pusa, New Delhi - 110 012	25-09-2017
Dr. D.V.S. Reddy	Principal Scientist, ICAR-Agricultural Technology Application Research Institute, , Zone VIII, MRS, H.A. Farm, P.O. Hebbal, Bangalore – 560 024	25-09-2017
Dr. N. Vijaya Kumari	Principal Scientist, ICAR-Central Citrus Research Institute Shankar Nagar P.O. , Post Box No. 464, Nagpur – 440 010	25-09-2017
Dr.Ravi Bhatt,	Head, Crop Production, ICAR-CPCRI, Kasargod, Kerala 671124	25-09-2017
Mr. Shirish K.	The Special officer (Cashew), Aravind Chambers Mundakkal West, Near DCC Office, Kollam 691 001, Kerala state	25-09-2017
Dr. R.R. Hanchinal	Former Chairperson, Protection of Plant Varieties and Farmers' Rights Authority, New Delhi	26 & 27-09-2017
Dr. K.R.M. Swamy	Former Head, Indian Institute of Horticultural Research, Bengaluru	26 & 27-09-2017
Dr. R.T. Patil	Former Director, CIPHET, Ludhiana	26 & 27-09-2017
Dr. W.S. Dhillon	Additional Director General, ICAR, New Delhi	26 & 27-09-2017

Mrs. Sharada R. Rai,	Non-official member (RAC), Shreya, Mogarodi, Kaniyooru post Belthangadi Taluk, Dakshina Kannada	26 & 27-09-2017
Dr. S. Ramesh	Professor, Genetics and Plant Breeding, GKVK, Bengaluru	28-09-2017
Dr. Lingaiah, H.B	Director of Education, UHS, Bagalkot	28-09-2017
Dr. S.U. Patil	Associate Director of Research, Zonal Agricultural Research Station, UAHS, Shimoga	29-09-2017
Dr. Doreyappa Gowda	Head, IIHR-CHES, Chettalli	29-09-2017
Mr. Sanjay Mohan	Additional PCCF (Research), KFD, Bengaluru	13-10-2017
Mr. C. K. Basavaraj	Principal Senior Civil Judge and ACJM, Puttur	03-11-2017
Capt. Ganesh Karnik	MLC and Opposition Chief Whip, Govt. of Karnataka	04-12-2017
Mr. B.K. Ramesh	Member, ICAR General Body	04-12-2017
Mr. Nalin Kumar Kateel	Member of Parliament, Dakshina Kannada	05-12-2017
Mrs. Shakunthala T. Shetty	Member of Karnataka Legislative Assembly	05-12-2017
Haji B.H. Khader Bantwal	Chairman, Karnataka Cashew Development Corporation	05-12-2017
Dr. K.V. Peter	Former Vice Chancellor, Kerala Agricultural University	21-12-2017
Dr. M.G. Bhat	Former Director, ICAR-Directorate of Cashew Research, Puttur	21-12-2017
Dr. P. Chowdappa	Director, ICAR-Central Plantation Crops Research Institute, Kasargod	21-12-2017
Dr. H.P. Maheswarappa	Project Coordinator (Palms), ICAR-CPCRI, Kasargod	21-12-2017
Dr. K.S. Anand	Head, ICAR-CPCRI, Research Station, Vittal	21-12-2017
Dr. Abraham Varghese	Former Director, National Bureau of Agriculturally Important Insects Bangalore	23-12-2017

## STAFF NEWS

### Inter- Institutional Transfers

- Dr. Shamsudheen Mangalassery, Scientist (Soil Science ) joined this Directorate on 10<sup>th</sup> July, 2017 (F.N.) consequent upon his transfer from ICAR-Central Arid Zone Research Institute, Regional Research Station, Kukma, Bhuj, Gujarat.
- Mrs. Prabha S. Philip, Scientist (Soil Science) was relieved from this Directorate 10<sup>th</sup> July, 2017 (A.N.), consequent upon her transfer to ICAR- National Bureau of Soil Survey and Land Use Planning, Nagpur.
- Dr. Siddanna Savadi, Scientist (Agricultural Biotechnology) joined this Directorate on 24<sup>th</sup> July, 2017 (F.N.) consequent upon his transfer from ICAR-Indian Institute of Wheat and Barley Research, Shimla.
- Shri. Raghuraman, V., Administrative Officer was relieved from this Directorate on 3<sup>rd</sup> August, 2017 (A.N.) consequent upon his to ICAR-National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI), Bengaluru.
- Shri. Jayarama Naik, M., Administrative Officer joined this Directorate on 4<sup>th</sup> August, 2017 (F.N.) consequent upon his transfer from ICAR-NIVEDI, Bengaluru.

### Retirement

- Shri. P. Vasantha Kumar, Skilled Support Staff retired on superannuation on 31<sup>st</sup> October, 2017.
- Shri. H. Veerappa Gowda, Skilled Support Staff retired on superannuation on 31<sup>st</sup> December, 2017.

## Honours/Recognitions/Awards

- Dr. M. G. Nayak, Director (Acting) - Nominated as member in National Steering Committee on cashew (GOI, New Delhi), member of State Committee for doubling farmers income- headed by VC, UAS, Bengaluru, member of Boards of Coastal Cashew Research and Development Institute, Kumta nominated by Ministry of Industries, Govt. of Karnataka and member for the approval of GM crops in Karnataka region, nominated by Govt. of Karnataka State. 
- Dr. J.D. Adiga, Principal Scientist (Fruit Science) - Received Environmentalist Award - 2017 in the International Conference of SCICON series on 'Current trends in Bioscience', held at Cochin, India during 21-23<sup>rd</sup> August 2017. 
- Dr. K. Vanitha, Scientist (Agric. Ento.) - Received SCIRE Young Scientist Award - 2017 in the International Conference of SCICON series on 'Current trends in Bioscience', held at Cochin, India during 21-23<sup>rd</sup> August 2017. 
- Dr. P. Preethi, Scientist (Fruit Science) bagged best poster paper presentation award in the 'International Symposium on Horticulture: Priorities and Emerging Trends' held at ICAR-IIHR, Bengaluru during 5-8<sup>th</sup> September, 2017. 

## ICAR - Sports meet

- ICAR- South Zone sports meet was held at ICAR-Sugarcane Breeding Institute, Coimbatore during 9-13<sup>th</sup> October, 2017, in which Mr. P. Abdulla, Chief Technical Officer bagged 2<sup>nd</sup> prize in Carrom and Mr. Bojappa Gowda, Technical officer bagged 3<sup>rd</sup> prize in Discus throw.



Mr. P. Abdulla    Mr. Bojappa Gowda



हर कदम, हर उमर  
किसानों का हमसफर  
भारतीय कृषि अनुसंधान परिषद

*Agrisearch with a human touch*

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