



# IIHR News

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**ICAR– Indian Institute of Horticultural Research**  
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## From the Director's Desk



**RESEARCH HIGHLIGHTS**

**Varieties / Hybrids / Advanced Breeding Lines Identified for Release**

**Brinjal**

Three advanced breeding lines of brinjal namely, **Arka Avinash (IIHR-37-36-4-20)**, **Arka Harshitha (IIHR-37-36-4-4)** and **Arka Unnathi (IIHR-37-36-3-16)** were identified for release by VTIC at the institute level on 19<sup>th</sup> September, 2015. Arka Avinash and Arka Harshitha are cluster bearing, green coloured fruits, containing less seeds, slow seed maturity, slow browning traits and excellent keeping and cooking qualities. All the three have high level of resistance to bacterial wilt with a fruit yield in the range of 36-44t/ha. Arka Harshitha is early maturing (48-55 days) while Arka Avinash and Arka Unnathi are very early maturing (36-45 days) types.



ArkaAvinash



ArkaHarshitha



ArkaUnnathi

**Garden Peas**

Three high temperature tolerant garden pea varieties viz., **Arka Uttam (IIHR-15-15)**, **Arka Tapas (IIHR 15-6)** and **Arka Chaithra (IIHR 15-21)** were identified for release at the institute level during September 2015. Arka Uttam is tall mid-season variety, with medium long and round pods, which mature in 90 days with 7.47 t/ha yield. Arka Tapas is a medium tall mid-season variety, with medium long and oval to round pods, which matures in 90 days with 6.64 t/ha yield. Arka Chaithra is a tall mid-season variety, with medium long and round pods, which matures in 90 days with 7.1 t/h yield. All the three varieties are tolerant to high temperature (upto 35°C) and suitable for summer cultivation.



ArkaUttam



Arka Tapas



ArkaChaithra

Three early maturing garden pea varieties viz., **Arka Nirmal (IIHR 2-9)**, **Arka Harini (IIHR 3-16)** **Arka Mayur (IIHR 5-13)** suitable for both kharif and rabi were identified for release at the institute level. Arka Nirmal has short, straight and round pods with a 10 pods weight

of 75g and shelling % of 60. It yields 8.3 t/ha in 60 days. Arka Harini has is straight, with round and long pods (8.5 cm) having 10 pods weight of 75 g and shelling % of 60. It yields 8.5 t/ha in 60 days. Arka Mayur has straight, oval, long pods (8 cm) with a 10 pods weight of 75 g and shelling % of 57. It yields 8.5 t/ha in 60 days.



ArkaNirmal



ArkaHarini



ArkaMayur

**Dolichos Bean**

Six photo-insensitive pole type Dolichos bean varieties viz., **Arka Prasadhi (IIHR 15-15)**, **Arka Pradhan (15-5)**, **Arka Vistar (IIHR 15-23)**, **Arka Bhavani (IIHR 15-21)**, **Arka Adarsh (IIHR 15-8)** and **Arka Krishna (IIHR 15-7)** suitable for year round cultivation were identified for release at the institute level. Arka Prasadhi has dark green, long pods with 18 cm length and 2.3 cm width, maturing in 65 days and yielding 37 t/ha. It is resistant to rust and suitable for south Indian conditions. Arka Pradhan has green, bold, tender pods with smooth and shiny undulating surface, maturing in 68 days, yielding 35 t/ha and suitable for Maharashtra. Arka Vistar variety has dark green, long (16.5 cm), broad (3.3 cm) and thick pods, maturing in 65 days and yielding 37 t/ha. It is suitable for Tamil Nadu and North Eastern region.



ArkaPrasadhi



ArkaPradhan



ArkaVistar

Arka Bhavani has dark green, long (18.5 cm), slender (1.3 cm) pods with wavy surface, maturing in 65 days and yielding 32 t/ha. It is suitable for Andhra Pradesh. Arka Adarsh has dark green, medium long (12 cm) pods with 2.2 cm width, maturing in 67 days and yielding 41 t/ha. It is suitable for Karnataka. Arka Krishna is early variety maturing in 60 days and yielding 30 t/ha. The pods are dark green and borne in clusters. It is suitable for Karnataka.



ArkaBhavani



ArkaAdarsh



Arka Krishna

### Extension of storage life of Colour Capsicum by CFB Box-shrink wrapping.

Colour capsicum (Yellow) packed in CFB boxes and shrink wrapped with semi permeable films could be stored for 11 days at ambient temperature (26-32°C) with a weight loss of only 6% as compared to 20% weight loss in non-wrapped capsicum during the same period.

## HONOURS/AWARDS/RECOGNITIONS

### Rajbhasha Gourav Award

Mr. A.K. Jagadeesan, Assistant Director (OL) was awarded "Rajbhasha Gourav" award for his Hindi article entitled "Khadya Evam Poshan Suraksha Mein Soybean Ki Bhumika" (Role of Soybean in food and nutritional security), by Department of Official Language, Ministry Home Affairs, Govt. of India. This prestigious award was presented by His Excellency the President of India, Shri. Pranab Mukherjee on 14<sup>th</sup> September, 2015 at Vigyan Bhawan, New Delhi.



Mr. A.K. Jagadeesan receiving award from His Excellency, The President of India Shri. Pranab Mukherjee

### Award of Excellence

Dr. M.S.Rao, Principal Scientist, Division of Entomology & Nematology has been conferred the Award of Excellence (Scientific Category) during the 49<sup>th</sup> Foundation Day on 5<sup>th</sup> September, 2015 at ICAR- Indian Institute of Horticultural Research, Bengaluru



Dr. M.S. Rao, receiving the Award of Excellence

### Best Oral Presentation Award

Dr. Kundan Kishore, **Principal Scientist**, CHES, Bhubaneswar was presented 'Best Oral Presentation Award' in the 3<sup>rd</sup> International Symposium on 'Underutilized Plant Species' held at Madurai, Tamil Nadu during 5-8<sup>th</sup> August, 2015.

### Best Farmer Award

Mr. S. C. Thimmaiah, of Nalloor village, Virajpet taluk, Kodagu District was presented the 'Best Farmer Award' for adopting IIHR technologies viz., Vegetable varieties/hybrids, micro nutrient mixture for banana, citrus, vegetables, pheromone traps, bunch bagging technique in banana and Arka microbial consortia with the technical guidance of Krishi Vigyan Kendra, Gonikoppal during the IIHR Foundation Day function held on 5<sup>th</sup> August, 2015.

## HUMAN RESOURCE DEVELOPMENT

### Post Graduate Education

Sixteen students across four disciplines/ divisions (3 fruit crops, 6 vegetable crops, 3 floriculture and landscape architecture and 4 postharvest technology) were admitted at IIHR, Bengaluru during the academic year 2015-16 under IARI-IIHR Outreach Campus programme for their Ph.D. degree. The Board of Studies was created with Dr. M. Anandraj, Professor/Director, ICAR-IIHR as the Chairman to oversee the academic activities. Nineteen courses were offered during the first trimester across the disciplines. Fifteen new faculty members were identified by IARI, New Delhi & UHS, Bagalkot to carry out the teaching.

### IIHR Scientists as Chairman/Co-Chairman/External Examiners

- Dr. G. Senthil Kumaran acted as External Examiner for evaluation of M.Tech (Agril. Engg.), thesis entitled 'Modification and testing of a Coleus Harvester' submitted by Mr. Younus. A (ID.No.2013-18-111) to Kerala Agricultural University on 15<sup>th</sup> September, 2015.
- Dr. A. Carolin Rathinakumari acted as External Examiner and set the final theory question paper for the subject titled 'Energy sources and their application in Agriculture', for B.Sc. (Ag.) III year students of College of Agriculture, University of Agricultural Sciences, Raichur, Karnataka.

**Professional Attachment Trainee Scientist**

No.	Name of the Scientist	Name of the Professional attachment trainee	Period
1	Dr. K. Madhavi Reddy	Mr. K. Hanume Gowda	10.05.2015 to 10.08.2015
2	Dr. M. Pitchaimuthu,	Mr. Chaudhari Ganesh Vasudeo	11.05.2015 to 10.08.2015
3	Dr. S. Shankar Hebbar	Miss. DivyaParisa	11.05.2015 to 10.08.2015
4	Dr. T.H. Singh	Mr. KhaptePratapsing Suresh	22.05.2015 to 21.08.2015
5	Dr. B. Varalakshmi	Mr. Keshav Kant Gautam	28.05.2015 to 27.08.2015
6	Dr. T.S. Aghora	Mr. Paresh Chaukhande	28.05.2015 to 28.08.2015

**Training attended by IIHR Staff**

- Dr. A. Carolin Rathinakumari participated in one week training programme on ‘Certification Course on Solar PV Integration Level – 1’, organised by Nirvana Foundation, Bangalore during 20-25<sup>th</sup> July, 2015.
- Dr. P.L. Anushma attended ten days short course on ‘Crop Wild Relatives Identification, Collection & Utilization’, held at NBPGR, New Delhi during 18-28<sup>th</sup> August, 2015.
- Dr. Kanupriya attended the training programme on ‘Developing Winning Research Proposals in Agricultural Research’, organized by NAARM, Hyderabad during 28-29<sup>th</sup> August, 2015.
- Dr. Chandrakant. M. Awarchare, attended Winter School on ‘Multi-storied Cropping System and Canopy Architecture Management in Horticulture Crops’, at College of Horticulture, Sirsi during 28<sup>th</sup> September to 18<sup>th</sup> October, 2015.
- Ms. C. Susmita attended three months professional attachment training on ‘Cloning of plant defense response associated rice genes for over expression and under expression studies’, under the guidance of Dr. Ramesh. V. Sonti at CCMB, Hyderabad during 03<sup>rd</sup> July to 04<sup>th</sup> November, 2015.

**Trainings Imparted**

**IIHR Main Campus, Bengaluru**

Total of 6 on campus trainings were conducted on various aspects like advances in production technology of fruits, vegetable, ornamental crops, mushrooms and entrepreneurial development benefiting 133 participants. One international training program on Seed production, Processing and Quality Assurance for delegates from Nigeria was also conducted. One international study-cum-exposure visit for 31 delegates from Kenya, Melawi and Liberia was organized under the Fourth US-India-Africa Triangular International Training programme. Two off campus training for 63 participants on management of orchards through Arka Microbial Consortium and management of vegetable crops were conducted in Karnataka.



**KVK, Gonikoppal**

Three on-campus trainings on production of banana, controlling of FMD in animals and fruit processing and preservation were organized benefitting 63 participants. Twelve off campus training programmes benefitting 413 participants were organized on various aspects like seed treatment, plant disease management through biocontrol agents, fruit processing, piggery, poultry farming, goat farming and bakery were conducted.

**KVK, Hirehalli**

Twelve on-campus trainings on organic farming, soil and water conservation, mushroom production, dry land horticulture; soil, water and leaf testing and value addition to ragi and amla were organized which benefited 287 participants including 52 SC/ST men and women. In 16 off-campus trainings conducted at various locations under its jurisdiction 440 participants, including 55 SC/ST, were trained on various aspects like soil testing, IPM, IDM, organic farming, commercial cultivation of fruits, vegetables, flower and their processing and value addition.

**CHES, Bhubaneswar**

- A three day’s training programme on “Skill development training programme on nursery” for 20 numbers of farmers was organized jointly by CHES & PPL during 20<sup>th</sup>-22<sup>nd</sup> August, 2015.

- Ten Research Extension Farmers Interface fruit crops were organized jointly by IIHR-CHES, Bhubaneswar & Directorate of Horticulture, Govt. of Odisha in 10 different districts of Odisha. All total 212 farmers and 160 extension personnel participated in the programmes.

## EVENTS

### ICAR Foundation Day Celebrations

Commemorating the 86<sup>th</sup> anniversary of ICAR Foundation Day, ICAR-IIHR organised an 'Open Day' on 16<sup>th</sup> July, 2015, with the laboratories and experimental farm open for the public to get acquainted with the activities and achievements of the premier institute and to share the interesting and fascinating milestones of ICAR.



Dr. M. Anandaraj, Director addressing the staff on its 49<sup>th</sup> Foundation Day

### Kharif Awareness Programme at Krishi Vigyan Kendra, Hirehalli

The Kharif Awareness Programme was organized at Hirehalli, Tumakuru on 7<sup>th</sup> August, 2015 by ICAR-Krishi Vigyan Kendra (IIHR), Hirehalli. Padmashri Smt. B. Jayashree, Honourable Member of Parliament, Rajya Sabha, inaugurated the event and also the seed display-cum storage-unit sponsored under RKVY scheme.

Smt. B. Jayashree, Honourable Member of Parliament, addressing the farmers requested to adopt scientific methods for increasing agriculture production, using modern communication technologies. Dr. Sreenath Dixit, Director, ICAR-ATARI explained about the typical role of KVK in the adopted villages, and Dr. T. Manjunatha Rao, Director, IIHR, Bengaluru, stressed on the need of adopting climate resilient practices developed by the institute. Three publications were released on the occasion.

### Kharif Awareness Programme at Krishi Vigyan Kendra, Gonikoppal

Krishi Vigyan Kendra, Gonikoppal under ICAR-IIHR, organized Kharif Awareness Programme on 15<sup>th</sup> September, 2015 in the campus premises. Shri. K.G. Bopaiah, Honourable MLA, Virajpet inaugurated the programme. A total of 476 officials from the different line departments, SKDRDP, Different SHGs, Progressive farmers/farm woman and special invitees participated in the programme. The NABARD supported Arka Microbial Consortia Production Unit and NHM sponsored Mushroom Spawn Production Unit were inaugurated on this occasion.



Dr. T. Manjunatha Rao, Director addressing on 86<sup>th</sup> anniversary of ICAR Foundation Day

### IIHR Foundation Day

ICAR- IIHR, celebrated its 49<sup>th</sup> 'Institute Foundation Day' on 5<sup>th</sup> September, 2015. Prof. K.N. Ganeshaiyah from School of Ecology and Conservation, UAS, GKVK, Bengaluru, was the Chief Guest and he delivered the 2<sup>nd</sup> Dr. G.S. Randhawa Memorial Foundation Day Lecture.



Prof. K.N. Ganeshaiyah, School of Ecology and Conservation, UAS, GKVK, Bengaluru, delivering the 2<sup>nd</sup> Dr. G. S. Randhawa memorial lecture.



Kharif Awareness Programme at KVK, Tumakuru on 07.08.2015

Kharif Awareness Programme at KVK, Gonikoppal on 15.09.2015

**Hindi Week Celebration**

Hindi week was celebrated at the institute during 15<sup>th</sup>-22<sup>nd</sup> September, 2015. Prof. Asha Shirolikar, Head, Department of Hindi, Mount Carmel College, Bengaluru was the Chief Guest on the inaugural day. Several events like *Khel-Khel Mein Hindi, Hindi Terminology & Noting, Handwriting, Pre-written Hindi Essay, Hindi Song, Extempore, Recitation, Hindi Reading* competitions were conducted, and winner awarded during the valedictory function.



Prof. Asha Shirolikar is inaugurating Hindi Week by lighting the lamp

**CHES, Bhubaneswar**

Hindi Week was organized during 7-14<sup>th</sup> September, 2015 at CHES, Bhubaneswar.

**PG EDUCATION**

The second batch of 16 students in four disciplines (Fruits, Vegetables, Floriculture & Landscape Architecture and Post Harvest Technology) were admitted to Ph.D. degree program at IARI-IIHR Outreach Crops campus, Hessarghatta, Bangalore on 08<sup>th</sup> July, 2015.



Dr. N.K. Krishna Kumar, DDG(Hort.) addressing the new PG Students

**Study-cum-Exposure Visit of African Delegates to ICAR-IIHR**

Thirty one African delegates undergoing fourth Indo-US-African trilateral Triangular International Training Programme on ‘New Dimensions in Extension Management’ organized by National Institute for Agricultural Extension Management (MANAGE), Hyderabad visited ICAR-IIHR, Bengaluru during 10<sup>th</sup>-13<sup>th</sup> August, 2015, to learn about advances in horticultural technologies including the methods of dissemination and transfer of technologies being adopted.

**Farmer interface meetings**

Central Horticultural Experiment Station (ICAR-IIHR), Bhubaneswar organized Research-Extension-Farmer(R-E-F) interface meetings jointly with Directorate of Horticulture, Govt. of Odisha in 10 different districts of Odisha during July-August, 2015, with an aim to enumerate the constraints in fruit production faced by the farmers. Totally 212 progressive farmers and 160 state department officials participated in these meetings.



Farmers Interactive Meet

**TRANSFER OF TECHNOLOGY**

- The technology of growing mushroom at home was transferred to women in Sadanahalli and over 10.13 tonnes of mushroom spawn and 745 ready to fruit bags were sold.



- Technology for shrink wrapping of capsicum was transferred to M/s Sarayu Green Farms Pvt Ltd, Mahabubnagar Dist, Telangana State.
- Under the project ‘Bio-pesticide technology interventions for livelihood improvement of scheduled caste population in Vellore, Tamil Nadu (DST)’, a training programme was conducted at KVK, Virinjipuram, Vellore district, Tamil Nadu on 18-06-2015 and about 100 SC/ST farmers, NGOs and State

Department officials were trained on the usage of biopesticides for nematode management in horticultural crops. Demonstrations were held to create awareness among the farmers about enrichment of FYM/ vermicompost with biopesticides.



Distribution of biopesticides during the training programme at KVK, Virinjipuram, Tamil Nadu

- Another training programme on “Nematode management under protected cultivation using biopesticides” was conducted at Chikkaballapura, Karnataka, in collaboration with NABARD and Dept. of Horticulture, Karnataka on 25<sup>th</sup> June 2015. Around hundred farmers and polyhouse growers were trained on biopesticides and its usage for nematode management in polyhouses especially for capsicum, European cucumber and tomato.



Training programme on biopesticides held at Chikkaballapura

### Field Days

- A field day on Conservation Horticulture was organized under NICRA at ICAR-IIHR, Bengaluru on 29<sup>th</sup> July, 2015.
- A field day on Vegetable varieties and hybrids of IIHR was organized at Demonstration Block of ICAR-IIHR, Bengaluru on 09<sup>th</sup> September, 2015.

### Field Demonstrations & Field Visits

The institute and its regional stations / KVKs held the following field demonstrations and farmers Field visits

- A method demonstration on foliar nutrition of banana using ‘Banana Special’ developed by ICAR-IIHR was organized at I-Gollehalli village of Kanakpura taluk, Bengaluru on 25<sup>th</sup> July, 2015.
- Dr. B.N.S. Murthy and Dr. T. Sakthivel visited the pomegranate growers fields and guided about rejuvenation of bacterial wilt affected orchards/plants at Chinnampatti village, Erode district, Tamil Nadu on 03<sup>rd</sup> September, 2015.
- One Awareness cum Demonstration programme on ‘Rejuvenation of Mango Orchards’, at Linganhalli, Hessarghatta hobli, Bengaluru on 04<sup>th</sup> September, 2015.
- An Awareness-cum-Demonstration programme on Rejuvenation of Mango Orchards was conducted at Linganhalli, Hessarghatta hobli, Bengaluru on 04<sup>th</sup> September, 2015.
- A field demonstration on Sealer-cum-Healer for management of stem borer in poplar trees was organized at Leh, Jammu & Kashmir on 14<sup>th</sup> September, 2015.
- Dr. T.H. Singh and Dr. T.S. Aghrora visited farmers field in Malavalli where IIHR hybrids/varieties of Tomato, French Bean and Chilli were grown and inspected the field and gave the technical knowhow to the farmer 05<sup>th</sup> August, 2015.
- Dr. A.T. Sadashiva visited Arka Rakshak plots at Malavalli and Mysore on 08<sup>th</sup> July, 2015 and at Devanahalli, Bengaluru on 07<sup>th</sup> August, 2015.
- Several demonstrations to remove the smudgy fungal blemishes or surface blackening on late maturing mango varieties were conducted by IIHR-CHES, Bhubaneshwar during the mango season.
- Ten demonstrations on Integrated crop management practices in paddy var. Athira were conducted at Nalloor, Mayamudi, Kiragoor and Kodagu of Karnataka.

- Ten demonstrations on Use of PGPR in Ginger soft rot disease management were conducted at Thorenoor, Hebbale, Chickaluvara, Kodagu of Karnataka.
- Ten demonstrations on Foliar nutrition of black pepper were conducted at Ponnampet, Balele, Devarapura and Kodagu of Karnataka.
- Twenty five demonstrations on Effective ectoparasiticide for control of ticks and lice in milch cows were conducted at West Nemmale, Theralu, Badagarakeri, Chickaluvara, Kodagu of Karnataka.
- Twenty five demonstrations on Effective treatment for controlling milk fever in milch cows were held at Kottageri, Sinchona, Poojekallu, T. Shettigeri, Kodagu.
- One demonstration on improved postharvest management practices in mango at was held at Khasipur, Rayagada district, Odisha.
- One demonstration of onion de-topper developed by IIHR at Kadur, Chickamagaluru.

#### Fairs/Exhibitions (Table)

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#### Radio Talks by Scientists/SMS of IIHR and its Regional Stations/KVKs.

- Dr. B. Varalakshmi – Varieties and Production Technology of Green Leafy vegetables released by IIHR on 30.07.2015 – AIR, Bengaluru.
- Dr. Saju George - About KVK Gonikoppal - Activities and Services on 05.08.2015 - AIR, Madikeri.
- Dr. S.C. Suresh - Importance of Vaccination against Foot and Mouth Disease in animals on 08.08.2015 - AIR, Madikeri.
- Dr. S.C. Suresh - Disease management in Piggery on 11.08.2015 - AIR, Madikeri.
- Dr. M. Pitchaimuthu - Bhendi varieties and characteristic released from IIHR on 11.08.2015 - AIR, Madikeri.
- Mr. K.A. Devaiah– Ginger Cultivation in Kodagu on 12.08.2015 - AIR, Madikeri.
- Mr. K.V. Veerendra Kumar - Safe use of Pesticides on 14.08.2015 - AIR, Madikeri.

- Mr. K.V. Veerendra Kumar - Importance of use of Arka Microbial consortia in wilt management in Black pepper on 16.08.2015 - AIR, Madikeri.

#### TV Programmes

- Dr. S.C. Suresh - Disease control and management in Pigs on 04.07.2015 - DD Chandana.
- Dr. B. Narayanaswamy - Bio fertilizer and Bio pesticides in Horticultural crops on 07.07.2015 - DDK, Bengaluru.
- Dr. B. Narayanaswamy - Management of Banana Crop on 25.08.2015 - DDK, Bengaluru.
- Dr. B. Varalakshmi - Leafy Vegetable Varieties released by IIHR on 04.09.2015 - DDK, Bengaluru.
- Dr. B. Varalakshmi- Cultivation of Brinjal Varieties released by IIHR, Bengaluru on 18.09.2015 - DDK, Bengaluru.
- Dr. B. Narayanaswamy – Krishi Mela-2015 on 25.09.2015 – DDK, Bengaluru.

#### ATIC Activities

The technological products of IIHR viz., Banana Special, Mango Special, Vegetable Special, Citrus Special, Trichorich-N, *Pseudomonas fluorescens*, *Paecilomyces lilacinus*, Microbial Consortium, Pongemia soap, Neem soap, Sealer cum healer, Vegetable fruit fly traps and lures, Institute publications, VCDs and DVDs, Vegetable seeds kits & Sample packets, PHT products, sapota, mango and lime harvesters etc., were sold through the ATIC, IIHR, Bengaluru to the visiting farmers and general public and an amount of Rs. **16,60,075/-** was generated as revenue.

#### Visitors

- A total of 4109 visitors comprising of 687 farmers, 3365 students and 57 others/officers visited the Institute at Hesaraghatta, Bengaluru during the quarter. The visitors were taken round the Institute farm and laboratories by the staff of the Division of Extension and Training. The activities and achievements of the Institute were explained to the visitors.
- Dr. Meenakshi Munshi, Director (DBT), New Delhi visited ICAR-IIHR Bengaluru on 5<sup>th</sup> July, 2015.
- Dr. N.K. Krishna Kumar, Deputy Director General (Hort. Sci., ICAR) visited Central Horticultural Experiment Station (ICAR-IIHR), Bhubaneswar on 30<sup>th</sup> July, 2015.



## PUBLICATIONS

## Research Papers

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### Abstracts

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2. Tripathi, P.C., Senthil Kumar, R., Sankar, V., Karunakaran, G., Sakthivel, T., Kishore Kumar, M., Venkatravappa, V., Priti Sonavane, Ravishankar, H. and Chithraichelvan, R. (2015). Evaluation of kokum (*Garcinia indica* Chioc) accessions at Kodagu region of Karnataka. In souvenir and Abstract of workshop on *Garcinia* held at CHES, Chettalli, Kodagu on 20<sup>th</sup> August, 2015. Pp.19.
3. Senthil Kumar, R., Tripathi, P.C., Sankar, V., Karunakaran, G., Sakthivel, T., Kishore Kumar, M., Venkatravappa, V., Priti Sonavane, Ravishankar, H. and Chithraichelvan, R. (2015). Characterization of mangosteen (*Garcinia mangostana* L.) accessions at Kodagu region of Karnataka. In souvenir and Abstract of workshop on *Garcinia* held at CHES, Chettalli, Kodagu on 20<sup>th</sup> August, 2015. Pp.62.
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### Leaflet

Saju George, Prabhakar, B., Veerendrakumar, K.V., Devaiah, K.A. (2015). Calendar of operations for pepper cultivation (in Kannada), IIHR-KVK, Gonikoppal.

**Books/Chapters in Books**

- Gupta, R.P., Sharma, H.P., Venugopalan, R. and Ashok Kumar Tailor (2015). Consumption Pattern of Onion, Garlic and Potato in India. Malhotra Publishing House, New Delhi, Pp.42-.
- Sudha Mysore, Gajanana, T.M., Sreenivasa murthy, D., Chandra Prakash, M.K., Geethamma, C.A. and Kamalamma. (2015). Status, Prospects and Profile of Tomato Cultivation in Karnataka, Pp.??.(incomplete information)
- Gajanana, T.M. and Sreenivasa Murthy,D. (2015). Marketing and Export, In: *The Onion*, edited by Drs. Krishnakumar, N.K., Gopal, J. and Parthasarathy, V.A., ICAR-DKMA, ICAR, New Delhi, Pp.295-315.
- Venkattakumar, R., Balakrishnan, M. and Manoj.P.Samuel(yyyy) - A Review of strategies for community based Biodiversity Conservation (CBC). (In) Agro biodiversity and Sustainable Rural Development (Eds.) Soam, S.K. and Balakrishnan, M., New India Publishing Agency, Pp. 303-316.
- Aswath, C., Krishnaraj, P.U. and Padmanabhan,G. (2015). Why India needs Biotechnology to Ensure Food and Nutrition security? In: Genetically modified Organisms in Food (Eds): Watson, R.R. and Reddy, P.V.R. publisher Elsevier, UK.
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**Extension Publications**

- Saju George, Veerendra kumar, K.V. and Prabhakar,B. (2015). Role of Arka Microbial Consortia for different vegetable, plantation and spices crops (in Kannada). IIHR-KVK, Gonikoppal, Kodagu. Pp:?
- Saju George, Veerendra kumar, K.V., Prabhakar, B. and Devaiah, K.A. (2015). Recent Production technologies in Black pepper (in Kannada), IIHR-KVK, Gonikoppal, Kodagu. Pp:?
- Hanumanthe gowda, B., Ramesh, P.R., Jagadish, K.N., Prashanth, J.M., Radha Banakar, Somashekara, Karunakaran, G., Senthil Kumar, Loganandhan, N. and Hegde, M.R., (2015).*Jackfruit- A Versatile fruit*. An extension Bulletin in Kannada Published by Director, IIHR, Bengaluru. Pp:66.
- Karunakaran, G., Senthil Kumar, Loganandhan, N., Jagadish, K.N., Hanumanthe gowda, B., Ramesh, P.R., Prashanth, J.M., Somashekara, Radha Banakar, and Hegde, M.R. (2015).*Jackfruit- A Versatile fruit*. An

extension Bulletin in English Published by Director, IIHR, Bengaluru. Pp:66.

**PERSONALIA****New Entrant**

- Shri. Kishore Kumar Mahante, Scientist (FS) has reported for duty at CHES, Chettalli on 15.07.2015 (FN).

**Promotion**

- Shri. M. Hanumantharaju, SSS has been promoted to the post of Technician (Field /Farm) on the Forenoon of 05.08.2015 (Promotion under 33 1/3% quota).
- Shri. C. Chandrakumar, Technical Officer (Compt.Lab) has been promoted to the post of Sr.Technical Officer (Computer Lab) w.e.f. 28.06.2015.
- Shri. K. Gouri Sankara Rao, Technical Assistant (Comp.Lab), CHES, Bhubaneswar has been promoted to the post of Sr.Technical Assistant (Comp.Lab) w.e.f. 22.06.2009.
- Shri. J.N.L. Das, Administrative Officer has been promoted to the post of Senior Administrative Officer w.e.f. 05.08.2015.
- Smt. Rina Pattnayak, CHES, Bhubaneswar has been promoted from the post of Junior Accounts Officer to Asst. Finance & Accounts Officer and posted at IIHR, Bengaluru.
- Smt. K.B. Latha, CHES, Chettalli has been promoted from the post of Personal Assistant to Private Secretary.

**Transfer**

- Shri. K. Gourisankara Rao, Technical Assistant (Computer Lab), CHES, Bhubaneswar transferred to Visakhapatnam Regional Centre of MRR, Visakhapatnam and relieved from his duties on 16.07.2015.
- Dr. Preeti Singh, Scientist (Plant Breeding) has been transferred from Directorate of Onion & Garlic Research, Pune to IIHR, Bengaluru and reported to duty on 28.08.2015 (AN).
- Shri. K.M. Vijayakumar, Upper Division Clerk has been transferred from IIHR, Bengaluru to CHES, Chettalli and relieved on 19.09.2015 (AN).
- Shri. B.N. Ramachandrappa, Asst. Finance & Accounts Officer has been transferred from IIHR,

Bengaluru to ICAR – Zonal Project, Directorate, Zone- VIII, Hebbal, Bengaluru and relieved on 03.09.2015 (AN).

- Shri. G.M. Sandeep Kumar, Scientist has been transferred from IARI- Regional Station, Katrain (HP) to IIHR, Bengaluru and reported to duty at IIHR, Bengaluru on 11.09.2015(FN).

### Superannuation

- Dr. G.S. Karibasappa, Principal Scientist, IIHR, Bengaluru retired from Council's service on superannuation on 31.07.2015.
- Shri. B. Hulyappa, Technical Officer, IIHR, Bengaluru retired from Council's service on superannuation on 31.07.2015.
- Dr. Krishnamoorthy, Principal Scientist, IIHR, Bengaluru retired from Council's service on superannuation on 31.08.2015.
- Shri. Hosalappa, IIHR, Bengaluru retired from Council's service on superannuation on 31.08.2015.
- Dr. N. Mohan, Principal Scientist, IIHR, Bengaluru retired from Council's service on superannuation on 30.09.2015.
- Shri. P.B. Gaddagimath, Chief Technical Officer, IIHR, Bengaluru retired from Council's service on superannuation on 30.09.2015.
- Shri. Somashekhara, Technical Officer (Lab), IIHR, Bengaluru retired from Council's service on superannuation on 30.09.2015.
- Shri. M. Ramamurthy, Senior Technical Assistant (Driver- Workshop), IHR, Bengaluru retired from Council's service on superannuation on 30.09.2015.
- Smt. A.N. Vaidehi, Private Secretary, Bengaluru retired from Council's service on superannuation on 30.09.2015.
- Shri. R. Mahesh, Assistant, IIHR, Bengaluru retired from Council's service on superannuation on 30.09.2015.
- Smt. K.B. Latha, Private Secretary, CHES, Chettalli retired from Council's service on superannuation on 30.09.2015.

- Shri. H.A. Rajanna, Skilled Support Staff, CHES, Chettalli Bengaluru retired from Council's service on superannuation on 30.09.2015.

### Miscellaneous

- Dr. Eugene Sebastian, Principal Scientist has taken over the charge of Incharge Head, Section of Medicinal Crops w.e.f 01.07.2015 (FN).
- On Completion of one month orientation training at ICAR-IIHR, Bengaluru, Ms. Susmita Cherukuri, Scientist (Gen. & Plant Breeding ) has been relieved at IIHR, Bengaluru on 01.08.2015 (AN) to undergo three months professional attachment training at CSIR-Centre for Cellular & Molecular Biology, Hyderabad.
- Dr. B.L. Kashinath, Chief Technical Officer (Field/Farm) appointed to the post of Programme Coordinator, KVK, under ICAR-Central Inland Agricultural Research Institute, Port Blair and relieved from IIHR on 05.09.2015 (AN).
- Dr. M. Anandaraj, Director, IISR, Calicut has taken over the additional charge of Director, IIHR, Bengaluru w.e.f 04.09.2015.
- Dr. C. Aswath, Principal Scientist has taken over the charge of Incharge Head Div. of Ornamental Crops w.e.f 07.09.2015 (FN).


### Obituary(Photograph)

- Shri. Dhanavina Gowda, Skilled Support Staff, IIHR, Bengaluru expired on 14.09.2015.

Fairs/Exhibitions (Table)

The Institute and its regional stations organized/participated in the following exhibitions.

No.	Event	Date	Place
1.	KrishiAbhiyana programme	12.08.2015	Kudige, Sowmwarpet, Kodagu
2.	ZillaKrushak sammelan-2015	20.07.2015	KVK, ICAR-CIFA, Bhubaneswar
3.	Agriculture exhibition	20 & 21.08.2015	Motihari, Bihar (organized by Jain Expositions in collaboration with ICAR RC for Eastern Region, Patna).
4.	Kharif Awareness Programme	07.08.2015	KVK, Hirehalli, Tumakuru District
5.	Agri Tech India 2015	21-23.08.2015	International Exhibition Centre, Bengaluru
6.	KharifAwareness Programme	15.09.2015	KVK, Gonikoppal, Kodagu

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