ICAR-NRCP Newsletter

July –December 2021

From the Director's Desk

Dear Readers,

It gives me an immense pleasure to release the newsletter of ICAR-NRCP, Solapur for the period of July –December, 2021. This period witnessed several mega events and brought laurels in the history of NRCP, Solapur. It was a proud moment for NRCP as special **Postal Cover** was released by the Indian Post on the occasion of 17th foundation day of the institute on 25th September 2021. This special postal cover depicts the pomegranate technologies developed by the centre and importance of pomegranate in 3 languages. A mega scientific event in the form of an **International Webinar** was successfully organised by ICAR-NRCP on "Pomegranate: Ancient Fruit in Modern Horticulture" in collaboration with SARP, Solapur and ICAR-CIAH, Bikaner during August 25-27, 2021. More than 200 delegates from 9 countries participated in this 3 days' webinar.

In order to create more variation in pomegranate genome by inducing mutagenesis, doses of EMS were standardized and fixed the LD50 values for Bhagawa cultivar. One "Bhagawa" variant from the farmer field with early maturity trait (137-147 days) has been identified and collected. The technology on production of pomegranate juice powder using foam mat drying technique was developed for its utilization in the preparatory foods like ice cream, confectionary and reconstitution in to drinks.

During this period, NRCP has organised 8 workshop / farmers interaction meetings for creating awareness for pest and disease management and also organised 6 special webinars under 'Azadi ka Amrit Mahotsav' covering different aspects of pomegranate. Other important events like 75th Independence Day; International Millet year; Mahila Kisan Divas were celebrated with great enthusiasm.

A MoU for the technology of commercialization of minimal processing of pomegranate arils has been signed during this period. Many scientist of institute also received fellowship and awards. I congratulate all the awardee for their sincere efforts and achievements.

Contents

- Director's Desk
- Special events
  - Foundation day/ Special postal cover
  - International Webinar
- Research achievements
- Events
  - Trainings
  - National seminars/ workshops
- Extension Activities
  - Trainings
  - Exhibitions / Mela
  - Azadi ka Amrit Mahotsav
- Technology Transferred
- Distinguished Visitors
- Personnel
  - Awards
  - Promotions
  - Publications

Published by: Dr. R. A. Marathe, Director, ICAR-NRC on Pomegranate

Editorial Team: Dr. Pinky Raigond, Dr. Somnath S. Pokhare, Dr. Namrata A. Giri

Special Events

Release of Special Postal Cover on eve of 17th Foundation day of ICAR-NRCP, Solapur

Department of Post, Govt. of India, released the special postal cover to commemorate 17th foundation day of ICAR-NRCP on 25th September 2021. Shri H.C. Agrawal, Chief Postmaster General, Mumbai circle and Dr. R. A. Marathe, Director, NRCP released this postal cover. This postal cover's front side depicts the pomegranate technologies (Bio-fortified variety- "Solapur Lal", Bio-hardened tissue culture planting material and processed products) developed by the centre and the geographical coverage of pomegranate cultivation in India. The backside of the special postal cover displays importance of pomegranate in 3 languages.

The programme was graced by Dr. Lakhan Singh, Director, ICAR-ATARI, Pune, Dr. R.G. Somkuwar, Director (Acting), ICAR-NRC for Grapes, Pune and Shri. Pratap Kate, Vice President, All Maharashtra Pomegranate Growers and Research Organization, Pune and progressive pomegranate growers of the region.

Progressive pomegranate growers, Shri. Shashidhar Hatture (Akkalkot); Shri. Aabasaheb Taware (Baramati); Shri. Sanjay Chopade (Madha); Shri Prakash Suryavanshi (Atpadi) producing excellent quality pomegranate production and exporter Shri. Amarjeet Jagtap (Pandharpur) were felicitated by the dignitaries on the dais. The best performing staff of NRCP Dr. Nilesh Gaikwad (Scientists category); Dr. P. G. Patil (Best Research Paper); Shri. Mahadev Gogaon (Technical staff category); Shri. Kiran Khatmode (Administrative staff category) were also felicitated during this occasion. The book on "Good Management Practices in Pomegranate" was also released by the dignitaries present on this occasion. In the afternoon a session an online interaction meets with the pomegranate growers, chaired by Director was organized to answer the queries by the pomegranate growers from all over India.

Dignitaries releasing the special postal cover to commemorate 17th foundation day of ICAR-NRCP

Department of Post, Govt. of India honored Dr. R. A. Marathe, Director NRCP with a special postal stamp

Dr. Nilesh N. Gaikwad received best scientist award from Dr. Lakhan Singh, Director, ATARI, Pune

Felicitation of Mr. Amarjeet Jagtap, Progressive Farmer & Pomegranate Exporter, Pandharpur from Director NRCP, Solapur

Release of book on "Good Management Practices in Pomegranate"

Dr. K. Dhinesh Babu, PS honoured Dr. R. A. Marathe for receiving 'SARP Fellowship 2020'

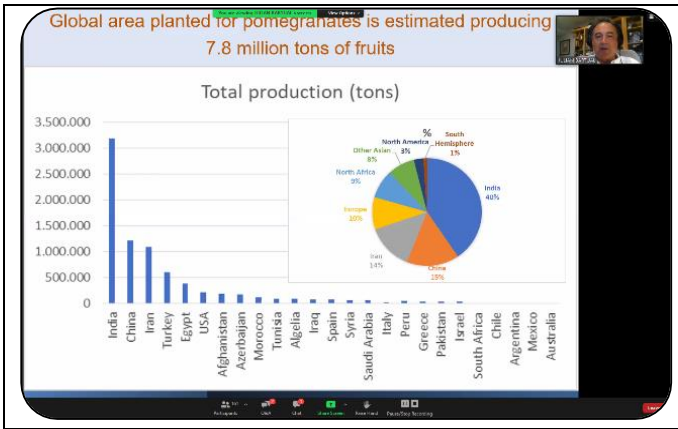
International Webinar on "Pomegranate: Ancient Fruit in Modern Horticulture"

The ICAR–National Research Centre on Pomegranate has organized an International Webinar on "Pomegranate: Ancient Fruit in Modern Horticulture" during August 25-27, 2021 in collaboration with Society for Advancement of Research on Pomegranate, Solapur and ICAR-CIAH, Bikaner.

A total of 47 Invited Speakers including 7 international speakers and 200 delegates from 9 countries of the world namely, Israel, Iran, Spain, USA, Turkey, Italy, South Africa, Germany, Pakistan and India have participated in this mega scientific event. In this webinar representatives of many MNCs like UPL, ICL, Jain Irrigations, Sam AgriTech, Coromandel, Bayer, Corteva, etc., also participated. The Padma Shri awardee pomegranate farmer Sh. Genabhai Dargabhai Patel has also shared his experiences to inspire the other pomegranate growers.

The Inaugural program of the International Webinar was chaired by Dr. C.D. Mayee, Former Chairman, ASRB and Dr. AK Singh, DDG, HS. The webinar also witnessed the august presence of Dr. NK Krishna Kumar, Former DDG HS; Dr. PL Saroj, Director, ICAR-CIAH, Bikaner; Dr. T Jankiram, VC, Dr. YSRHU (AP); Dr. AS Dhawan VC, VNMKV, Prabhani; Dr. PG Patil VC, MPKV, Rahuri; Dr. BK Pandey, ADG (HS-II), ICAR, New Delhi; Dr. RT Patil, Former Director, ICAR-CIPHET; Dr. VI Benagi, Ex-VC, UAS Dharwad and other dignitaries. The International Webinar was convened by Dr. RA Marathe and coordinated by Dr. NV Singh.

	Welcome of dignitaries by Dr. R. A. Marathe, Director, NRCP
	Inauguration of International Webinar by Dr. C. D. Mayee & Dr. A.K. Singh
	Co-ordination team of International Webinar on "Pomegranate: Ancient Fruit in Modern Horticulture" during August 25-27, 2021 from ICAR-NRCP, Solapur



Presentation by Dr. Julian Bartual Martos, Agricultural Expt. Station, Spain and

Presentation by Dr. Ali Sarhosh, Asst. Professor and Extension Specialist, Uni. of Florida, USA

International Millet Year celebration

As a part of the Curtain Raiser of "International Years of Millets 2023" a programme was organized by ICAR- National Research Centre on Pomegranate, Solapur, Maharashta on 17.09.2021 at 10.30am. The inaugural session of the programme resumed with ICAR invocation song followed by the welcome address by Dr. Namrata Ankush Giri, Scientist, Co-coordinator of the programme. Dr. R. A. Marathe, Director of ICAR- NRC on Pomegranate delivered a keynote address and emphasized the importance and health benefits of the millets. Chief guest for the programme was Shri.Upparaya Chincholi, Vice President of Grampanchayat, Suntoor, Karnataka. The live telecast of the programme which was inaugurated by Shri. Narendra Singh Tomar, Honorable Union Minister of Agriculture & Farmers' Welfare was attended by all the participants. Farmers from Karnataka and different districts of Maharashtra, girls/kanya (71) from Sahakar Maharshi Shankarrao Mohite Patil Vidyalaya, Kegaon, staff / SRF/ YP/ JRF/ research scholars of ICAR-NRCP were attained the programme. The kit of millet based food products and planting materials (1000 Nos) of custard apple, jamun, coconut, sapota, mango, jackfruit and pomegranate were distributed to kanya and farmers. The tree plantations (300) were done in the field of ICAR-NRC on Pomegranate by farmers, kanya and staff of the Centre. The programme was concluded with a vote of thanks by Dr. Nilesh Gaikwad, Senior Scientist, ICAR-NRC on Pomegranate, Solapur.

Distribution of Millet based food product kit to school girls

Tree plantation program at NRCP by farmers

Celebration of Mahila Kisan Diwas

ICAR-NRCP has organised Mahila Kisan Divas on 16th of October 2021 at 11:00 AM on both virtual mode and offline mode. During the inaugural address, Dr. R. A. Marathe, Director, ICAR-NRCP, highlighted the role and importance of women in agriculture in general and pomegranate in particular. During this programme, we have felicitated a lady farmer cum entrepreneur Mrs. Vaishali Fulchand Aware from Sasure village of Barshi tehsil, Solapur district. She is one of the beneficiaries of Maharashtra State Rural Livelihood Mission (UMED Abhiyan) and working as Master Krushi Sakhi to train and disseminate knowledge for rural farmers and farm women. She is also a founder of Vardayini Farmer Producer Company. Mrs. Aware also shared her experience and struggle during *sangoshthi*. She has shared the transformation amongst family and society from in general apathy to appreciation during her independent entry in this endeavour to help the fellow farmers and women. A lecture on Role of women in agriculture and research was delivered by Dr. Jyotsana Sharma, Principal scientist (Plant Pathology), ICAR-NRCP, Solapur. About 115 participants attended this program including farmers, farm women, entrepreneurs and college students. The programme was coordinated by Dr. Namrata Giri and vote of thanks was given by Dr. Somnath Pokhare, Scientist, NRCP.

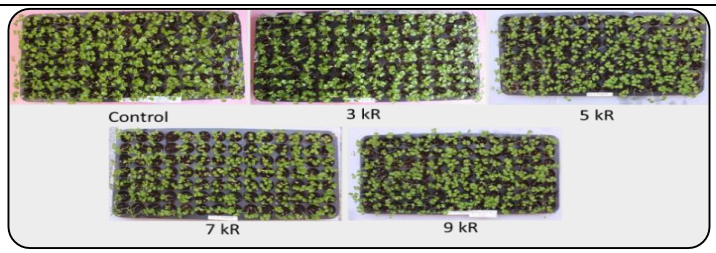
The felicitation of Mrs. Vaishali Aware lady farmer cum entrepreneur on the occasion of Mahila Kisan Divas at ICAR-NRCP, Solapur

Research achievements/ Highlights/ Technology developed

Breeding for bacterial blight resistance in Pomegranate (*Punica granatum* L.)

- In total 307 pomegranate accessions maintained in field gene banks at Kegaon and Hiraj research farms of ICAR-NRCP, Solapur during 2021-22. It includes 140 Indigenous (Uttarakhand, Jammu & Kashmir, Himachal Pradesh, Maharashtra, Karnataka, Rajasthan, Tamil Nadu, Gujarat) and 167 Exotic (USA, Turkmenistan, Russia, Iran, Italy, Japan, Afghanistan, France) collections.
- 98 germplasm accessions including 70 exotic accessions and 28 indigenous accessions were evaluated for their genetic reaction to bacterial blight disease under challenge inoculation to XAP-90, 118 culture (108 pfu/ml; OD: 0.154). Out of 98 accessions, one germplasm found moderately resistant with BBD severity grade of 2 and 9 accessions as moderately susceptible with severity grade of 3 in comparison to check variety Bhagawa (SG: 5).

- New advanced F2 and BC1F1 generation of 'Solapur Lal' X 'Bhagawa'; 'Solapur Lal' X (GxNxD), 'Solapur Anardana' X (GxNxD) have been developed to evaluate for BBD resistance.
- Standardized and fixed the LD50 value for EMS treatment of cv. "Bhagawa" seeds for both with (1.4% for 4hrs) and without pre-soaking (1% for 6hrs) treatment with water.
- *In vitro* mutagenesis study for developing solid mutants has been carried using EMS and Sodium Azide chemicals by treating the nodal segments of Super Bhagawa variety with EMS @ 0.25, 0.5, 0.75% for 1, 2, 3 and 4 hrs and Sodium Azide @1, 2 &4 mM @ 1, 3 and 6 hrs. Based on their effect on bud Sprouting (%), the LD50 was found to be EMS 0.5% 4 hr (36.67%) and SA 2mM 3hrs.
- Gamma irradiation of seeds of cv. 'Bhagawa' was carried out for 4 different doses (3 kR, 5 kR, 7 kR, and 9 kR and studied their effect on seed germination (%) and seedling survival (%).
- Identified and collected one "Bhagawa" variant from the farmer field at Solapur which matures in about 137-147 days.



Mutagenic population of pomegranate developed through physical mutagenesis (Gamma rays)

Early maturing variant identified from farmer field

(Team: Shilpa P., Jyotsana Sharma, Babu, K. D., Roopa Sowjanya P., Singh N. V., Patil P. G.)

Structural and functional annotation, Resistance genes and Transcription Factor identification of Bhagawa genome sequence

Proteins from OrthoDBv10 using the Viridiplantae lineage were downloaded. Redundancy in the downloaded dataset were removed to create a Non-Redundant pool. This was done using mmseqs2 by requiring a 90% identity and a 90% sequence match for clustering the proteins and finally extracting proteins that had a minimum length of 10AA. This unique protein set was aligned to the genome using GenomeThreader and BRAKERv2.1.0 was used to create Augustus profiles using multiple optimization rounds. Augustus predicted 38263genes. The final curation and integration led to the validated presence of 33003 genes with 41682 mRNAs. The geneic space in the genome is about 32.7% with the coding space being 18.8%.

(Roopa Sowjanya P.)

Effect of anti-transpirants on bacterial blight incidence or correlation between stomatal opening and bacterial blight incidence

To study the correlation between stomatal opening and bacterial blight incidence, chemicals that act as anti-transparent (such as atrazine: T1 and Kaoline: T2) were sprayed onto leaves of 6-month pomegranate plants (var Bhagawa) in polyhouse. Other treatments included salicylic acid (T3; recommended in IDPM schedule), water spray but without cover T4. In treatment T5, plants were

treated as per standard procedure and control (T6) where no spray was performed on plants. All the plants were challenge inoculated with *X. axonopodis* pv. *punicae* as per standard protocol.

Leaf samples were collected at different time intervals (immediately after anti-transpirants spray (0h); after 2h; after pathogen spray (24h); 2h after pathogen spray (26h); 4 and 7 days after anti transparent spray. Leaves were stained with safranine to visualise stomata under the microscope. Total number of stomata and number of open stomata were counted and frequency of open stomata was calculated in percent. Disease incidence and severity was recorded for the plants.

Minimum disease incidence and/or severity was observed in plants treated with Kaoline followed by atrazine and salicylic acid. Plants in T5 showed the maximum disease incidence as per expectation (Figure 1). The frequency of open stomata showed variation at different time points, however, a correlation was found between stomatal opening at 7 d and disease incidence on the plants (Figure 2). More detailed studies with even more chemical treatments are under way.

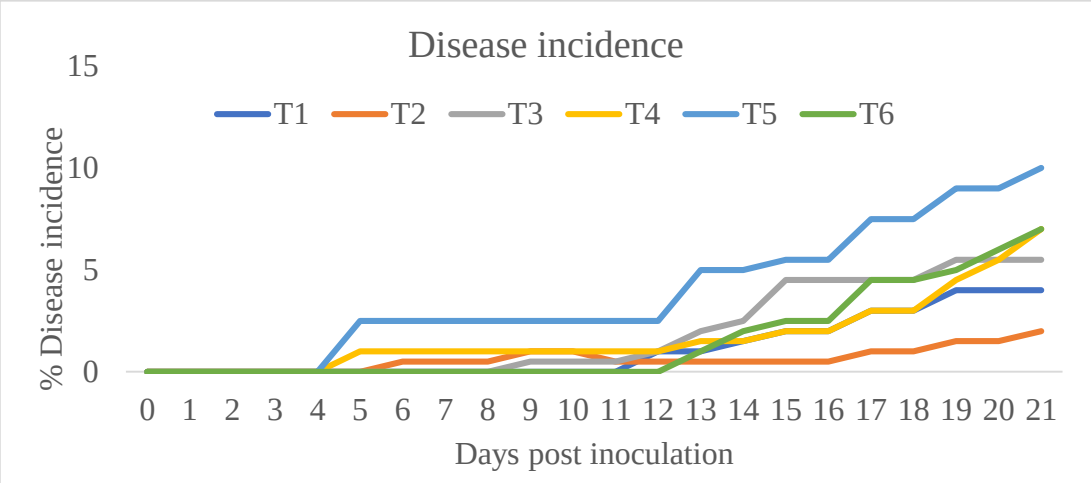


Figure 1 Effect of anti-transparent on bacterial blight incidence on pomegranate.

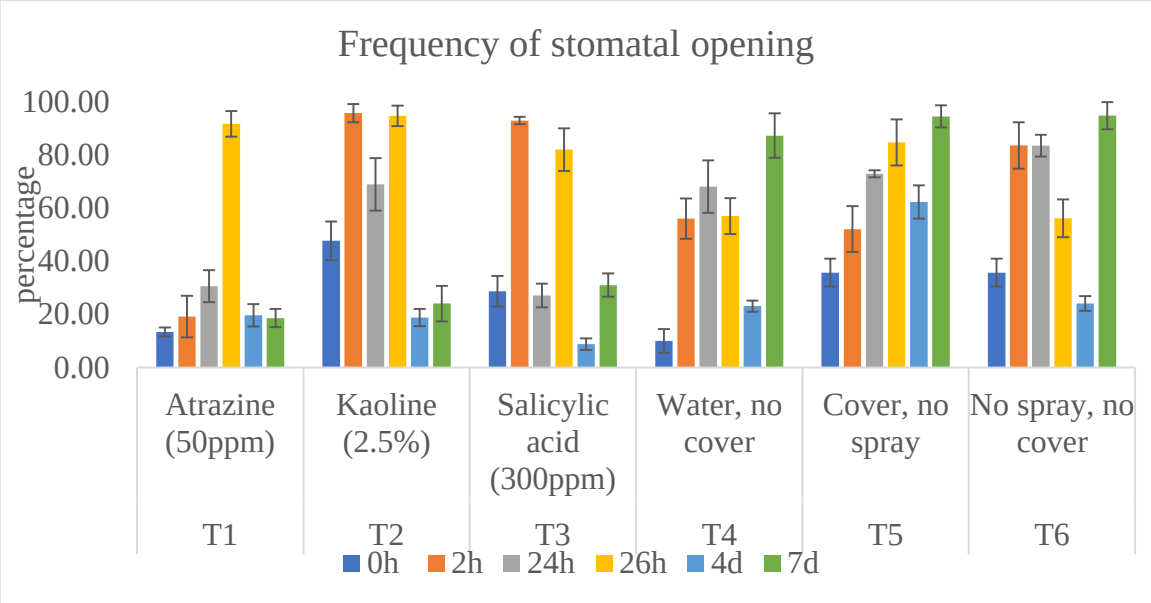
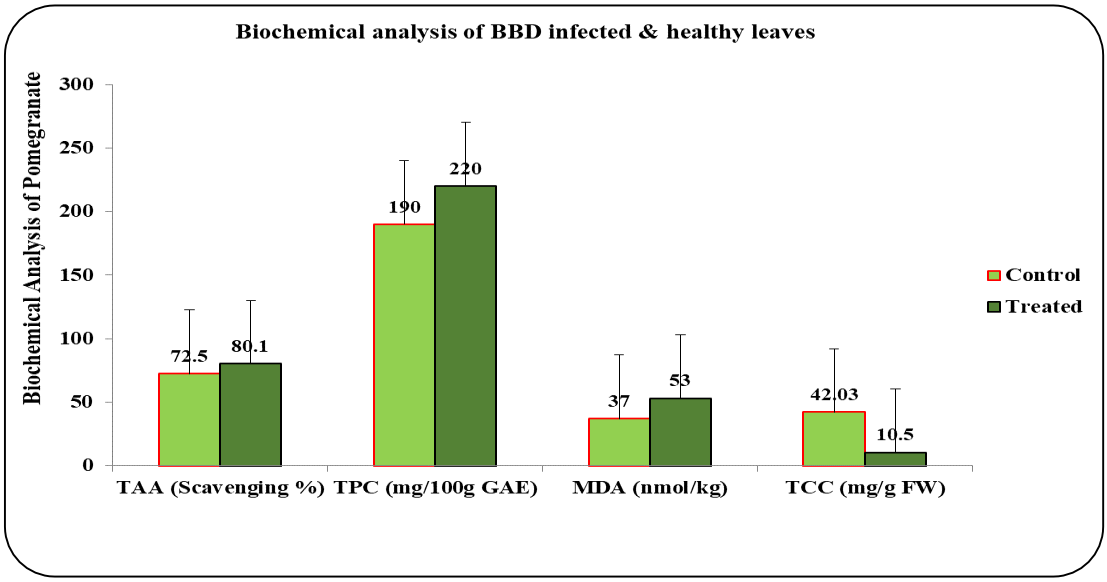


Figure 2 Effect of anti-transparent on stomatal opening on pomegranate leaves.

(Team: Manjunatha N., Somnath Pokhare and Jyotsana Sharma)

Bacterial blight stress induced biochemical changes in pomegranate leaf samples

The DPPH scavenging, total phenolic content, lipid peroxidation (MDA content) and total chlorophyll content biochemical analysis were performed under healthy and bacterial blight disease (BBD) stress imposed leaf samples. The 2, 2-Diphenyl-1-picrylhydrazyl scavenging percentage was estimated for bacterial blight and healthy samples. Results showed 10.48% increase in total antioxidant activity in bacterial blight stress imposition, while bacterial blight stress imposition showed a moderate 15.78% increase in total phenolic content. In case of malondialdehyde (MDA) content significant 43.24% increased trend was observed and in total chlorophyll content significant 75.01% decreased pattern was observed. Out of all biochemical parameters MDA content, DPPH scavenging percentage, total phenolic content was increased but total chlorophyll content was decreased significantly after bacterial blight stress imposition. MDA content significantly increased with the bacterial blight stress imposition while significant decreased trend was observed in total chlorophyll content but in case of total antioxidant activity and total phenolic content moderate increasing trend was observed.



Biochemical Analysis of BBD Leaves Samples

(Team: Rahul D. Damale, Shilpa P., Manjunath N, P. Raigond, Mallikarjun H., Dinesh Babu, R A Marathe)

Evaluation of newer nematicides under poly-house conditions

Primary trial for the evaluation of newer nematicidal chemicals like Nimitz (Fluensulfone 2% GR), Velum Prime (Fluopyrum 34.48% SC), Reklemel (fluazaindolizine 500 SC) and Vegetable oil based nematicide *i.e.* Nemon against Root-Knot Nematode on new roots under pot condition for the period of 5 months. About 20 selected plants for trial were already heavily infested by RKN (>100 galls/plant, highest galling index scale 5). We have randomly assigned 4 plants per treatment out of which 2 were root pruned and root were mixed in the same pot soil. Treatments with nematicides were given as recommended with and without root pruning of the pomegranate plants. Lowest no. of galls were observed in the plants with intact roots treated with Reklemel @ 2 ml/2L (0.5 liter/plant) followed by Velum Prime @ 2 ml/2L (0.5 liter/plant) and Nimitz @ 10 g/ plant. In the case of root pruned plants,

no galls were observed in the plants treated with Nimitz and Velum prime in the above-mentioned concentrations.

Treatment	Nematicide	Rec. dose	Dose taken per pot	Galls on New white roots	
				Plants with un-pruned roots	Plants with pruned roots
T1	Nimitz	10g/dripper (Max 40 gm/Plant)	10 g/ plant	25 galls	No galls
T2	Reklemel	2ml/2L	0.5 liter/plant	18 galls	Plant dead
T3	Suzan	4 ml/2L	0.5 liter/plant	43 galls	10 galls
T4	Velum Prime	2ml/2L	0.5 liter/plant	21 galls	No galls
T5	Nemon	200 µl/2L	0.5 liter/plant	27 galls	Plant dead
T6	Control	0.5 liter/plant	0.5 liter/plant	80 galls	15 galls

(Team: Somnath Pokhare, Manjunatha N. & Jyotsana Sharma)

Foam mat drying of pomegranate juice

Pomegranate juice is well known for health benefits owing to presence of various bioactive compounds. However, the seasonality of the fruits, susceptibility of the pomegranate juice for microbial contamination, costly transportation due to higher volume curtails its accessibility to masses. These factors curtail the marketing of pomegranate juice in distant markets. The Foam mat drying is an innovative approach for the drying of the juices especially with higher sugars. Pomegranate juice is well known for health benefits owing to presence of various bioactive compounds.

However, the seasonality of the fruits, susceptibility of the pomegranate juice for microbial contamination, costly transportation due to higher volume curtails its accessibility to masses.

These factors curtail the marketing of pomegranate juice in distant markets. The Foam mat drying is an innovative approach for the drying of the juices especially with higher sugars. It is a process of drying liquid - solid foods by being mixed with foaming agent and or stabilizing agent to produce stable foam, which undergoes air drying. Thus experiment was planned to study the effect of different percentages of the whey protein isolate (WPI) (5, 7.5, and 10%) as foaming agent and carboxy methyl cellulose (CMC) (0, 0.25, 0.5 and 0.75 %) as stabilizing agent were observed on foam expansion, foam density and foam drainage volume. The 10 % whey protein isolate and 0.25 % of CMC has shown the best results in terms of foam expansion, foam density and foam drainage volume of 455.28 %, 0.2030 g/cc and 20.10 ml respectively. The pomegranate juice foam produced at optimum conditions (10% WPI and 0.25% CMC) used for foam mat drying experiments. The drying experiments were conducted up to the moisture content of 4 % (db) at 50, 60 and 70 °C, and foam thickness of 3 and 6 mm. Based on the drying time required and bioactive compound retention the 60°C temperature and 3 mm drying thickness was selected for the drying. At this selected temperature and thickness The drying time of

180 minutes with optimum retention of the bioactive compounds in the reconstituted juice viz. total phenol 2678.87 g/L GAE, antioxidant capacity 41.19 mg/100ml AAE, anthocyanin 24.60 mg/100ml, and ascorbic acid 14.17 mg/100 ml was observed. The pomegranate juice powder can be utilized as the preparatory food in ice cream, confectionary, and reconstitution in to drinks etc.

(Team: Nilesh N. Gaikwad, Namrata A. Giri, Anuja Kadam and Rajiv A. Marathe)

Events organized (Seminar/ Webinar/ Symposia/ Conferences etc.)

Title of the event	No. of participant	Date	Course Director/ Co-coordinators/ Team
Workshop on Insect pest disease management of Pomegranate, at Sangewadi, Sangola	78	27.07.21	Dr. Jyotsana Sharma, Dr. Somnath Pokhare
Workshop on Insect pest disease management of Pomegranate, at Kadalas, Sangola	60	04.08.21	Dr. Jyotsana Sharma, Dr. Somnath Pokhare & Dr. Mallikrjun, H.
Farmer Scientist interaction about pomegranate cultivation and pest and disease management at Dhumalwadi, Dist-Satara	200	08.09.21	Dr. Jyotsana Sharma, Dr. Somnath Pokhare

Programs under Azadi Ka Amrit Mahotsav

Coordinators: Dr. Nilesh N. Gaikwad Co-coordinators: Dr. Somnath S. Pokhare & Dr. Namrata A. Giri

Title of the webinar	Date	Speaker
"Pomegranate production in dry land region: An alternative for higher income"	16.07.21	Dr. N.V. Singh
"Pomegranate Nutrition and its Therapeutic Utility"	08.09.21	Dr. Namrata A. Giri
"Solapur Lal and Solapur Anardana: NRCP Contribution in Bio fortified Food"	16.09.21	Dr. K. Dhinesh Babu
"Pomegranate miracle health fruit for livelihood and nutrition for women"	16.10.21	Dr. Jyotsana Sharma
"Pomegranate Value addition: NRCP contribution in technologies and entrepreneurship development" on the occasion of world food day.	16.10.21	Dr. Nilesh N. Gaikwad
"Entrepreneurship Opportunities for small land holding pomegranate farmers"	28.12.21	Dr. N.V. Singh & Dr. Nilesh N. Gaikwad

Events attended by the NRCP staff (Seminar/ Webinar/ Symposia/ Conference/ Meetings)

Title of the event	Date	Organizers	Participants
Online Training Programme on "DUS Testing" conducted by PPV&FRA, New Delhi.	01.07.21	On-line PPVFRA, New Delhi	Dr. Shilpa Parashuram

Meeting on Gap assessment in infrastructure & processing facilities for development of potential value chains for perishable products under Operation Greens Scheme of MoFPI, GOI.	14.07.21	Deloit for Ministry of Food Processing Industries GOI	Dr. Nilesh Gaikwad
Plant Genetic Resources Management and Utilization	19.07.21 to 01.08.21	Online – NRCP, Solapur	Dr. Shilpa Parashuram
International e-Conference on Postharvest disease management and value addition of horticultural crops.	18.08.21 to 20.08.21	(Online) ICAR-IARI, New Delhi.	Dr.Namrata Ankush Giri
National conference on "Oil Palm- A right choice towards self-sufficiency in edible oil production".	06.09.21	(Online) ICAR-IIOPR, Pedavegi, A.P.	Dr.Namrata Ankush Giri
Delivered lecture on "cultivation and value addition of pomegranate for improvement in export"	09.10.21	APEDA, Ministry of C & I, GOI and Agrovision, Nagpur	Dr. Nilesh Gaikwad
International webinar on "Fighting the hunger using smart technology".	26.10.21	(Online) ICAR-IIOPR, Pedavegi, A.P.	Dr.Namrata Ankush Giri
9th Indian Horticulture Congress, organized by IAHS, New Delhi	18.11.21 to 21.11.21	CSAUA&T, Kanpur	K. Dhinesh Babu
National Agricultural Scientist Conclave on "Sustainable Agriculture Through Integrated Inputs" at JNKVV, Jabalpur, Madhya Pradesh organized by Bhartiya Agro- Economic Research Centre, New Delhi.	09.12.21 to 12.12.21	JNKVV, Jabalpur, Madhya Pradesh	Dr. Mallikarjun
Online National webinar on the use of Nontechnology in Agriculture: Nano fertilizer Jointly organized by ICAR-Research Complex for Eastern Region, Patna, and Indian farmers, fertilizer Cooperative limited Patna, Bihar.	23.09.21	Online NRCP, Solapur	Dr. Mallikarjun
Virtual Webinar on Increasing the Yield, Qualitv and Income of Pomegranate Farmers	24.07.21	UHS Bagalkot	Dr. N.V. Singh

organized by Dhanuka Group in partnership with the University of Horticultural Sciences, Bagalkot, Karnataka			
National Agricultural Scientists Conclave on Sustainable Agriculture through integrated inputs organized by Bhartiya Agro-Economic Research Center in Collaboration with Bhartiya Kisan Sangh. The conclave will be held at JNKVV, Jabalpur	10.12.21 to 11.12.21	JNKVV, Jabalpur	Dr. N.V. Singh
13th Swadesh Prem Jagriti Sangosthi International Conference on Innovative Approaches for Enhancing Water Productivity in Agriculture including Horticulture, PJTSAU, Rajendranagar, Hyderabad, Telangana, India	16.09.21 to 19.09.21	PJTSAU, Rajendranagar	Dr. N.V. Singh
International web conference on Innovative & Current Advances in Agri & Allied Sciences	19.07.21 to 21.07.21	SSDAT, Meerut, India	Mr. Rahul Damale

Trainings conducted for Farmers/ Students/ Officers/ Entrepreneurs etc.

Title	Date	Team	Participants & Venue
Four days MANAGE, Hyderabad sponsored collaborative online training program on "Modern practices for export quality pomegranate production and value addition" for extension officers of State Agri./Hort.	28.07.21 to 31.07.21	Dr. N.V. Singh	49 ICAR-NRCP, Solapur
Farmer-Scientist Interface meet & live webcasting of Hon'ble Prime Minister's programme of Dedication of 35 Crop Varieties and establishment of ICAR – NIBSM, Raipur to the Nation.	28.09.21	Dr. Somnath Pokhare	80 ICAR-NRCP, Solapur
Field day on Management of Bacterial blight and Wilt in Pomegranate jointly organized by ICAR-NIASM, Baramati and ICAR-NRCP, Solapur	21.10.21	Dr. Jyotsana Sharma & Dr. Somnath Pokhare	60 at NIASM, Baramati.
Field day cum farmer fair on impact of "Stem Solarization – Six Step Technology for the Management of Bacterial Blight Disease in Pomegranate"	13.11.21	Dr. Jyotsana Sharma, Dr. S. Pokhare & Dr. Manjunatha N.	150 Village - Tamshewadi, Malshiras, Solapur
Celebration of World soil day	05.12.21	Dr. Ashis Maity	92 ICAR-NRCP, Solapur

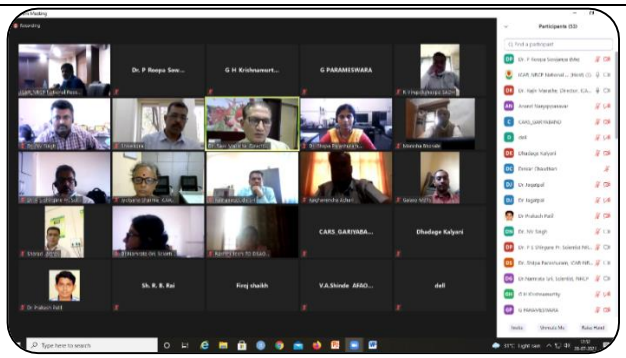
Farmers scientists' interaction on Climate Resilient varieties, technologies and practices	28.12.21	Dr. Somnath Pokhare	50 ICAR-NRCP, Solapur

Field day cum farmers fair on impact of "Stem solarization - Six step technology for bacterial blight management.

Live webcasting of Hon'ble Prime Ministers Program on 28th September 2021

World soil day celebration at ICAR-NRCP, Solapur on 5th December 2021

Live streaming of Programme on Natural Farming during on 16th December 2021



Address by Dr. Rajiv Marathe, Director ICAR-NRCP, Solapur during the training program

Lecture by Dr. Mallikarjun on Insect Pest Management in Pomegranate

Training programme on modern practices for export quality pomegranate production and value addition during 28-31st July 2021

Institutional activities

Institute Research Council (IRC) Meeting

The sixteenth Institute Research Council (IRC) meeting of ICAR- National Research Centre on Pomegranate was held on 24th November 2021 at ICAR-NRCP, Solapur under the Chairmanship of Dr. R. A. Marathe, Director, ICAR-NRCP, Solapur in the Director's Board Room. Dr. Prakash G. Patil, Sr. Scientist, I/c Member Secretary IRC extended a warm welcome to Hon'ble Chairman Dr. R.A Marathe and all the members. Presentations on salient achievements of 17 ongoing and 2 new research project proposal and future line of work were made by each scientist.

Welcome of Dr. R. A. Marathe, Director, ICAR-NRCP, Solapur by Member Secretary IRC

Presentation of research achievements by Dr. Shilpa during the IRC meeting

Research Advisory Committee (RAC) Meeting

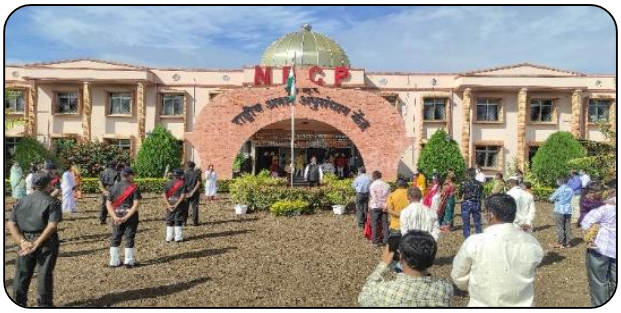
The fifteenth Research Advisory Committee (RAC) meeting of ICAR- National Research Centre on Pomegranate was held during November 29-30, 2021 at ICAR-NRCP under the Chairmanship of Dr. N Kumar, Vice Chancellor, TNAU, Coimbatore, Tamil Nadu. The technical meeting was held on on Nov 29, 2021 in the Director's Board Room. Dr. Prakash G. Patil, Sr. Scientist (Plant Biotech) & I/c Member Secretary extended a warm welcome to the Hon'ble chairman and esteemed members of the RAC. Then Director, ICAR-NRCP briefed all the members about 16 Years Journey of ICAR-NRCP with success stories at Solapur through a brief presentation. The in-charge member secretary presented the 'Action Taken Report' on the recommendations of 14th RAC meeting held during November 6-7, 2020 (virtual mode). At the end of the opening session, the Chairman addressed the house and appreciated the research effort made by ICAR-NRCP. The technical sessions started thereafter with the presentation on detailed work done during 2020-21 by the Principal Investigators of 13 projects. The Chairman and all members of RAC interacted with the scientists on each project. After detailed deliberations on the progress made by the Centre, several valuable suggestions and recommendations as listed below were given by the RAC members.

Director and Scientific staff of ICAR-NRCP with Members of 15th RAC

Other Special Events

Independence day Celebration

The Institute celebrated the 75th Independence Day on 15 August 2021 by hoisting the Indian National flag by Dr. R. A. Marathe, Director, ICAR-NRCP in presence of all the scientific, technical, administrative, contractual etc. staff of the centre. The gathering was addressed by the speech of the Director followed by the felicitation of the farm labor and children of the staff who scored highest in academics.



Parthenium Awareness Week

The 16th "Parthenium Awareness Week" has been conducted at ICAR-NRC on Pomegranate, Solapur Maharashtra during 16th August 2021 to 22nd August 2021. The various activities have been conducted under this programme such as releasing of Maxican beetle, parthenium uprooting, making compost, spraying of herbicides, student's rally, demonstrations and exhibitions. Dr. R. A. Marathe, Director of ICAR-NRC on pomegranate has inaugurated "Parthenium Awareness Week" by releasing the maxican beetles (*Zygogramma bicolorata*) and all staff were participated in the different programme conducted under "Parthenium Awareness Week". The students and staff from S. M. Shankarrao Mohite Patil, Kegaon, Solapur, Maharashtra also actively participated in the programme.

Director, NRCP along with that staff and school children during Parthenium awareness week

ICAR-NRCP Outreach Activities

Mera Gaon Mera Gaurav (MGMG)

A team of Scientist from NRCP on 28th August 2021 visited Khandali villages of Mohol which is adopted under the Government scheme of MGMG. Scientist visited pomegranate orchards of farmers and suggested the solution for the problem of shot hole borer. On 12th October 2021, different programme of Swacchata campaign was also conducted at Khandali and farmers were aware about the Solapur Lal variety of pomegranate and management practices to control bacterial blight and other diseases. Soil samples from pomegranate orchards were collected and soil health cards were also distributed to the farmers.

Distribution of Soil Health card to farmers of Adopted village

Visit of NRCP team to adopted village under MGMG program

Events organized under Scheduled Caste Sub Plan (SCSP)

A training programme was conducted on "Model propagation and orchard management practices for sustainable pomegranate production for farmers and coordinating agencies" under SCSP during 26th-29th Oct, 2021. About 30 SC farmers benefited from the programmes.

Training programme under SCSP scheme at ICAR-NRCP, Solapur

Farmer visit to ICAR-NRCP, Solapur

S. No	Date	Organization/ Place of beneficiaries	No. of farmers beneficiaries
1.	16.09.21	Farmers exposure visit from Department of Agriculture Badmer, Rajasthan	50
2.	29.09.21	State Agriculture Department, Gadchiroli (MS)	52

3.	17.12.21	KVK, Mohol, Solapur	27
4.	30.12.21	State Agriculture Department, (MS)	25

Farmers exposure visit from Department of Agriculture Badmer, Rajasthan, visited ICAR-NRCP

Student Visits to ICAR-NRCP

S.N.	Date	College / University	Number
1	08.09.21	Dnyaan Prabhodini Krushi Tantra Vidhyalay, Harali, Osmanabad (MS).	40
2	29.10.21	AD, college of agriculture ,Dapoli (MS)	89
3	25.11.21	PG students of Aahilyabai holkar University Solapur.	58
4	02.12.21	College of agriculture Karkere Hasan, Karnataka	60
5	05.12.21	College of Agriculture, Hassan, Karnataka	59

Educational Visit of Students of College of Agriculture, Karkere Hasan, Karnataka

Peer recognitions/ Awards/ Honors received by the NRCP staff

Name of Scientist	Name of award	Awarding organization
Dr. R.A. Marathe	SARP Fellowship – 2020	Society for Advancement of Research on Pomegranate (SARP), Solapur
Dr. K. Dhinesh Babu	Fellow of SARP - 2020	
Dr. Ashis Maity	SARP Associateship- 2020	
Dr. Nilesh Gaikwad	SARP Associateship- 2020	SARP, Solapur
Dr. Mallikarjun M.H	Young Scientist Award-2020	SARP, Solapur
Dr. Shilpa Parashuram	Young Scientist Award-2020	SARP, Solapur
Dr. N.V. Singh	SARP Fellowship -2021	SARP, Solapur
Dr. P. G. Patil	SARP Associateship Award-2021	SARP, Solapur

K. Dhinesh Babu et al; Gaikwad N.N et al.; Manjunatha N. et al.; Mallikarjun M.H et al.; Singh et al.; Patil et al.; Roopa Sowjanya et al; Shilpa P et al.; Pokhare S. et al.;	Best Poster Award	SARP, Solapur
K. Dhinesh Babu et al.	Best Poster Award	IAHS, CSUA&T, Kanpur
Maity et al.; Gaikwad N.N et al.; Singh, N.V et al.; Patil P. G et al., Shilpa P. et al.	Best oral presentation award	SARP, Solapur
Ashis Maity	Best oral presentation award	Hi-Tech Horticulture Society and Prerna Foundation, Meerut, UP.
Dr. Namrata Giri	Best oral presentation award	ICAR-IARI, New Delhi.

Dr. R.A. Marathe, Director NRCP receiving the Fellow of Society for Advancement of Research on Pomegranate – 2020 Award from Dr. Lakhan Singh, Director, ATARI, Pune.

Technology Commercialization/Linkages/Collaborations / MoU signed

A technology on "Process of minimal processing and shelf life extension of minimally processed arils" licensed to M/S Gnanam Foods, Bhuj- Bhachau Highway, RS NO 426, Opp. Essar pump, Village-Morgar, Tal- Bhachau, District- Kutch, State- Gujarat, 370140 on 20th July 2021 and revenue received Rs. 1,18,000/-.

Publications

S.No.	Research Papers
1.	Maity, A. Marathe, R.A., Sarkar, A., Basak, B. (2022) Phosphorus and potassium supplementing bio-mineral fertilizer augments soil fertility and improves fruit yield and quality of pomegranate. Scientia Horticulturae, https://doi.org/10.1016/j.scienta.2022.111234 (NAAS rating: 11.75).
2.	Kumar, R.A., Rajpurohit, V.S., Gaikwad N. N. 2021. Image dataset of pomegranate fruits (*Punica granatum*) for various machine vision applications. Data in Brief. 37:107249 https://doi.org/10.1016/j.dib.2021.107249 (NAAS rating: 7.70).
3.	Singh, N.V., Patil, P.G., Sowjanya, P.R, Shilpa, P., Natarjan, P., Reddy, U.K., Babu, K.D., Pal, R.K. and Sharma J. 2021. Chloroplast Genome Sequencing, Comparative Analysis and Discovery of Unique Cytoplasmic Variants in Pomegranate (*Punica granatum* L.). Frontiers in Genetics, doi: 10.3389/fgene.2021.704075 (NAAS rating: 10.60).
4.	Babu KD, Sharma J, Maity A, Singh NV, Patil PG, Shilpa P, and Marathe, RA. 2021. Pomegranate: An ancient fruit for health and nutrition. Progressive Horticulture. 53 (1): 3-13.(NAAS rating: 4.49).
Book chapters	
1.	Nilesh N. Gaikwad, Namrata Giri and K. Dhinesh Babu (2021) Processing and Value addition, In Good Management Practices in Pomegranate, Eds. R A Marathe, S. Pokhare, J. Sharma, PG Patil, N. Manjunatha, Mallikarjun, M.H., Technical Manual No.1/NRCP/2021 ICAR-National Research Centre on Pomegranate, Solapur-413255 (Maharashtra), India, 129-132.
2.	Namrata Ankush Giri, Sajeev M.S., Bansode V.V., Krishnakumar T. and Pradeepika Chintha. (2021). Sweet potato (*Ipomoea batatas* L.): Nutritional importance and value addition In: Recent Advances in Root and Tuber Crops, Brillion Publishers, New Delhi,355-376.
3.	Sankaran, M, Babu, KD, Jai Prakash, Karale, AR. 2021. Pomegranate. In: Fruits: Tropical & subtropical. Vol.2 (Eds. Parthasarathy VA, Bose TK, MItra SK, Bhosh B, Chakraborty I, SAnyal D). Daya Publishing House, N.Delhi. pp.165-242.
4.	Ferrara, G., Palasciano, M., Sarkhosh, A., Cossio, F., Babu, K.D., Mazzeo, A. 2021. Orchard Establishment and Tree Management. In: The Pomegranate: Botany, Production and Uses (Eds Sarkhosh, A., Yavari, A. and Zamani, Z), CABI Publishing – Wallingford OX10 8DE, United Kingdom. 247-284.
5.	Mallikarjun H., 2021. Insect and non-insect pests and their management. Technical Manual No.1/NRCP/2021 on Good Management Practices in Pomegranate, published by ICAR-NRC on Pomegranate, Solapur-413255 (Maharashtra), India, pp170.
6.	Singh, N.V., Babu, K.D. and Sharma, J. 2021. Pomegranate. In: Subtropical fruit crops: theory to practical (Ghosh, S.N. and Sharma, R.R. eds.), Jaya Publishing House, New Delhi, Pp. 454-523.
7.	Patil, P.G., Singh, N.V., Shilpa, P., Sowjanya, R., Jyotsana, S., Marathe, R.A. (2021). Recent Advances in Pomegranate Genomics: Status and Prospects (Book: Omics in Horticulture crops, Elsevier publisher). (Accepted).
8.	Bohra A, Jha U, Satheesh Naik S J, Mehta S, Tiwari A, Maurya AK, Singh D, Yadav V, Patil PG, Saxena RK and Varshney RK (2021). Genomics: Shaping Legume Improvement. In book:

	Genetic Enhancement in Major Food Legumes (Eds. Saxena K.B et al.). DOI: 10.1007/978-3-030-64500-7_3.
9.	Shilpa P., Roopa Sowjanya, P., Babu K. D., Singh N. V., Prakash Patil, G. and Jyotsana S. Pomegranate - A Miracle Fruit Crop in Handbooks of Agro-biodiversity: Conservation and Use of Plant Genetic Resources for Springer Nature (Communicated).
10.	Babu, K.D. and Singh, N.V. 2021. Orchard management. In: Good Management Practices in Pomegranate, (Eds: Marathe, R.A., Pokhare, S.S., Manjunatha, N., Sharma, J., Mallikarjun, M.H., and Patil, P.G.) Technical Manual No.1/NRCP/2021 ICAR-NRC on Pomegranate, Solapur-413255 (Maharashtra), India, pp 38-43.
11.	Singh, N.V., Chandra, R., Babu, K.D. and Shilpa, P. 2021. Healthy planting material for sustainable production. In: Good Management Practices in Pomegranate, (Eds: Marathe, R.A., Pokhare, S.S., Manjunatha, N., Sharma, J., Mallikarjun, M.H., and Patil, P.G.) Technical Manual No.1/NRCP/2021 ICAR-National Research Centre on Pomegranate, Solapur-413255 (Maharashtra), India, pp 8-11.
12.	Singh, N.V., Chandra, R., Marathe, R.A., Babu, K.D. and Patil, P.G. 2021. Establishing new orchard. In: Good Management Practices in Pomegranate, (Eds: Marathe, R.A., Pokhare, S.S., Manjunatha, N., Sharma, J., Mallikarjun, M.H., and Patil, P.G.) Technical Manual No.1/NRCP/2021 ICAR-National Research Centre on Pomegranate, Solapur-413255 (Maharashtra), India, pp 12-16.
13.	Singh, N.V., Sharma, J., Shinde, Y., Babu, K.D. and Shilpa, P. 2021. Economics of pomegranate cultivation. In: Good management practices in pomegranate, (Eds: Marathe, R.A., Pokhare, S.S., Manjunatha, N., Sharma, J., Mallikarjun, M.H., and Patil, P.G.) Technical Manual No.1/NRCP/2021 ICAR-NRC on Pomegranate, Solapur-413255 (Maharashtra), India, pp 141-143.
14.	Singh, N.V., Sharma, J., Babu, K.D. Patil, P.G. 2021. Supply chain management, marketing and export issues in pomegranate. In: Good Management Practices in Pomegranate, (Eds: Marathe, R.A., Pokhare, S.S., Manjunatha, N., Sharma, J., Mallikarjun, M.H., and Patil, P.G.) Technical Manual No.1/NRCP/2021 ICAR-National Research Centre on Pomegranate, Solapur-413255 (Maharashtra), India, pp 133-140.
15.	Rajiv Marathe, Jyotsana Sharma, Rahul Damale and Mallikarjun 2021. Gaajar Gavat Nirmoolan Jagaruktaa Saptaha. Sakal-Agrowon, 22nd August 2021.
Popular articles	
1.	Sharma, J., Maity, A., Singh, N.V., Mallikarjun, H., Manjunatha, N., Pokhre, S., Chaudhary, D. (2021) Mrigha bahar dalimba bagache Vyavasthāpana. Agro One, 5th August, 14 pp.
2.	Sharma, J., Maity, A., and Mallikarjun, H. (2021) Mrigh bahar dalimba bagesathi niyojan. Agro One, 21st October, 14 pp.
3.	Jyotsana Sharma, Ashis Maity, N.V. Singh, Mallikarjun, Manjunatha, N., Somnath Pokhare and Dinkar Chaudhary, 2021. Mrug Bahar Dalimb Baagecha Vyavstapan. Sakal-Agrowon, 5th August 2021.
4.	Jyotsana Sharma, Somnath S. Pokhare, Manjunatha, N., Mallikarun, H. and Vijay Lokhande, 2021. SIX-STEP Management Schedule for Bacterial Blight Disease. Agro India Magazine, pp36-38.

5.	Mallikarjun, Rajiv Marathe and Dinkar Chaudhary 2021. Dalimb Pikaavaril Khod Keed Vyavstapan. Sakal-Agrowon, 29th September 2021.
Pomegranate Advisories/ E-Publications/ Other publications	
1.	Sharma, J., Maity, A., Singh, N.V., Mallikarjun, H., Pokhare, S., and Chaudhari, D. (June-July, 2021). Dalimba phaldharak baghsathi daimashik salla. https://nrcpomegranate.icar.gov.in/files/Advisory/101.pdf
2.	Sharma, J., Maity, A., Singh, N.V., Pokhare, S., Mallikarjun, H., and Chaudhari, D. (October-November, 2021) Dalimba pikasathi salla. https://nrcpomegranate.icar.gov.in/files/Advisory/112.pdf
3.	Mallikarjun, Rajiv Marathe and Dinkar Chaudhari 2021. Advisory for pomegranate shot hole borer management (September-2021) https://nrcpomegranate.icar.gov.in/files/Advisory/107.pdf
4.	Mallikarjun, Rajiv Marathe and Dinkar Chaudhari 2021. Dalimb pikaavaril khod keed (Bhungera) vyavstapan (September-2021). https://nrcpomegranate.icar.gov.in/files/Advisory/108.pdf
5.	Mallikarjun 2021. Fruit Piercing Moths Management Advisory August 2021. https://nrcpomegranate.icar.gov.in/files/Advisory/104.pdf
6.	Dr. Jyotsana Sharma, Dr. Ashis Maithy, Dr. N V Singh, Dr. Mallikarjun, Dr. Manjunatha, N., Dr. Somanth Pokhare and Shri. Dinkar Chaudhari. Bimonthly Pomegranate Advisory for Bearing Orchards (August-September 2021 in English). (https://nrcpomegranate.icar.gov.in/files/Advisory/102.pdf).
7.	Dr. Jyotsana Sharma, Dr. Ashis Maithy, Dr. N V Singh, Dr. Mallikarjun, Dr. Manjunatha N., Dr. Somanth Pokhare and Shri. Dinkar Chaudhari. Bimonthly Pomegranate Advisory for Bearing Orchards (October-November 2021 in English). (https://nrcpomegranate.icar.gov.in/files/Advisory/109.pdf).
Souvenir	
1.	Marathe R. A., Singh N. V., Roopa Sowjanya, Gaikwad N. N., Manjunath N. Shilpa P., Damale R. D., Jyotsana Sharma. 2021. International Webinar on Pomegranate: Ancient Fruit in Modern Horticulture, August 25-27, 2021, ICAR-NRCP and SARP, Solapur, Maharashtra, India, 205 p.
Technical Bulletin/ Folders/ Manuals/ Books	
1.	Mallikarjun H., Jyotsana Sharma, Somnath S. Pokhare, Manjunatha, N. & Rajiv Marathe (2021). Dalimb Pikaavaril khod keed (Bhungera) vyavstapan. ICAR-NRCP/Vistar Patrika/2022/1. Published under CROPSAP.
2.	Somnath S. Pokhare, Manjunath N., Jyotsana Sharma, Mallikarjun M.H. and Prakash Patil (2021). Good Management Practices in Pomegranate, Technical Manual No.1/NRCP/2021 ICAR-National Research Centre on Pomegranate, Solapur-413255 (Maharashtra), India, pp170.
3.	M. H. Mallikarjun, N. Manjunatha, Jyotsana Sharma, K. Dhinesh Babu, P.S. Shirgure, Ashis Maity, N.V. Singh, N. Gaikwad, S. S. Pokhare, P. Shilpa, Roopa Sowjanya, Gunwant Garad, Govind Hande, K.N. Rao and Shailendra (2021). 'Course Compendium of Lectures for Training Programme on "Modern practices for export quality pomegranate production and

	value addition" for Extension Officers from July 28th -31st 2021 at ICAR-National Research Centre on Pomegranate, Solapur, Maharashtra, India.pp89.
4.	Nripendra Vikram Singh, Shilpa Parashuram, Roopa Sowjanya P., Jyotsana Sharma, Mallikarjun M.H, Ashis Maity, Nilesh Gaikwad, KD Babu, Somnath Pokhare, Manjunatha N. and Rajiv Marathe (2021). Promotion of ICAR-NRCP Technologies under SCSP programme. Technical Bulletin No. NRCP/2022/1, ICAR-National Research Centre on Pomegranate, Solapur. p.36.
5.	Singh, N.V., Roopa Sowjnaya, P., Shilpa, P., Sharma, J., Mallikarjun, M.H., Manjunatha, N., Babu, K.D., Pokhare, S., Maity, A., Shirgure, P.S., Gaikwad, N.N., Giri, N. and Marathe, R.A. (2021). Course Compendium of Lectures for Training Programme on Model Propagation and Orchard Management Practices for Sustainable pomegranate production -SCSP farmers and coordinating agencies. October 26- 29th, 2021 at ICAR-National Research Centre on Pomegranate, Solapur, Maharashtra, India, 93p.

Distinguished Visitors to ICAR-NRCP, Solapur

Shri. Milind Shambharkar, District collector Solapur and Ms G Madhumita Das, IPoS on 26.08.2021

Shri. Ankush Shinde Ex. Police Commissioner Solapur on 24.09.2021

Team Bhartiya Agro Economic Research Centre New Delhi on 15.11.2021

NABAARD Officer at NRCP on 20.12.2021

Electronic and Print Media coverage

डाळिंब केंद्रातर्फे शेतकरी, शास्त्रज्ञांचा गौरव

वर्धापनदिनाचे औचित्य, विशेष टपालाच्या पाकिटाचेही प्रकाशन

अॅग्रोवन वृत्तसेवा

सोलापूर : येथील राष्ट्रीय डाळिंब संशोधन केंद्राच्या १७ व्या वर्धापनदिनानिमित्त डाळिंबामध्ये उत्कृष्ट कामगिरी केलेल्या शेतकरी व शास्त्रज्ञांचा गौरव मान्यवर पाहुण्यांच्या हस्ते नुकताच करण्यात आला.

पुण्यातील आयसीएआरचे (अटारी) संचालक डॉ. लाखन सिंग, राष्ट्रीय द्राक्ष संशोधन केंद्राचे संचालक डॉ. आर. जी. सोमकुंवर, मुख्य पोस्टमास्तर जनरल हरीश अग्रवाल, सोलापूर पोस्टल विभागाचे प्रमुख ए. व्यंकटेश्वरा रेड्डी, अखिल महाराष्ट्र डाळिंब उत्पादक व संशोधन संघाचे उपाध्यक्ष प्रताप काटे आणि डाळिंब केंद्राचे संचालक डॉ. राजीव मराठे यावेळी उपस्थित होते.

यावेळी डॉ. मराठे यांनी संशोधन केंद्राच्या प्रवासाचा आलेख मांडला. तसेच डाळिंब संशोधन केंद्राच्या योगदानाबद्दल माहिती देणाऱ्या टपाल पाकिटाचे प्रकाशन हे राष्ट्रीय डाळिंब संशोधन केंद्रासाठी भूषणावह बाब असून यापुढे केंद्राचे कार्य सामान्य माणसात प्रसार होण्यास मोठी मदत होईल, अशी आशा डॉ. मराठे यांनी व्यक्त केली. प्रमुख पाहुणे डॉ. लाखन सिंग, डॉ. सोमकुंवर यांनी डाळिंब केंद्राने आतापर्यंतच्या कालावधीत केलेल्या कामाचा आवर्जून उल्लेख करत डाळिंब केंद्राचा गौरव केला. सूत्रसंचालन डॉ. नीलेश गायकवाड यांनी केले, तर डॉ. परमेश्वर शिरगुरे यांनी आभार मानले.

शेतकरी, शास्त्रज्ञांचा सन्मान

वर्धापनदिनाचे औचित्य साधून या निमित्ताने डाळिंब उत्पादन व निर्यातीमध्ये उत्कृष्ट कामगिरीबद्दल शशिकर हत्तुरे (अक्कलकोट), आबासाहेब तावरे (बारामती), संजय पोपडे (माढा), अमरजीत जगताप (पंढरपूर), प्रकाश सूर्यवंशी (आटपाडी) या शेतकऱ्यांसह डाळिंब केंद्रामध्ये कार्यरत असणाऱ्या कार्यालयीन आणि फार्म कर्मचाऱ्यांना विशेष सन्मानचिन्ह व प्रमाणपत्र देऊन गौरव करण्यात आला. त्याशिवाय वैज्ञानिक, तांत्रिक, प्रशासकीय विभागामध्ये सर्वोत्कृष्ट कामगिरीसाठी डॉ. नीलेश गायकवाड (वरिष्ठ वैज्ञानिक), डॉ. प्रकाश पाटील (वरिष्ठ वैज्ञानिक), महादेव गोनाव (वरिष्ठ तांत्रिक सहायक), किरण खाटगोडे (वरिष्ठ लिपिक) यांनाही सन्मानित करण्यात आले.

चर्चासत्रांतून शंका निरसन

दुपारच्या सत्रात राष्ट्रीय डाळिंब संशोधन केंद्राने ऑनलाइन शास्त्रज्ञ - शेतकरी परिसंवादाचे आयोजन केले होते. या परिसंवादात देशभरातून विविध डाळिंब उत्पादक शेतकरी, प्रक्रिया उद्योजक व निर्यातदारांनी आपला सहभाग नोंदविला. या प्रसंगी डाळिंब उत्पादकांच्या विविध शंका आणि प्रश्नांचे निरसन केंद्रातील विविध विषयांच्या शास्त्रज्ञांकडून करण्यात आले.

सोलापूर : संचालक डॉ. राजीव मराठे यांच्या हस्ते डाळिंबाच्या उत्पादन व निर्यातीमध्ये उत्कृष्ट कामगिरी केलेल्या शेतकऱ्यांचा विशेष गौरव करण्यात आला.

Department of Posts release Special Postal Cover on ICAR-NRC on Pomegranate to commemorate 17th Foundation Day

25th September, 2021, Solapur

The Department of Posts, Government of India released the *Special Postal Cover* to commemorate the *17th Foundation Day* of the ICAR-National Research Centre on Pomegranate, Solapur, Maharashtra today.

Shri H.C. Agrawal, Chief Postmaster General, Mumbai Circle and Dr. Rajiv A. Marathe, Director, ICAR-NRC on Pomegranate, Solapur released the Postal Cover.

The Postal Cover's front side depicts the *Pomegranate Technologies (Biofortified Variety "Solapur Lal", bio-hardened tissue culture planting material and processed products)* developed by the Centre and the geographical coverage of Pomegranate cultivation in a short span of 16 Years by the ICAR-NRC on Pomegranate, Solapur. The backside displays the importance of Pomegranate in 3 languages.

Dr. Jyotsana Sharma, Principal Scientist and Shri Yuvraj Shinde, Senior Technical Assistant, ICAR-NRC on Pomegranate, Solapur designed the Postal Cover.

Dr. Marathe also released the Book on "Good Management Practices in Pomegranate" on the occasion.

The Senior Officials of the ICAR Institutes along with Shri Pratap Kate, Vice-President, All Maharashtra Pomegranate Growers' and Research Organization, Pune, Maharashtra and Progressive Pomegranate Growers of the region were also present during the occasion.

(Source: ICAR-National Research Centre on Pomegranate, Solapur, Maharashtra)

सोलापूर, रविवार, २२ ऑगस्ट २०२१

सकाळ अॅग्रोवन

गाजर गवत निर्मूलन जागरूकता सप्ताह

सोलापुरातील डाळिंब संशोधन केंद्रात कार्यक्रम

अॅग्रोवन वृत्तसेवा

सोलापूर : सोलापुरातील राष्ट्रीय डाळिंब संशोधन केंद्रामध्ये १६ ते २२ ऑगस्टदरम्यान १६ व्या गाजर-गवत जागरूकता सप्ताहाचे आयोजन करण्यात आले. दरवर्षी गाजरगवत जागरूकता सप्ताह साजरा केला जातो. यंदाही यानिमित्त विविध जनजागृतीपर कार्यक्रम पार पडले.

डाळिंब केंद्राचे संचालक डॉ आर. ए. मराठे, वरिष्ठ शास्त्रज्ञ डॉ. ज्योत्सना शर्मा यांच्या उपस्थितीत हा कार्यक्रम झाला. या वेळी केंद्राच्या आवारात गाजर गवताचा प्रसार थांबवण्यासाठी गाजर गवत उपटून नष्ट करण्यात आले. मेक्सिकन बीटल (झायगोग्रामा बायकोलोराटा) किटक सोडण्यात आले.

मराठे म्हणाले, ''भारतात पार्थेनियम हिस्टेरोफोरस हे सामान्यतः त्याच्या देखाव्यामुळे गाजर-गवत, व्हाइट टॉप किंवा काँग्रेस गवत म्हणून ओळखले जाते. सामान्यपणे गाजर-गवत हे मानवी आणि पशुधनासाठी विषारी, समस्याप्रधान, अॅलर्जी निर्माण करणारे धोकादायक तण आहे. त्याचा त्वचारोग, दमा आणि अनुनासिक-त्वचारोग, अनुनासिक फुफ्फुसाच्या रोगांचे सर्वात मोठे स्रोत मानले जाते. त्यामुळे त्याची वाढ होणार नाही, याकडे लक्ष देण्याची गरज आहे.''

राहुल डमाळे यांनी प्रास्ताविक केले. डॉ मल्लिकार्जुन हर्सूर यांनी मेक्सिकन बीटल संदर्भात माहिती दिली. त्यानंतर शंकरराव मोहिते पाटील विद्यालय केगाव येथील विद्यार्थ्यांसह शेतकऱ्यांत जनजागृतीसाठी विद्यार्थ्यांची रॅली काढण्यात आली.

सोलापूर : राष्ट्रीय डाळिंब संशोधन केंद्रात गाजर गवत निर्मूलन सप्ताहामध्ये मेक्सिकन बीटल कीटक सोडताना डॉ. आर. ए. मराठे आणि अन्य मान्यवर.

डाळिंब बागेचे योग्य व्यवस्थापन केल्यास तेल्या, मर रोगांवर नियंत्रण शक्य – डॉ.ज्योत्स्ना शर्मा

सांगोला (तालुका प्रतिनिधी): डाळिंबावरील विविध रोगाच्या नियंत्रणासाठी त्याचे व्यवस्थापन योग्य झाले पाहिजे. योग्य वेळी, योग्य औषधांची निवड करून फवारणी केली पाहिजे. बागेवर औषधातील फवारणी करताना औषधातील घटकांची माहिती करून घेणे गरजेचे आहे डाळिंब बागेचे योग्य व्यवस्थापन केल्यास तेल्या, मर सारख्या रोगावर नियंत्रण मिळवता येईल असे मत डाळिंब संशोधन केंद्राच्या शास्त्रज्ञा डॉ. ज्योत्स्ना शर्मा यांनी केले.

राष्ट्रीय डाळिंब संशोधन केंद्र, सोलापूर, विभागीय कृषी संशोधन केंद्र, सोलापूर, महात्मा फुले कृषी विद्यापीठ, राहुरी, कृषी विज्ञान केंद्र, मोहोळ व कृषी तंत्रज्ञान व्यवस्थापन यंत्रणा (आत्मा) यांच्या संयुक्त विद्यमाने सांगोला तालुक्यातील संगेवाडी, कोळा, जुनोनी या ठिकाणी डाळिंब पिकावरील कीड व रोग व्यवस्थापनाची कार्यशाळा संपन्न झाल्या. यावेळी संगेवाडी येथील कार्यशाळेत डॉ. ज्योत्स्ना शर्मा बोलत होत्या.

या कार्यशाळेसाठी जिल्हा कृषी अधिकारी रवींद्र माने, उपविभागीय कृषी अधिकारी, पंढरपूर सर्जेराव तळेकर, राष्ट्रीय डाळिंब संशोधन केंद्राचे डॉ. सोमनाथ पोखरे, कोरडवाहू फळे संशोधन प्रकल्प महात्मा कृषी विद्यापीठ राहुरीचे शास्त्रज्ञ अशोक वाळुंज, डॉ. प्रकाश मोरे, तालुका कृषी अधिकारी रमेश भंडारे, अखिल भारतीय डाळिंब उत्पादक संघाचे अध्यक्ष प्रभाकर चांदणे, अखिल महाराष्ट्र डाळिंब उत्पादक संघाचे उपाध्यक्ष प्रतापराव काटे, मध्यवर्ती विज्ञान समितीचे उपाध्यक्ष बरमु दुधाळ, संचालक खंडेराव मदने, मंडल कृषी अधिकारी अवधूत मुळे, गोरख खंडागळे, अमोल अभंग, सरपंच नंदादेवी वाघमारे, कृषी सहाय्यक [illegible] एस.एस. चव्हाण, एस.बी. बन[illegible] एस.आर.बर्गे, दीपक ऐवळे, एम. सी.नाळे, अतुल शिंगाडे, बाबासाहेब देशमुख, प्रशांत डोंगरे उपस्थित होते.

यावेळी शास्त्रज्ञांनी विलास खंडागळे, सुर्यकांत खंडागळे, किसन आलदर व लक्ष्मी माळी यांच्या प्रत्यक्ष डाळिंब बागेत जावुन तेथील तेल्या व मर रोगाच्या जळालेल्या झाडांची पाहणी करून शेतकऱ्यांना या रोगाविषयी सविस्तर माहिती दिली. या कार्यशाळेमध्ये जिल्हा कृषी अधिकारी रवींद्र माने, वरिष्ठ शास्त्रज्ञ डॉ. अशोक वाळुंज, डॉ. प्रकाश मोरे, प्रतापराव काटे, बरमू दुधाळ यांनी मार्गदर्शन केले. तालुका कृषी अधिकारी रमेश भंडारे यांनी प्रास्ताविकामध्ये तालुक्यातील सर्व पिकांची माहिती देऊन सद्यस्थितीतील फळलागवडीची माहिती सांगितली. उत्कर्ष चंदनशिवे यांनी सूत्रसंचालन केले तर मंडलाधिकारी अमोल अभंग यांनी आभार मानले.

डाळिंब पिकावरील कीड व रोग व्यवस्थापनाची सांगोल्यात कार्यशाळा

सांगोला, (प्रतिनिधी):– डाळिंब बहार धरतेवेळी व धरल्यानंतर बागेची योग्य निगा राखली पाहिजे ,शास्त्रशुध्द पद्धतीने लागवड करणे महत्त्वाचे आहे ,डाळिंबावरील विविध रोगाच्या नियंत्रणासाठी त्याचे व्यवस्थापन आवश्यक आहे, बागेवर औषधातील फवारणी करताना औषधातील घटकांची माहिती करून घेणे गरजेचे आहे, बागेचे व्यवस्थापन योग्य केल्यास तेल्या, मर सारख्या रोगांवर नियंत्रण मिळवता येईल,असे मत डाळिंब संशोधन केंद्राच्या शास्त्रज्ञा डॉ. ज्योत्स्ना शर्मा यांनी संगेवाडी ता सांगोला येथील कार्यशाळेत बोलताना व्यक्त केले.

राष्ट्रीय डाळिंब संशोधन केंद्र, सोलापूर, विभागीय कृषी संशोधन केंद्र, सोलापूर, महात्मा फुले कृषी विद्यापीठ, राहुरी, कृषी विज्ञान केंद्र, मोहोळ व कृषी तंत्रज्ञान व्यवस्थापन यंत्रणा (आत्मा) यांच्या संयुक्त विद्यमाने सांगोला तालुक्यातील संगेवाडी, कोळा, जुनोनी या ठिकाणी डाळिंब पिकावरील कीड व रोग व्यवस्थापनाची कार्यशाळा संपन्न झाल्या या कार्यशाळेसाठी जिल्हा कृषी अधिकारी रवींद्र माने, उपविभागीय कृषी अधिकारी, पंढरपूर सर्जेराव तळेकर, राष्ट्रीय डाळिंब संशोधन केंद्राचे डॉ. सोमनाथ पोखरे, कोरडवाहू फळे संशोधन प्रकल्प महात्मा कृषी विद्यापीठ राहुरीचे शास्त्रज्ञ अशोक वाळुंज, डॉ. प्रकाश मोरे, तालुका कृषी अधिकारी रमेश भंडारे, अखिल भारतीय डाळिंब उत्पादक संघाचे अध्यक्ष प्रभाकर चांदणे, अखिल महाराष्ट्र डाळिंब उत्पादक संघाचे उपाध्यक्ष प्रतापराव काटे, मध्यवर्ती विज्ञान समितीचे उपाध्यक्ष बरमु दुधाळ, संचालक खंडेराव मदने, मंडल कृषी अधिकारी अवधूत मुळे, गोरख खंडागळे, अमोल अभंग, सरपंच नंदादेवी वाघमारे, कृषी सहाय्यक एस. एस. चव्हाण, एस. बी. बनसोडे, एस. आर. बर्गे, दीपक ऐवळे, एम. सी. नाळे अतुल शिंगाडे, बाबासाहेब देशमुख, प्रशांत डोंगरे इत्यादी मान्यवर उपस्थित होते.

जिल्हा कृषी अधिकारी रवींद्र माने मार्गदर्शन करताना म्हणाले की जिल्ह्यात डाळिंब लागवड मोठ्या प्रमाणात झाली आहे बदलते वातावरण तसेच तेल्या व मर रोगांमुळे डाळिंब उत्पादक हैराण झाले आहेत याबाबतीत शेतकऱ्यांनी योग्य व्यवस्थापन करून रोग नियंत्रण करावे तसेच डाळिंबावरील विम्याच्या अटी शिथिल होतील त्यामुळे येणाऱ्या काळात शेतकऱ्यांनी विम्याचा लाभ घ्यावा असे आवाहन केले

यावेळी शास्त्रज्ञांनी विलास खंडागळे, सुर्यकांत खंडागळे, दत्तात्रय खंडागळे संतोष खंडागळे, किसन आलदर व लक्ष्मी माळी यांच्या प्रत्यक्ष डाळिंब बागेत जावुन तेथील तेल्या व मर रोगाच्या जळालेल्या झाडांची पाहणी करून शेतकऱ्यांना या रोगाविषयी सविस्तर माहिती दिली. या कार्यशाळेमध्ये जिल्हा कृषी अधिकारी रवींद्र माने, वरिष्ठ शास्त्रज्ञ डॉ. अशोक वाळुंज, डॉ. प्रकाश मोरे, प्रतापराव काटे, बरमू दुधाळ यांनी मार्गदर्शन केले.

तालुका कृषी अधिकारी रमेश भंडारे यांनी प्रास्ताविकामध्ये तालुक्यातील सर्व पिकांची माहिती देऊन सद्यस्थितीतील फळलागवडीची माहिती सांगितली.

उत्कर्ष चंदनशिवे यांनी सूत्रसंचालन केले तर मंडलाधिकारी अमोल अभंग यांनी आभार मानले.

५

सोलापूर, गुरुवार, २९ जुलै २०२१

सकाळ अॅग्रोवन

सांगोल्यातील रोगग्रस्त डाळिंब बागांची तज्ज्ञांकडून पाहणी

अॅग्रोवन वृत्तसेवा

सांगोला, जि. सोलापूर : वातावरणात होणारे बदल आणि सातत्याच्या पावसामुळे सांगोला तालुक्यातील डाळिंबाचे मोठे नुकसान झाले आहे. या नुकसानीची पाहणी मंगळवारी (ता. २७) राष्ट्रीय डाळिंब संशोधन केंद्र, महात्मा फुले कृषी विद्यापीठ, कृषी विज्ञान केंद्र आणि कृषी विभागाच्या विविध तज्ज्ञांकडून करण्यात आली.

सांगोला तालुक्यातील संगेवाडी, कोळा, जुनोनी या गावातील डाळिंबावरील कीड व रोगाची पाहणी या पथकाने केली. राष्ट्रीय डाळिंब संशोधन केंद्राच्या वरिष्ठ शास्त्रज्ञ डॉ. ज्योत्स्ना शर्मा, जिल्हा अधीक्षक कृषी अधिकारी रवींद्र माने, उपविभागीय कृषी अधिकारी सर्जेराव तळेकर, राष्ट्रीय डाळिंब संशोधन केंद्राचे डॉ. सोमनाथ पोखरे, कोरडवाहू फळे संशोधन प्रकल्प महात्मा कृषी विद्यापीठ राहुरीचे शास्त्रज्ञ अशोक वाळुंज, डॉ. प्रकाश मोरे, तालुका कृषी अधिकारी रमेश भंडारे, अखिल भारतीय डाळिंब उत्पादक संघाचे अध्यक्ष प्रभाकर चांदणे, अखिल महाराष्ट्र डाळिंब उत्पादक संघाचे उपाध्यक्ष प्रतापराव काटे, मध्यवर्ती विज्ञान समितीचे उपाध्यक्ष बरमु दुधाळ, संचालक खंडेराव मदने उपस्थित होते. शास्त्रज्ञांनी विलास खंडागळे, सूर्यकांत खंडागळे, सन आलदर व लक्ष्मी माळी यांच्या डाळिंब बागेतील तेल्या व मर रोगाच्या जळालेल्या झाडांची पाहणी करून शेतकऱ्यांना या रोगाविषयी सविस्तर माहिती दिली.

संगेवाडी, ता. सांगोला : येथील डाळिंब बागांची पाहणी करताना राष्ट्रीय डाळिंब संशोधन केंद्राच्या वरिष्ठ शास्त्रज्ञ डॉ. ज्योत्स्ना शर्मा. या वेळी उपस्थित अन्य तज्ज्ञ.

योग्यवेळी फवारणी करा

''डाळिंबावरील विविध रोगाच्या नियंत्रणासाठी त्याचे व्यवस्थापन योग्य झाले पाहिजे. योग्य वेळी, योग्य औषधांची निवड करून फवारणी झाली पाहिजे. बागेवर औषधातील फवारणी करताना औषधातील घटकांची माहिती करून घेणे गरजेचे आहे'', असे मत डॉ. शर्मा यांनी व्यक्त केले. ''शेतकऱ्यांनी बागेची वेळोवेळी स्वच्छताही केली पाहिजे. आव्हान मोठे आहे. आपण ते पेलले पाहिजे'', असेही त्या म्हणाल्या.

लोकमत

डाळिंब उत्पादनातून निर्यातीला चालना

डॉ.सी.डी. मायी; संशोधन केंद्रात आंतरराष्ट्रीय वेबिनार

संकरित वाणांवर झाली चर्चा

लोकमत न्यूज नेटवर्क

सोलापूर : गुणवत्तेचे डाळिंब उत्पादन केले तर निर्यातीसाठी पोषक होईल व चालना मिळेल असे प्रतिपादन शास्त्रज्ञ डॉ. सी. डी. मायी यांनी केले. इतर देशांतील ४० सह २०० नामवंत शास्त्रज्ञांसमवेत राष्ट्रीय डाळिंब संशोधन केंद्राच आंतरराष्ट्रीय डाळिंब वेबिनारचे उद्घाटन शास्त्रज्ञ मायी यांच्या हस्ते करण्यात आले. भारतीय कृषी संशोधन परिषद दिल्ली येथील उपमहासंचालक (उद्यानविद्या) डॉ. आनंद कुमार सिंह यांच्या प्रमुख उपस्थितीत झाले.

भारतीय कृषी संशोधन परिषद सोलापूर व डाळिंब संशोधन केंद्र सोलापूर येथे डाळिंब विकास आंतरराष्ट्रीय वेबिनारसाठी अमेरिका, स्पेन, इटली, इराण, इस्राईल, तुर्की, दक्षिण आफ्रिका या देशासह भारतातील २०० शास्त्रज्ञांनी संशोधन प्रबंध सादर केला व सहभाग नोंदवला.

शास्त्रज्ञ डॉ. मायी यांनी डाळिंबाच्या काटेकोर तंत्रीसाठी सर्वांना निविष्ठा नियोजनाची गरज असून यामुळे गुणवत्तायुक्त डाळिंब उत्पादन होईल व निर्यातीला चालना मिळेल असे सांगितले.

केंद्राचे संचालक डॉ. राजीव भारते यांनी यावेळी बोलताना डाळिंब संशोधन केंद्राचे डाळिंब विकासाठी योगदान याबाबत सांगताना संकरित वाण सोलापूर लाल, सोलापूर अनारदाना, काटेकोरेपणाने, वेलवट ड्राय, कुलोबन्य रोग, पर, कीड व्यवस्थापन तसेच डाळिंब पक्रिया आणि सोलापूरचे योगदान याबर प्रकाश टाकला.केंद्रिय तुषक फळबाग संशोधन केंद्र बिकानेरचे संचालक डॉ. पी. एल. मोरेव, राहुरी कृषी विद्यापीठाचे कुलगुरु डॉ. प्रसाद पाटील, परभणी कृषी विद्यापीठाचे कुलगुरु डॉ. अशोक ढवन, वाय.एस.आर.एच.यु. आंध्रप्रदेशचे कुलगुरु डॉ.जानकीराम यांनी संशोधनच मार्गदर्शन केले. सूत्रसंचालन प्रमुख शास्त्रज्ञ डॉ. ज्योत्सना शर्मा यांनी केले तर आभार प्रदर्शन शास्त्रज्ञ डॉ. एन. व्ही. सिंग यांनी मानले.

डॉ. आनंद सिंह यांनी यावुढे सेंट्रिय डाळिंब उत्पादनाबाबतीत तंत्रज्ञान विकसित करण्याची गरज असल्याचे सांगताना यावळाया डाळिंब उत्पादनाबरोबर उत्पादनाचे योग्य नियोजन करण्याचे आव्हान असल्याचे सांगितले.

आजचे भविष्य

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दैनिक भास्कर टीकमगढ़ भास्कर 08-08-2021

कृषि • राष्ट्रीय कृषि अनार अनुसंधान केन्द्र सोलापुर के कृषि वैज्ञानिक दे रहे प्रशिक्षण

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महाराष्ट्र शासन कृषि विभाग

डाळिंब व लिंबाफळ पिक परिसंवाद

प्रमुख मार्गदर्शक

डॉ. ज्योत्स्ना शर्मा — डॉ. सोमनाथ पोखरे — डॉ. नवनाथ कसपटे

विशेष उपस्थिती

मा. मुकुंदराव काळे

जिल्ह्यातील सर्व तालुका कृषी अधिकारी

प्रमुख उपस्थिती

आपले स्वागत

स्थळ:

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Joining and Promotion

- **Dr. Pinky Raigond**, Senior Scientist (Plant Physiology) joined ICAR-NRCP, Solapur on 04.10.2021 due to transfer from ICAR-Central Potato Research Institute, Shimla.
- **Dr. Chandrakant Awachare**, Scientist (Fruit Science) joined ICAR-NRCP, Solapur on 04.10.2021 due to transfer from Central Horticultural Experiment Station, Chettalli, ICAR- IIHR, Bengaluru.
- **Mr. Bhausaheb V Naikwadi**, Technical Assistant promoted to Sr. Technical Assistant wef. 23.02.2020.

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