

Vol. 25 No. 3 July -September, 2019

## CONTENTS

CONTENTS		
•	From the Director's Desk	1
•	Citrus Sector	1
•	From the Institute	2
•	Feedback	8

# From the Director's Desk......



#### Dear Readers,

Good Agricultural practices (GAP) of cultivation are essential to be followed by the farmers so as to export the fruits. These GAP norms are set up by EUREPGAP, INDGAP and so on. The basic feature is that cultivation and handling practices should be safe using recommended inputs so that produce coming out of the farm is safe to consume. Farm practices should also be safe to the labour working therein. Post-harvest practices should also be followed with GAP

norms. Chemicals like fruit cleaning soaps, and coatings should be of food grade. Safety norms should be followed for workers in the packinghouse. There is a difference in GAP and organic cultivation practices. All the recommended inputs are organic in nature in organic production protocol while in GAP, all inputs are not necessarily organic but they are safe and used within safe limits. In GAP, recommended chemicals/pesticides as per CIB & RC recommendations and lable claim. They are used within safe limits following preharvest interval norms. This ensures safe maximum residue limit (MRL). Citrus grower needs to be registered with GAP certifying agency as a GAP grower and then only he/she is called as GAP compliant. There is a proper record keeping and audit procedure along with inspection by the certifying agency that needs to be followed. The ICAR-CCRI has come out with good agricultural practices for Nagpur mandarin. GAP must be followed by the citrus growers registering under Citrus Net (under Hort Net) of APEDA so that standard norms are followed for production of mandarin fruits required for export. In Vidarbha, growers have started registering themselves in citrus Net.

## **CITRUS SECTOR**

The cluster approach is a much talked issue for production of exportable quality or processing quality fruit on a large scale in a given area. In India small and marginal farmers (with 1-2 ha orchard holdings) are in large number & unless sizable number of farmers with a required acreage with a proximity to each other and similar commodity is not pooled together, the economically viable venture cannot be taken up & their financial condition cannot be improved. The promotion of cluster approach is a step towards better market prices and technological intervention, skill development of the growers,

access to financial support and production inputs in a better manner. With better price realization and skill development, farmers will pay more attention to orchard management for more quality returns. It will develop entrepreneurial attitudes / attributes and agri-business mindset among growers. It has similarities with contract farming concept, group farming and also concept of Farmer producer company. Citrus growing pockets in each district can be developed in to such clusters through participation of private companies or FPOs can develop in to a cluster. State agricultural departments/ agencies can help them. "Orange Unnati" project of Coca Cola and Jain Farm Fresh, Jalgaon, in a contract farming model wants to promote such cluster with technological intervention, input supply, skill development and assured price with win-win situation to growers and processor (Coca Cola with Minute-maid brand products of citrus products).

#### FROM THE INSTITUTE

### Research Highlight

# Evaluation of new sweet orange varieties on Raised-bed system

Sweet orange varieties Blood Red, Jaffa, Pineapple (introduced from Punjab) along with Mosambi and Katol Gold were planted in 2014 on Raised beds (2 m wide and 0.35-0.40 m high beds). The damage to plants as a result of water logging was least. The furrow could be utilized for vegetable cultivation. Raised bed drain and aerate freely and early, and thus prevent water-logging, increase root growth and proliferation, and thereby reinforced the loose structure of soil. For the first three crops after planting (4th, 5th and 6th year), among above mentioned cvs.,the highest TSS:acid ratio was observed in Mosambi followed by Katol Gold and Jaffa i.e. 21.90, 21.75 and 18.60, respectively. Blood Red recorded juice content of 53.89% followed by Mosambi (51.53%) and Jaffa (48%). The maximum yield of 18.31-



Jaffa Sweet orange fruiting at Nagpur

23.00 kg/plant (12.20 tonnes/ha) was in Blood Red followed by Jaffa 18.04-21.62 kg / plant (12.04 tonnes / ha at 6 x 3m). Jaffa appeared to be performing well so far. Its fruits mature by November and palatable till January. Blood Red as name suggests should develop red colour in flesh but due to mild winter at Nagpur, flesh do not develop red colour.

# Institute Activities / Events Organized Foundation Day Celebration

ICAR-CCRI, Nagpur celebrated 35<sup>th</sup> Foundation day on 29<sup>th</sup> July, 2019. During fortnight long celebration various events like Sports, essays, quiz, etc. were organized in which all employees participated. Dr. Hemant J. Purohit, Director Grade Scientist, NEERI, Nagpur Chief Guest remarked that we should strive to develop processes for complete utilization of the commodity without any waste so that value added byproducts can be produced for increase profitability, and stressed need for collaborations' between CCRI and NEERI. Dr. M. S. Ladaniya, Director, ICAR-CCRI, Nagpur elaborated the achievements of 34 years journey of the Institute on the occasion. Mrs. Rita Aggarwal well known psychologist and counsellor emphasized the importance of Dharma in life of a human being. Concept of Dharma which



Dr. M.S. Ladaniya addressing the staff during Foundation Day celebration



Winner team in Sports receiving the trophy at the hands of the guests

is not present in western world now they have realized that in all the work what as a human being we do whether it is business (Artha) or indulging in earthly satisfaction, consumerism, etc. there should be Dharma. Dr. A. P. Somkuwar, Director Research, MAFSU, Nagpur said that citrus Institute is doing good job of developing the technologies and taking it to farmers. The guests distributed prizes and trophies to winners of various events. Staff planted more than 100 sapling in the campus. Students from New English High School, Vigyan Bharati and R.S. Mundle School visited the institute. Dr. I.P. Singh, conducted the programme and Dr. A. A. Murkute, proposed vote of thanks.

## **Independence Day**

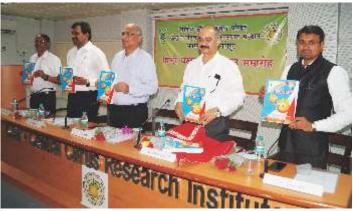
Independence Day was celebrated on 15<sup>th</sup> August, 2019. Main gate and main building were illuminated from 14-16<sup>th</sup> August, 2019 during Independence Day.



Illuminated main building (Administration and Labs)

#### Hindi Pakhwada

Hindi Pakhwada was celebrated during 14-28<sup>th</sup> September, 2019. During the pakhwada various competitions like essay quiz and translation were organized in which the staff participated enthusiastically. A workshop on "Akshar Gyan" was organized in which Dr. (Mrs.) Nandita Sahu, Hindi Translator, Anthropological Survey of India, Nagpur enlightened the staff on the importance at easy way to



Dignitaries releasing 'Santra Sanwad' Hindi Patrika of the Institute

understand and reproduced Hindi words appropriately. In concluding programme on 30<sup>th</sup> September, "Santra Sanwad" Hindi Patrika was released. Dr. R. K. Sonkar, Hindi Officer presented a brief report of the activities done in Hindi during the year 2018-19. Dr. Pawan Labhsetwar, Dr. Anupam Agnihotri and Dr. Shailesh Shail were the guests. Prizes to the winners of competitions were distributed by the Guests and the Director, Dr. M.S. Ladaniya. Director expressed satisfaction for the work being done in Hindi at the Institute. Hindi Karyashala on Akshar Gyan was organized on 13<sup>th</sup> September, 2019.

# Training Programmes organized by the Institute On-Campus

• Entrepreneurship Development Programme: For commercialization of technologies on Citrus Processing (under NAIF), on 4<sup>th</sup> September, 2019 at ICAR-Central Citrus Research Institute, Nagpur programme was organized in which 51 Entrepreneurs, Bankers, Chartered Accountants, Farmer producing companies from Nagpur, Amravati, Banglore, Pune participated and interacted for starting a new enterprise. Participants were sensatized with the patent searching, drafting of patents and filing procedure during the technical session. Mr. P.M. Parlawar, Director, MSME, Development Institute, Nagpur was the Chief Guest. Dr. Dinesh Kumar, Pr. Scientist (Hort.) was the Programme Coordinator.



Dr. M. S. Ladaniya, Director addressed participants during 'Entrepreneurship development programme'

#### **Off-Campus**

Training was organized by ICAR-CCRI, Nagpur in collaboration with ATMA on 28<sup>th</sup> August, 2019 at APMC hall, Warud, Dist. Amravati in which 250 citrus growers of Warud, Morshi and Chandur Bazar tehsils were present. Programme was organized in response to the concern of citrus growers over the rising problems of wai-war fruit drop and insect pests in citrus orchards of Amravati district. Dr. M.S. Ladaniya, Director, CCRI inaugurated the programme. Dr. Anil Bonde, Agriculture Minister, Maharashtra also addressed the citrus growers through video – conferencing.



Dr. M.S. Ladaniya, Director addressing the farmers at Warud, Amravati

Technical lectures were delivered by Dr. A.K. Srivastava, Dr. A.D. Huchche, Dr. A.K. Das, Dr. Anjitha George, Ms. Sangeeta Bhattacharyya and Sh. B.V. Mahalle, TMC.

## Training under SC Sub-Plan (SCSP)

• Training was organized on Production Technology of Citrus at Taluka, Narkhed on 2<sup>nd</sup> August, 2019 in which 126 Entrepreneurs and farmers participated. Dr. M.S. Ladaniya, Director guided the farmers in inaugural session. Technical lectures were delivered by Dr. A.K. Srivastava, Dr. A.D. Huchche, Dr. I.P. Singh, Dr. R.K. Sonkar, Dr. A.K. Das, Dr. P.S. Shirgure, Dr. Anjitha George and Sh. B.V. Mahalle, TMC. Dr. R.K. Sonkar, coordinated the training.

## Meetings organized

• Quinquennial Review Team (QRT)Meeting: The second meeting of QRT was held on 16-18 July, 2019 at CCRI, Nagpur for final report writing. QRT report was submitted to ICAR on 19<sup>th</sup> September, 2019. Hon'ble Dr. Trilochan Mohapatra, Secretary, DARE and DG, ICAR, Dr. A.K. Singh, Hon'ble DDG (Hort. Sci.) and (Crop Science), Hon'ble Chairman QRT, Dr. B. S. Chundawat,



ICAR-CCRI QRT report submission to the Council. Dr. T. Mohapatra, Secretory DARE and DG, ICAR and Dr. A.K. Singh, DDG (Hort.Sci.) were present during presentation

- Dr. W.S. Dhillon, ADG (Hort. Sci.), Dr. M.S. Ladaniya, Director, CCRI, Nagpur and Dr. A. K. Srivastava, Member Secretary, QRT were present. Dr. Chundawat presented the report and it was discussed in detail.
- Citrus Cluster Development: ICAR-CCRI, Nagpur took initiative to organize meetings at its campus involving State Agriculture Department, FPOs and progressive farmers. A meeting on 'Cluster Development for Export of Nagpur Mandarin' to boost export of Nagpur mandarin fruit, role of Farmer producers' Companies (FPC) for marketing of fresh produce and venturing in the processing industry was held on 4<sup>th</sup> July, 2019 under the Chairmanship of Dr. M.S. Ladaniya, Director. Eleven representatives of Maharashtra Agriculture department, NHB, FPOs representatives and innovative farmers from different districts of Vidarbha were present.



Citrus Cluster Meeting in progress under the Chairmanship of Dr. M.S. Ladaniya, at CCRI, Nagpur

The Rajbhasha meetings were held on 1<sup>st</sup> July, 2019 and 7<sup>th</sup> September, 2019 under the Chairmanship of Dr. M.S. Ladaniya, Director, ICAR-CCRI, Nagpur.

# **Capacity Building of Institute Staff**

• Sh. C. H. Chavan, STO: 'Automobile Maintenance, Road safety and Behavioural Skills' at ICAR-CIAE, Bhopal from 26<sup>th</sup> July to 1<sup>st</sup> August, 2019.

## Linkages & collaboration

 MoU was signed between ICAR-CCRI and CSIR-IICT, Hyderabad for commercialization of pheromone lure against citrus leaf miner on 11<sup>th</sup> September, 2019.

# **Publications:**

## Research Papers (In peer Reviewed Journals)

 Bardhan, T., Bharadwaj, N., Satyapriya, Bhattacharyya,
 S. (2019): A Study on Analysing the Effects of Advertisements on Buying Behaviour of University Students. *Indian Journal of Extension Education*. Vol. 55, No. 2, (58-62).

- Das, A.K., Nerkar, S., Gawande, N., Thakre, N., Kumar, A. (2019): SCAR marker for *Phytophthora nicotianae* and a multiplex PCR assay for simultaneous detection of *P. nicotianae* and *Candidatus* Liberibacter asiaticus in citrus. *Journal of Applied Microbiology* 127, 1172-1183. [NAAS#8.68]
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- Mahawar, M.K., Jalgaonkar, Kirti, Bibwe, Bhushan, Bharat, Meena, V.S. and Sonkar, R.K. (2019): Postharvest processing and valorization of Kinnow mandarin (*Citrus reticulata*): A review. *Journal of Food Science* and *Technology*. 57. 10.1007/s13197-019-04083-z.
- Rao, C.N., George, Anjitha, Roy, S., Dhengre, V.N. and Agale, S.V., (2019): Efficacy of Cyantraniliprole HGW86 10% OD against *Phyllocnistis citrella* Stainton and *Scirtothrips dorsalis* Hood under field conditions. *Pesticide Research Journal* 31(2): 271-274.
- Thirugnanavel A., Bidyut C. Deka, Naksungla Walling and Lily Rangnamei. (2019): Performance of Asiatic and Oriental Lilium Hybrids under Lower Altitudes of Nagaland, *International Journal of Current Microbiology and Applied Science*, 8 (4): 2242-2246.
- Qiang-Sheng Wu, Jia-Dong He, A.K. Srivastava, Ying-Ning Zou and Kamil Kuca (2019): Mycorrhizas enhance drought tolerance of citrus by altering root fatty acid compositions and their saturation levels. *Tree Physiology* 39, 1149–1158 doi:10.1093/treephys/tpz039 (NASS Rating: 9.48)

## Papers Presented (Oral) in Seminar/ Symposia/ Conferences etc.

- "International Conference on Plant Protection in Horticulture (ICPPH - 2019): Advances and Challenges" held at ICAR-IIHR, Bengaluru during 24-27, July, 2019
  - ✓ Vijayakumari, N., Das, A.K., Ghosh, D.K. and Singh, I.P. (2019): "Citrus varietal Improvement & Health management through "*in-vitro* shoot tip grafting (STG) technology".
  - ✓ Das, A.K. (2019): Diversity, detection and management of citrus *Phytophthora*, an old problem with new challenges.
- Srivastava, A.K (2019): Best Organic Management Practices for Exportable Citrus Production. Global Organic Convention on Natural resource Management

for Sustainable Agriculture, Soil Health and Quality Food During 15-17 September, 2019 at Dr. Panjabrao Deshmukh Krishi Vidyapeeth Akola, Nagpur

### **Extension Bulletins/Folders:**

- Srivastava, A.K., Obi Reddy, G.P., Singh, S.K., and Ladaniya M.S., (2019): "Agro-Ecological based Mapping of Potential Areas for Citrus" Joint publication of ICAR-Central Citrus Research Institute, Nagpur and ICAR-NBSS & LUP, Nagpur and released in the XXV ICAR-Regional Committee No. VII meeting held at ICAR-NBSS & LUP, Nagpur during 9-10 August, 2019. PP-74.
- M.S. Ladaniya, A.K. Srivastava, N. Vijayakumari, A.D. Huchche, I.P. Singh, D.K. Ghosh, R.K. Sonkar, A.K. Das, Dinesh Kumar, P.S. Shirgure, C.N. Rao, Anjitha George and Kiran Kumar Kommu (2019). Good Agricultural Practices for Nagpur Mandarin. Bulletin No. 63. ICAR-CCRI, Nagpur Pp:74

## **Books/Book chapters:**

- Jagannadham, P.T.K., Muthusamy, S.K. and Chidambaranathan, P., (2019): Micromics: A Novel Approach to Understand the Molecular Mechanisms in Plant Stress Tolerance. In *Recent Approaches in Omics for Plant Resilience to Climate Change* (pp. 93-108). Springer, Cham.
- Srivastava, A.K., Das, A.K. and George, A. (2019): Organic Cultivation of citrus: Global view on developments and challenges. *In:* V.M. Bhale, R.K. Kadu, N.D. Parlawar, V.S. Tekale, A.N. Paslawar. Proceeding of Natural resource management for sustainable agriculture, soil health and quality food during Global organic convention, Nagpur. Dr. Punjabrao Deshmukh Krishi Vidyapeeth, Akola. pp.113-145.

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- जॉर्ज अं., ढेंगरे वि.एन एवं ढेंगरे नेहा (2019) नागपुरी संतरे के फलो पर फल मक्खी का प्रबंधन, संतरा संवाद हिन्दी पत्रिका अंक -7, पृष्ठ क्र. 19-20.
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- कोम्मू.के.के. (2019) मेलोइडोगाइने इंडिका—देश के नीबूवर्गीय फलोद्यान का उभरता हुआ सूत्रकृमि, संतरा संवाद हिन्दी पत्रिका अंक —7, पृष्ठ क्रं.. 32
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- रॉय ए., भट्टाचार्य एस., शाहा ए., दास ए. के., दास बी. के. (2019) अंतरस्थलीय मत्स्य प्रबंधन में बिहार राज्य के मछुवारो में प्रशिक्षण की आवश्यकताए, अंतरस्थलीय मत्स्य की संरक्षण समस्याएं और संभावनायें, एक दिवसीय कार्यशाला, पृष्ठ क्र. 33—41

#### AICRP(Fruits): Citrus research

Following activities were undertaken during the quarter under the All India Coordinated Research Project (Fruits) at ICAR-CCRI, Nagpur.

• Dr. A. K. Das, Principal Scientist (Pl. Patho.): Training cum interface meeting on Project appraisal and research data management of ICAR-AICRP on fruits at ICAR-IIHR, Bengaluru from 19-21 August, 2019.

# Other Extension Activities

## Visit to CCRI

During this quarter, farmers, students and trainees/ officers visited CCRI, Nagpur. Forty farmers from Madhya Pradesh and Telangana visited the institute. Similarly, 501 students from schools and collages (pursuing B.Tech, B.Sc. Agri) from various districts of Maharashtra visited the institute. On 7<sup>th</sup> August, 2019, 13 trainee officers from Africa undergoing training on Tools and technologies on soil resources at NBSS & LUP, Nagpur visited the institute. On 21<sup>st</sup> September, 2019 45 trainees from RAMETI, Nagpur visited the institute.

## Survey/Field day/Visit to citrus growers' orchard:

• Dr. I.P. Singh, Pr. Scientist (Hort.), Dr. P.S. Shirgure, Pr. Scientist (SWCE), Dr. Ashok Kumar, Sr. Tech. Officer

along with Superintendent Agric. Officer visited citrus orchards at Warud, Distt. Amravati on 6<sup>th</sup> August, 2019 to provide control measures for fruit drop of citrus. Also, other queries of the citrus growers were attended to.

# Academic/Educational collaboration of CCRI, Nagpur with other organization

- Dr. Dinesh Kumar, Pr. Scientist (Hort.): External Examiner for M.Sc. Thesis of following students, IGKV, Raipur
  - ✓ Sh. Sudipto Sourav Sahoo Title: "Studies on the effect of genotypes and ambient environmental conditions on success of wedge grafting in mango (*Mangifera indica* L.)" Department of Fruit Science, College of Agriculture, 31st July, 2019.
  - ✓ Ms. Jayashri Rathor title: "Effect of IBA, Biofertilizer, *Trichoderma & Pseudomonas* on rooting of Pomegranate (*Punica granatum* L.) cutting", Department of Fruit Science, College of Agriculture, Indira Gandhi Krishi Vishwavidyalaya (IGKV), Raipur (C. G.) 31<sup>st</sup> July, 2019.
  - ✓ Ms. Pallavi Joshi Title: "Development of water spinach powder using different drying techniques" Department of Food Science and Technology, Agriculture Institute, Banaras Hindu University, Varanasi, 17<sup>th</sup> July, 2019.
- Dr. Dinesh Kumar, Pr. Scientist (Hort.): as Major advisor for M.Sc Thesis Research at CCRI Mr. Rajnish Kumar Sahu Title: "Impact of Thermo-sonication on Pectin methylesterase (PME) inactivation and Physicochemical parameters of Nagpur Mandarin Juice" w.e.f. August, 2019.
- Dr. A.D. Huchche, Pr. Scientist (Hort.): External Examiner for Ph.D Thesis of following students.
  - ✓ Mr. Ravindra Vasantrao Nainwad, Title: "Studies on effect of pre and post-harvest application of plant growth regulators on yield, quality and storage of pomegranate (*Punica granatum*L) Cv. Bhagawa, College of Agriculture, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani
  - ✓ Ms. Revati Hemantrao Ingole, Title: "Studies on nutrient management in response to growth, yield, quality, shelf life and value addition in papaya (*Carica papaya* L.) College of Agriculture, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani
- Dr. A.D. Huchche, Pr. Scientist (Hort.): Advisor for M.Sc. Thesis work of Ku. Yamini Sapaha at Central Citrus Research Institute, Nagpur (July, 2019 onwards) Title: "Effect of foliar application of growth regulators and nutrients on fruit retention, yield and quality of acid

lime (Citrus aurantifolia Swingle)", College of Agriculture, IGKV, Raipur.

 Dr. A.D. Huchche, Pr. Scientist (Hort.): Advisor for Ph.D. Thesis work of Mr. Anand Sadashiv Kalatippi at Central Citrus Research Institute, Nagpur (July, 2019 onwards) Title: "Citrus simulation modelling, crop phenology and yield assessment" College of Agriculture, JNKVV, Jabalpur

# Regional Research Centre for Citrus (RRCC), Biswanath Chariali, Assam

Raised-bed blocks were prepared for plantation in August 2019 and new varieties viz. Daisy, W. Murcott, Fewtrell's Early (mandarins) and Vernia (Sweet orange) were planted. Similarly for other varieties raised –bed blocks have been kept ready.



Vernia orange planted at RRCC

# Good Governance/Swachh Bharat Mission Celebration

As a part of 150<sup>th</sup> Birth anniversary celebrations of Mahatma Gandhi ICAR-CCRI, Nagpur observed "Swachhta Hi Seva" from 11<sup>th</sup> September to 2<sup>nd</sup> October, 2019. During these 22 days various activities were undertaken and all the staff members were motivated. Dr. M.S. Ladaniya, Director, administered the pledge 'Swachhta Shapath' to all the staff members and instructed to devote some time for Swachh Bharat Abhiyan. Swachhata banners were placed, agro-waste



Activities regarding Swachchta Abhiyan

generated is being utilized for the farm purpose. A programme on 'Swachhata Hi Seva' was organized on 24th September, 2019 at Govt. Hr. Sec. School, Pachgaon, Ta. Umred, Dist. Nagpur. Oath on 'Swachhata' and programme on 'Shramadan' was undertaken in the premises of village council and internal village road in which 90 students, school teachers and dignitaries participated. Lecture on "Plastic waste management" was delivered by Ms. Sangeeta Bhatacharyya, Scientist (Agri. Extension) to the school students. The essay and quiz competition were conducted and prizes were distributed.

# Distribution of disease-free planting material under CCRI

A total of 55894 disease free planting material of citrus rootstocks, fruits and seed distributed and revenue of Rs.34,05,140/- generated.

## Award, Honours and Recognition

- Dr. A. A. Murkute, Pr. Scientist (Hort.) nominated Executive Council member of Rajmata Vijayraje Sindhiya Krushi Vishwa Vidyalaya, Gwalior by Hon'ble Governor of Madhya Pradesh.
- Dr. (Mrs.) N. Vijayakumari, Pr. Scientist (Hort.) received First prize for the best oral presentation for the research paper entitled: "Citrus varietal improvement and health management through *in vitro* STG technology" in International Conference in Plant Protection in Horticulture Advances and Challenges" held at ICAR-IIHR, Bengaluru during 24-27, July, 2019.



Dr. (Mrs.) N. Vijayakumari receiving best oral presentation award

## Welfare Activity/Sports:

- The institute website was upgraded and made available in Hindi language.
- Special Guest lecture by Prof. Swadeshmukul Santra, University of Central Florida, USA on 'Advanced bactericide/fungicide formulations for Crop Protection' on 3<sup>rd</sup> September, 2019.

#### TV/Broadcast

- Dr. A.D. Huchche, Pr. Scientist (Hort.) : Mrig crop management in Nagpur mandarin on 15<sup>th</sup> July, 2019 on AIR. Nagpur.
- Dr. A.D. Huchche, Pr. Scientist (Hort.): TV live phone in programme on problems of citrus cultivation on Krushidarshan programme of Doordarshan Sahyadri channel at Worli, Mumbai on 19<sup>th</sup> September, 2019.

## Technology Mission on Citrus (TMC) for Vidarbha, Marathwada and Chhindwara

Technology Mission on Citrus was started in the year 2007 at Vidarbha, further extended to Marathwada region in 2009 and Chhindwara region of Madhya Pradesh in 2011 by the National Horticulture Mission (now Mission for Integrated Development of Horticulture MIDH) Ministry of Agriculture, Govt. of India, New Delhi. During the quarter activity of distribution of Disease-free-planting material was undertaken:

**Vidarbha:** A total of 142123 disease-free planting material of citrus distributed and revenue of Rs. 84,81,642/- generated.

#### Personnel

#### **Contractual Staff**

• Ms. Payal V. Chandak, YP-II w.e.f. 1<sup>st</sup> July, 2019 under "Post Harvest Management and Processing Lab".

#### **Promotion**

- Dr. J.P. Tej Kumar, Scientist (Agril. Biotechnology) cleared Probation w.e.f. 01.07.2017
- Dr. Kiran Kumar Kommu (Nematology) cleared Probation w.e.f. 06.07.2018.
- Sh.B.G. Awari, Sr. T.A. to Tech. Officer w.e.f. 15.07.2019
- Sh.M. B. Sayam, T.A. to Sr. Tech. Asstt. w.e.f. 15.07.2019
- Sh. R. D. Dhone, Sr. T.A. to Technical Officer w.e.f. 15.07.2019

## Retirement

• Sh. Pramod U. Patil, Skilled Supporting Staff, superannuated on 31<sup>st</sup> August, 2019.

## **MACP**

• Sh. B.T. Dhongade, PS w.e.f. 28/07/2019

### Resignation/relieving

• Miss. Manali R. Motghare, YP-II relieved on 15<sup>th</sup> July, 2019.

### **Obituary**

• Dr. C.N. Rao, Pr. Scientist (Ento.) who joined this institute on 18<sup>th</sup> May, 1998 and contributed yeomen service in Entomological Research and extension left for his heavenly abode on 8<sup>th</sup> August, 2019. ICAR-CCRI, Nagpur suffered a great loss in the demise of this dedicated and sincere entomologist.



Dr. C.N. Rao, Pr. Scientist (Ento.)

### **FEEDBACK**

Registered Farmer producer companies (FPCs) in Nagpur, Amravati and Wardha districts are 14, 34 and 11, respectively, and the number is increasing. These FPCs with their membership of growers have started production, marketing, processing of agro-produce including citrus (oranges). Due to their greater capacity to produce and market large quantity, the bargaining power of these companies is far superior than an individual small farmer. GoI has launched a scheme, titled-Formation and promotion of FPOs. The NABARD, NCDC, SAFC, SMART in Maharashtra are offering support. The FPO is a registered and legal entity with producers as shareholders and works for benefit of members/shareholders. A part of the profit is shared amongst the producers & remaining surplus profit is added to companie's funds for future expansion. It is a private limited company with shares and there is no limit for membership. Some of the FPOs for example Shramajivi Nagpuri Santra Producer company Ltd. Warud, dist. Amravati with 396 members has 890 ha area and 7500 metric tone production. The price for fruit fetched was 15-20% higher than prevailing market price. They have also installed orange wax coating, grading packing line with capacity of 10,000 tonnes in a season. The FPOs are also providing genuine fertilizers, pesticides and other inputs to members on reasonable rate & can also attract more finance as a loan and subsidy for new venture.

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**Published by :** Dr. M. S. Ladaniya, Director, CCRI, Nagpur, Maharashtra Citrus Newsletter is an official document of the Central Citrus Research Institute Postal Address : P. B. No. 464, Shankar Nagar, P.O., Amravati Road, Nagpur – 440010 (Maharashtra)

Phone No.: 0712-2500249, 2500615, 2500813 Fax: 0712-2500813 Website: www.ccringp.org.in E-mail: director.ccri@icar.gov.in Printed at: Eskay's Scanna Graphics, Gujarwadi, Nagpur.