



ICAR-Indian Institute of Rice Research NEWSLETTER

Volume: 23 Number: 2.

RICE IS LIFE

April - June 2023

58th Annual Rice Group Meeting



The 58th Annual Rice Group Meeting (ARGM) was held at Assam Agricultural University (AAU), Jorhat in hybrid mode from May 4-5, 2023. Dr. TR Sharma, DDG (Crop Science), ICAR, New Delhi, was the chief guest at the inaugural ceremony of the meeting. Other dignitaries present on the dais include Dr. BC Deke, Vice Chancellor, AAU, Jorhat; Dr. SK Pradhan, ADG (FFC), ICAR, New Delhi; Dr. RM Sundaram, Director, ICAR-IIRR, Hyderabad; Dr. AK Nayak, Director, ICAR-NRRI, Cuttack; Dr. SR Das, Honorary Professor, OUAT, and Dr. A Bhattacharya, Director of Research (Agriculture), AAU, Jorhat. Dr. A Bhattacharya delivered the welcome address and Dr. RM Sundaram, Director, ICAR-IIRR presented the progress of AICRP on rice and research highlights of AICRP and IIRR for the year 2022-23. Dr. Nayak, Director, ICAR-NRRI, Cuttack stressed the importance of DSR and carbon credit to the farmers in his remarks. Dr. SK Chetia, Chief Scientist, ARRI, Titabar presented the 100 years of glorious journey of Assam Rice Research Institute since its inception in 1923. Dr. SK Pradhan, ADG (FFC) stressed developing nutritionally enriched varieties, development of low-cost

machines, and value chain addition of rice products. Dr. SR Das, Honorary Professor, OUAT urged the breeders to develop varieties with submergence tolerance, especially for Eastern India. Dr. BC Deke, Vice Chancellor, AAU, Jorhat emphasized the need to shift from 'Green Revolution' to 'Green Commerce'. Dr. TR Sharma, DDG (Crop Sciences), ICAR, New Delhi in his inaugural address stressed the importance of a multi-disciplinary mode of research. He advocated the development of specialty rice cultivars including low/ultra-low glycemic index and high grain

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protein cultivars. He also emphasized the significance of speed breeding and genomic technologies in developing high NUE and WUE cultivars. Dr. Sharma appreciated the efforts made by ICAR-IIRR led by Dr Sundaram. The inaugural session ended with the presentation of a vote

of thanks by Dr. MS Prasad, Convener, 58th ARGM. Ten publications, two websites, and two mobile apps were released on this occasion. About 400 delegates from across India and other countries actively participated in the program.

Research Advisory Committee (RAC) Meeting-2023



The Research Advisory Committee (RAC) 2023 was successfully conducted on June 9, 2023, in a hybrid mode to accommodate both in-person and virtual attendees. The event commenced with a warm welcome from Dr. M.B.B. Prasad Babu (Member Secretary, RAC), setting the tone for an engaging and productive gathering. Following this, Director Dr. R.M. Sundaram, provided an insightful overview of the IIRR programs, shedding light on the remarkable research endeavors undertaken. Dr. B. Mishra, Chairman of the RAC, gave introductory remarks, emphasizing the significance of the occasion

and the importance of collaborative research efforts. The subsequent agenda encompassed the presentation of the Action Taken Report (ATR) and Research Achievements, which were meticulously shared section-wise by the esteemed heads of each Department. This approach allowed for a comprehensive understanding of the advancements made in various areas of study. Esteemed members of RAC, Dr. KK Jena (KIIT, Bhubaneswar), Dr. Seshashayee (UAS, Bangalore), and Dr. SK Pradhan (ADG, FFC) also actively participated in the deliberations and gave valuable suggestions.

Research Notes

Dehydroascorbate: a novel induced resistance stimulating compound in rice against root-knot nematode *Meloidogyne graminicola*

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Induced resistance (IR) refers to a unique physiological state of a plant characterized by reduced susceptibility to biotic or abiotic stress. Exposure to external stimuli such as beneficial microbes, pathogens, insect herbivores, environmental cues, or chemical compounds can stimulate IR in plants. IR activation can be a local or systemic effect and last for a short or extended period. IR is an eco-friendly and promising approach to crop protection in sustainable agriculture. Plant treatment with IR stimuli 'vaccinates' plants against biotic or abiotic stresses, and treated plants respond faster and/or stronger to further exposure to stress. Dehydroascorbate (DHA) is the reversibly oxidized form of

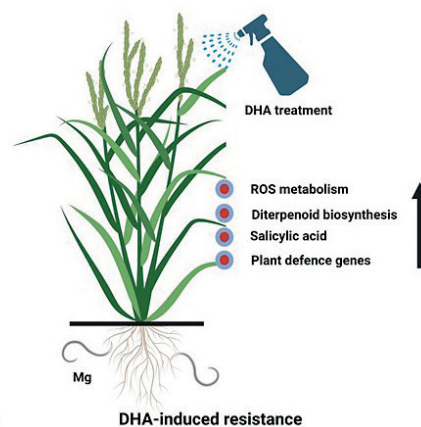
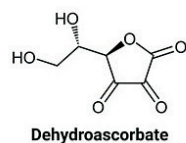
ascorbic acid (AsA, vitamin C). AsA is one of the most abundant water-soluble antioxidants in plants and regulates various physiological processes controlling growth, development, signal transduction, and stress tolerance. External foliar application of DHA significantly reduces root-knot nematode *Meloidogyne graminicola* (Mg) infection in rice. Mg is one of the most important but difficult-to-control nematode problems in rice cultivation. It infects rice roots and causes swelling or characteristic hook-shaped galls affecting water and nutrient transport in plants. The large-scale introduction of water-saving rice production systems, such as direct-seeded rice, intermittent irrigation,

cultivation on raised beds, and aerobic rice techniques, favor the development of high populations of Mg, drastically increasing its economic significance.

Foliar application of DHA 20 mM activates systemic IR in the roots of treated rice plants without affecting plant growth. DHA treatment significantly reduces nematode penetration, development and reproduction, and disease severity (galls) by 25 to 50%. Detailed transcriptome analysis on roots of rice plants showed an early and robust transcriptional response upon foliar DHA treatment, with the induction of several genes related to plant stress responses, immunity, antioxidant activity, and secondary metabolism. Biochemical and molecular investigations on DHA-treated plants showed that reactive oxygen species (ROS) metabolism, diterpenoid phytoalexin biosynthesis, and salicylic acid pathway activation play an important role in DHA-IR.

DHA treatment protects the rice plants for at least 14 days after its treatment. Hence, for long-term protection, repeated application of DHA at 14-day intervals can protect the rice plants effectively. Small-scale pot and field studies confirmed that 10 or 20 mM DHA are highly

effective in reducing galls with a significant increase in rice seed yield. Repeated foliar DHA treatments (10 or 20 mM) at two-week intervals caused a strong reduction in galls (95 and 96%) compared to the mock-treated plants in pot studies and around 87% reduction compared to untreated control in field studies. In addition to foliar application, DHA is also effective as a soil drench or root dip application. With extended IR longevity and ease of application, DHA has great potential for effectively managing nematode problems in rice.



Panorama of Institute Activities

ICAR-IIRR Signed an MOU with the Hyderabad Metropolitan Water Supply and Sewerage Board (HMWSSB)



On the occasion of World Environment Day 2023, ICAR-IIRR, Hyderabad, signed a Memorandum of Understanding (MOU) with the Hyderabad Metropolitan Water Supply and Sewerage Board (HMWSSB). This significant event took place in the presence of the esteemed Telangana State Ministers, Shri K Taraka Rama Rao, Minister for IT, and Shri Puvvada Ajay, Minister of Transport. The purpose of this collaboration is to conduct research and explore the utilization of municipal sludge as a valuable source of manure for rice cultivation. This partnership between



ICAR-IIRR and HMWSSB marks a crucial step towards sustainable agricultural practices and environmental conservation. By harnessing the potential of municipal sludge, which is a by product of waste water treatment, we aim to address two pressing issues simultaneously: the proper disposal of sludge and the need for organic fertilizers in rice farming. Under this MOU, ICAR-IIRR will spearhead research initiatives to evaluate the viability and effectiveness of utilizing municipal sludge as a nutrient-rich manure for rice crops.

Celebration of 9th International Yoga Day-2023



ICAR-IIRR organized International Yoga Day with a lot of zeal and enthusiasm. International Yoga Day is observed globally every year on the 21st of June to raise awareness about this ancient practice and to celebrate the physical and spiritual prowess that yoga has brought to the world. This year, the Ministry of AYUSH has introduced the theme “Yoga for Vasudhaiva Kutumbakam” (Yoga for the welfare of all in the form of ‘One World-One Family’). The event commenced with a welcome address by Dr. Suvarna Rani, followed by opening remarks delivered by Dr. R. Mahendra Kumar, Director (I/c), ICAR-IIRR. Dr. R. M. Kumar emphasized the vital role of yoga in promoting physical and psychological well-being and encouraged for buoyant and enthusiastic participation of Scientific and non-scientific staff to incorporate yoga into their daily lives. Certified Yoga trainer Smt. Pavitra, who is the guest of honour for this event spoke about ‘The Positive Framework of Meditation’. She demonstrated the asanas and body stretches as per the audience’s priority and covered simple asanas for all age groups. She promised to help the staff with any specific problems. The function ended with a vote of thanks by Mr S. Amudhan Asst. chief technical officer.

IIRR at G-20 Agriculture Ministers’ Meeting, Hyderabad

IIRR actively participated in the G20 Agriculture Ministers Meeting held in Hyderabad, Telangana from June 15th to 17th, 2023. Our institute had the privilege of hosting numerous



distinguished delegates and key ministers who visited our stall to gain valuable insights into the innovative products developed by our organization. During this prestigious event, we showcased our advancements in the field of rice research, attracting significant attention and appreciation. Our guests were provided with comprehensive information about the products released by our institute, leaving them impressed. ICAR-IIRR scientists, namely Dr. Muthuraman, Dr. Amtul Waris, Dr. Arun Kumar, and Dr. Abdul Fiyaz R. participated in the G20 Agriculture Ministers Meeting and exhibition. Delegates from various countries, including the Honourable Union Minister of Agriculture and Farmers Welfare, Shri. Narendra Singh Tomar Ji, Minister of State for Agriculture and Farmers Welfare, Shri. Kailash Choudhary, and Smt. Shobha Karandlaje, Secretary DARE and DG, ICAR, Dr. Himanshu Pathak, along with Agriculture Ministers from G20 countries, visited the ICAR-IIRR exhibition stall and expressed their appreciation for the work of our institute.

Awareness Programs on Mission LiFE (Lifestyle for Environment)

- As part of the Mission LiFE (Lifestyle for Environment), which is a global initiative launched by the Honorable Prime Minister of India at the UN Climate Change Conference in 2021, ICAR IIRR and the Action for Rural Development Society (ARDS), a non-governmental organization



working for the welfare of rural communities organized an awareness program on climate resilient and water saving rice technologies on May 23, 2023, in Nalgonda district, Telangana. The awareness program focused on educating the farmers about the climate-resilient and water-saving rice technologies developed by the ICAR-IIRR. The program was attended by a large number of farmers, extension workers, scientists, and officials from the Department of Agriculture and other stakeholders.



- As part of Mission of Life activities, ICAR-IIRR also organized the workshop and farmer group meeting entitled “Promotion and bringing awareness of Climate-resilient rice varieties” on 27th May, 2023. The workshop showcased the climate-resilient rice varieties developed by the ICAR-IIRR, which can withstand multiple stresses such as drought, flood, salinity, extreme temperatures, and diseases. The farmers shared their experiences and feedback on the performance of these varieties on their farms and also expressed their preferences for future varieties. The



meeting facilitated the exchange of knowledge among the farmers and provided them with technical guidance and support from the ICAR-IIRR scientists.



- As part of the Mission LiFE initiative, a series of activities were undertaken at ICAR-IIRR to popularize the Soil Diagnostic Kit and promote Soil Health Management.
- On May 18, 2023, a one-week workshop on Precision Agriculture, Remote Sensing, and Drone Technology for Sustainable Crop Production was conducted in offline mode. This workshop, sponsored by SERB, Government of India, saw the participation of 75 trained individuals.
- On May 23, a training session was organized for 41 leading farmers and FPOs at IIMR, Hyderabad.
- On May 24, a demonstration on soil diagnostics platforms was conducted for scientists and researchers from CCMB, Hyderabad.
- A two-day skill development training program on soil testing was organized for farmers in Gangawathi on May 25-26, 2023.



- On May 27, 2023, a Skill Development Training Program on Soil Testing and Distribution of Soil Testing Kits was held for the benefit of SC Farmers under the SC Sub-Plan at Agraharam Potlapalle Village of Rajapur Mandal, District: Mahbubnagar (Telangana State). This program saw the participation of 75 farmers.



- On May 31, 2023, a virtual training session was conducted to train 350 participants on Entrepreneurship Development through KRISHI-RASTAA Soil technology. This program was organized by MANAGE, Hyderabad, and the Center for Research and Environment and Agriculture (CERA).
- On June 1, 2023, a demonstration on soil diagnostic platforms was given to 10 participants from the Natural Farming Consortium of India.

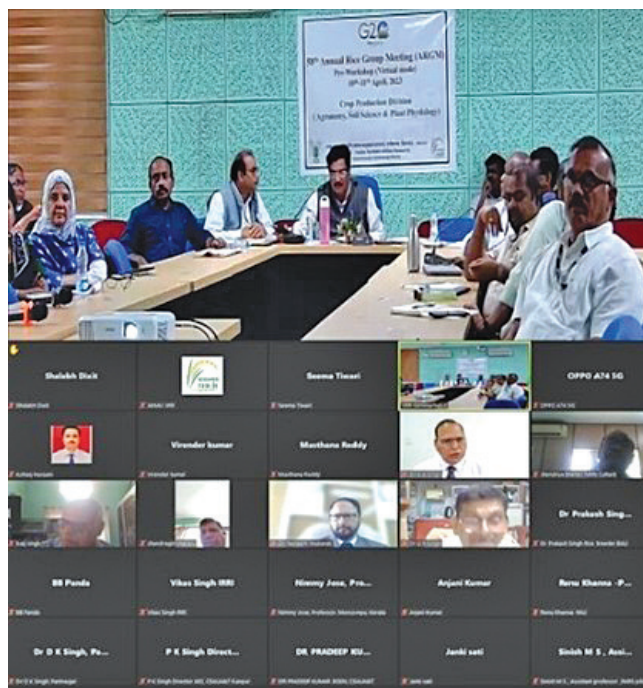


- On June 2, 2023, IIRR scientists participated in the Launching program of Nano DAP by Coromandel Fertilizers at Levonia Shamirpet, Telangana. This event involved 250 farmers, Coromandel, PJTSAU, several farmers' organizations, and the Ministry of Chemicals and Fertilizers.
- On June 3rd, 2023, scientists from IIRR actively participated in the prestigious program for the Launching of PM-Kisan Samman Nidhi (PM-KSK) by Coromandel Fertilizers. This remarkable event also included a comprehensive training session on soil testing, held at Shamirpet in the state of Telangana. The

presence of more than 250 participants underscored the significance of this program.



Brainstorming Session on Direct Seeded Rice (DSR)



A virtual brainstorming session on Direct Seeded Rice (DSR) was organized on 12 April, 2023, with the participation of more than 150 scientists from different research institutes. DSR is a water-saving method of sowing paddy, in which seeds are directly drilled into the fields without transplanting seedlings from a nursery. This technique reduces the water consumption, labor cost, and greenhouse gas emissions of rice production while maintaining or increasing the yield and profitability. The session aimed to identify the challenges and opportunities of DSR adoption in different regions, and to explore the best practices and innovations for enhancing its sustainability and scalability. The participants discussed various aspects of DSR, such as seed quality, weed management, pest control, nutrient management, water

management, mechanization, and policy support. The session also highlighted the potential benefits of DSR for climate change adaptation and mitigation, as well as for improving the livelihoods of rice farmers.

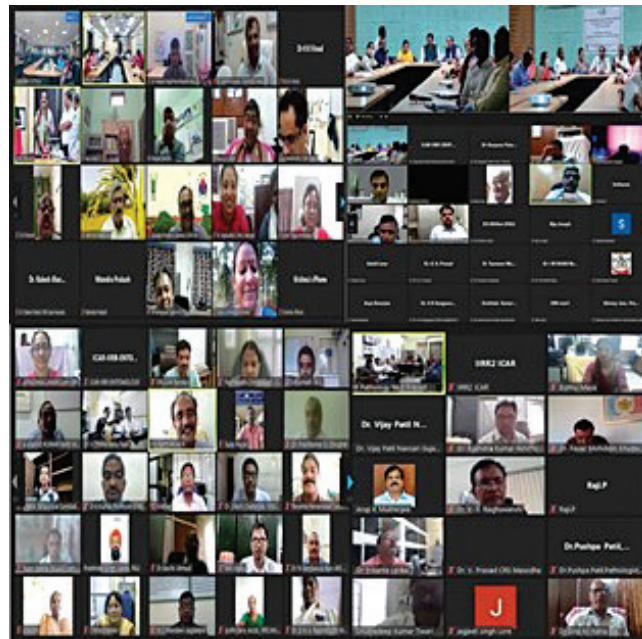
Webinar on “Women and IP: Accelerating Innovations and Creativity”



A webinar was organized on the occasion of “World Intellectual Property Day” on the theme of “Women and IP: Accelerating Innovations and Creativity” on April, 26, at ICAR-IIRR. About 100 participants including scientists and research scholars participated either online or offline. Dr. RM Sundaram, Director, IIRR welcomed the speakers Dr. Kalpana Sastri (Former Joint Director, ICAR-NAARM and Managing Director, Aghub, PJTSAU, Hyderabad), and Dr. Divya Singh (Business Development and IP Officer, CSIR-CCMB, Hyderabad) and other online and offline participants. Dr. RM Sundaram gave introductory remarks emphasizing the key role of women in India in scientific and administrative positions and their significant contributions. Dr. Kalpana Sastri delivered a talk on Innovation and Enterprise Building. She briefed her experiences on IP work and the role of women in research and development in India. Success stories of women innovators and entrepreneurs from the grassroots level were explained in the presentation. She also explained about the initiatives in India, for women in science and scholarships and fellowships available for women scientists. Director, Dr. RM Sundaram mentioned the support of Dr. Divya Singh, in the technology transfer of Improved Samba mahsuri, a collaborative Technology developed between IIRR and CCMB. Dr. Divya Singh talked about “Technology Valuation, Commercialization, and Licensing: Public Sector Perspective”. She gave a brief introduction about women in science and CCMB and further discussed technology licensing, transfers,

commercialization, and issues faced by women in getting opportunities. Dr. Sundaram, Director IIRR, discussed about technology sharing and the problems in receipt of the royalties and licensing of all ICAR technologies through Agri Innovate (Technology licensing wing).

Pre-Workshop Group Meeting of 58th ARGM



ICAR-IIRR organized the 58th ARGM Pre-Workshop Group Meeting from April 10-11, 2023. Scientists from across India who are involved in the AICRP on rice program actively participated in this event. Over 300 scientists attended this virtual meeting, engaging in fruitful discussions. The meeting served as a platform to pave the way for enhanced prospects within the program, fostering a collaborative and progressive environment. Dr. LV Subbarao, who is set to retire this year, was honored during a pre-workshop meeting focused on crop improvement.

Visit of Agri-Horti Officers from the Department of Agriculture, Assam



On May 17, 2023, Dr. Brajendra conducted a comprehensive training session for approximately 50

Agri-Horti officers from the Department of Agriculture in Assam who are responsible for providing technical guidance and support to the farmers in the state. The main objective of the training session was to teach the officers how to use different methods and tools for soil analysis and testing, such as machines and kits. The training session was part of a larger project called the

Assam Agribusiness and Rural Transformation Project (APART), which is funded by the World Bank and implemented by the Government of Assam. The project also involves the International Fertilizer Development Centre (IFDC), which is an international organization that provides innovative solutions for sustainable agricultural development.

India's G20 Presidency: Third Development Working Group Meeting

-Side event on Women-Led Development: Pillars of Progress



An awareness campaign on Women-Led Development organized as a Jan Bhagidari activity by ICAR-IIRR, took place on June 12, 2023, as a G-20 side event. This initiative brought together women farm laborers and women scientists to shed light on the remarkable welfare measures and schemes implemented by the Government of India for women. Additionally, the event



highlighted the esteemed G-20 Presidency of India. The campaign aimed to foster a deeper understanding and appreciation for the pivotal role women play in driving development. The event provided an opportunity for individuals to share their stories of resilience, innovation, and success, inspiring others to follow in their footsteps.

Capacity Building and Outreach Programs

Demonstrations of Spraying of Pesticides with Drones

A series of drone spraying demonstrations were conducted in several villages in Telangana state in association with the stakeholders to create awareness among farmers about the application of drone technology in agriculture.

- A Drone spraying demonstration was conducted at Jammikunta on 4 April, 2023. KVK scientist Dr. Venkateswara Rao emphasized the importance of timely plant protection measures, which can effectively save both time and cost. In collaboration with the Sevaspoorthi Foundation and Jammikunta KVK, under the auspices of the Indian Institute of Rice Research (IIRR), farmers in Korkal and Mamidaalapalli villages were educated on the innovative technique of using drones to spray pesticides in paddy fields. Dr. Rao highlighted that employing drones for spraying can significantly reduce the shortage of laborers, as the

process can be completed in just 5-6 minutes per round, while also conserving pesticide usage. The program was attended by Dr. Ratnakar, the Project Manager of the Seva Spoorthi Foundation, as well as scientists Dr. Vijay and Dr. Srinivas Reddy, alongside numerous farmers.



- IACR-Indian Institute of Rice Research (IIRR) conducted a demonstration on spraying pesticides using drones at Nizamabad on 11 April, 2023 in

collaboration with Rudrur Krishi Vigyan Kendra. On this occasion, Technical Officer Mr. Venkaiah, from Krishi Vigyan Kendra Rudrur, and scientist Dr. Naveen Kumar emphasized the immense potential of modern technology in revolutionizing the agricultural sector. The event was graced by the presence of esteemed individuals, including Single Window Chairman Sadashiva Reddy, AEO Srinivas Reddy, Seva Spurthi Foundation Project Manager Ratnakar, and other distinguished participants.



• **Done spray demonstration at Manchal village, Ibrahimpatnam District**

Done spraying demonstration was organized at Manchal village on 17th April, 2023. IIRR Scientists, Dr. Y. Sridhar, and Dr. Amtul Waris provided valuable advice to farmers on adopting modern cultivation methods. In a significant development for the Smart Village project, farmers in Manchala village, located in the Ibrahimpatnam Mandal of Rangareddi District in Telangana State, India, were educated on the benefits of using drones to spray insecticides on their paddy fields. The Indian Institute of Rice Research (IIRR) Rajendranagar and Sevapoorthi Foundation jointly organized this event, which was attended by individuals such as Ms. Jyothishri, the Zonal Officer of the Agriculture Department, Dr. Ratnakar, the Project Manager, Mr. A Jagan Reddy, the Sarpanch, A Balaraj, a Village Co-op Member, and several farmers.



• **Demonstration of Drava Jivamritham Pichikari by drones in rice fields**

A drone spray demonstration was organized on April 18, 2023, at Bichal village in the Doulathabad mandal of Mahbubnagar district. The Daulatabad Mandal Farmers Mutual Aid Cooperative Limited Association and Vasana Sansthan collaborated to showcase the effective use of drones for spraying pesticides. T. Venkataiah and Shraavan Kumar, Technical Officers from the Indian Institute of Rice Research, were present to provide valuable insights on the benefits of utilizing modern technology in agriculture. Additionally, farmers from various villages actively participated in the demonstration.



Training Farmers on Rapid Soil Testing Kit

Dr. Mangal Deep Tuti, a senior scientist at IIRR, conducted a training program for the farmers at Voligonda Mandal, Telangana, on 30th April, 2023. The training program focused on the use of a rapid soil testing kit that was developed in-house by IIRR.



Training and soil testing kits distribution under the Scheduled Caste Sub-Plan

Under the Scheduled Caste Sub-Plan (SCSP), a group of 50 beneficiary farmers from the SC community were provided with comprehensive training and equipped with cutting-edge IIRR soil testing kits on August 6, 2023. This initiative

took place at Thirumalapur Mandal Shabad, located in the Rangareddy district. ICAR-IIRR Scientists, Dr. Brajendra (Principal Scientist, Soil Science) and Dr. Jeya Kumar (Principal Scientist, TT) actively participated in this program.



Farmers' Training Program at Adloor Yellareddy Village, Kamareddy

Dr. Bajendra (Principal Scientist, Soil Science, IIRR) organized a farmers' meeting at Adloor Yellareddy Village in Sadasivanagar Mandal, located in the Kamareddy district of Telangana on 15th June, 2023. The primary objective of this gathering was to enlighten the farmers about the crucial importance of conducting soil tests. The event was graced by the presence of esteemed individuals such as Mr. Ratnakar, the project manager of Sevaspoorthi Foundation, Dr. Navin Kumar, a scientist from the Rudrur Rice Research Center, Mr. Sadashiva Reddy, Chairman Rythu Bandhu, President Bal Raju, and other stakeholders.

This initiative was carried out in collaboration with the Regional Agricultural Research Station, Polasa on June 20, 2023. The program was expertly coordinated by a team of esteemed professionals, including Dr. D. A. Rajini Devi, a scientist specializing in Agricultural Economics, Dr. E. Rajinikanth, a scientist in Agronomy, Dr. P. Ravi, a Scientist in SSAC, Dr. B. Laxmiprasanna, a Scientist in Plant Breeding, Mr. Rathnakar. G, the Project Manager of Sevaspoorthi Foundation, and Sh. Sumalatha AEO, along with other officers from the Agricultural Department.

Skill Development Training under the SCSP scheme

Under the SCSP Scheme, skill development training was imparted to 25 selected beneficiary farmers from Allipur village, Raikal Mandal, Jagatiyal District of Telangana.

The program encompassed various aspects of agricultural development, including advanced farming methods, crop management strategies, and the utilization of modern technology in farming practices. By empowering these beneficiary farmers with the necessary expertise, the SCSP Scheme seeks to uplift the agricultural sector in Allipur village.



Soil Testing Demonstration at Manchala village, Rangareddy

On June 27, 2023, ICAR-IIRR successfully conducted a soil testing demonstration at Manchala village, located in

the Ranga Reddy district of Telangana. The objective of this event was to train farmers in the techniques of soil testing and raise awareness about its numerous benefits for crop improvement. During the demonstration, farmers

were provided with comprehensive training on soil testing methodologies. They were educated on the significance of

analyzing soil composition, nutrient levels, and pH balance to determine the optimal conditions for crop growth.



Participation in Workshops, Webinars, Seminars, and Training

Dr. R M Sundaram, Director, IIRR, made a presentation at the IRRI-NARES advancement meeting held at ICRISAT on 6th April, 2023.

Dr. R M Sundaram, the Director, delivered a captivating presentation at the IRRI-NARES advancement meeting held at ICRISAT, Hyderabad on April 6, 2023. The purpose of this gathering was to foster collaboration among national partners in South Asia, to develop and deliver superior products at an accelerated pace through the IRRI-NARES breeding networks. During his presentation, Dr. Sundaram shared his insightful ideas on enhancing the national program. He emphasized the importance of addressing key priorities such as germplasm, pre-finish products, breeding strategies, technologies for optimizing yield, and capacity building.



ICAR-IIRR participated in the Seed Mela organized by Professor Jayashankar Telangana State Agricultural University, Hyderabad

The annual Seed Mela event for the year 2023 took place on May 24th at the University Auditorium of Professor Jayashankar Telangana State Agricultural University

(PJ TSAU) Rajendranagar campus. Sri S Niranjan Reddy, the esteemed Minister for Agriculture, as chief guest, formally inaugurated the Seed Mela-2023. Following the inauguration, the minister visited all the exhibition stalls set up by PJ TSAU, ICAR institutes as well as State and Central Government Seed Agencies. ICAR-Indian Institute of Rice Research (IIRR) actively participated in this seed mela, showcasing a wide range of varieties released by the Institute, specifically tailored to benefit the farmers. In addition to the exhibition, a Farmer-Scientist interaction program was organized to enlighten farmers about the latest agricultural technologies and practices. This program aimed to bridge the gap between farmers and scientists, fostering a fruitful exchange of knowledge and expertise.



20th Director's Interaction with FOCARS 112 Probationers at NAARM

The Director, Dr. R M Sundaram, actively engaged with the young minds of the 112th Foundation Course for Agriculture Research Service (FOCARS) probationers on 20th May,



2023 at NAARM, offering guidance and encouragement. His presence further enriched the learning environment, inspiring the participants to excel in their respective fields.



Dr. R M Sundaram, Director of the ICAR-IIRR delivered a lecture at Kakatiya University

Dr. R M Sundaram, Director of the ICAR-IIRR, actively participated in and delivered a captivating lecture at the "International Conference on Plant Biotechnology and Genome Editing." This prestigious event took place at the Department of Biotechnology, Kakatiya University, located in Warangal, India, from June 27th

to 29th, 2023. Dr. Sundaram's insightful presentation took place on the conference's inaugural day, specifically on June 27th, 2023. On this occasion, Dr R M Sundaram was felicitated by the organizers for his excellent contributions to the field of Agricultural biotechnology.



Visitors to the Institute

Dr. H.R. Bharadwaj, Group Lead, Rice Breeding Innovation (RBI), IRRI visited ICAR-IIRR on 9 April, 2023

Dr. H.R. Bharadwaj, Group Lead of Rice Breeding Innovation (RBI) at IRRI, along with his team from IRRI South Asia Hub, visited ICAR-IIRR on April 9, 2023. During the visit, Dr. Bharadwaj engaged in fruitful discussions with all the scientists at the institute.

Subsequently, he embarked on a field visit to observe the various rice varieties grown in the IIRR farm. Dr. Bharadwaj expressed his enthusiasm for fostering active collaborations among scientists to enhance rice research and development.



Visit of the Hon'ble Agriculture Minister, Puducherry



Shri. Thiru C. Djeacoumar paid a visit to ICAR-IIRR on June 13, 2023, and interacted with the Director and Heads of the various Divisions of IIRR on the research programs of the Institute and the opportunities for collaboration for improving rice production in the state of Puducherry. He has also graciously inaugurated the exhibition and sale of our esteemed institution's ready-to-eat and ready-to-cook products. These products are derived from our exceptional rice varieties, namely Low GI (ISM) and High Zinc (DRR Dhan 48), which have been meticulously prepared by the talented Women's Self-Help Group (SHG) members. Additionally, innovative rice-based healthcare products, developed right here at IIRR were also showcased.

Delegates from the G-20 Meeting visited IIRR

Agriculture Ministers from several countries, including Turkey, Italy, Spain, and Vietnam, attended the G20

Meeting in Hyderabad and visited our institute on 17th June, 2023. The delegates were welcomed by the director and the senior scientists of your institute and given a tour of the facilities and the research projects. During their visit, your scientists had a fruitful discussion with the delegates regarding potential collaborations and opportunities in the field of rice research. They exchanged ideas and insights on topics such as rice varieties, climate resilience, pest management, water efficiency, and nutrition enhancement. The visit was a successful event that showcased the achievements and potential of our institute and strengthened the ties between India and other countries in the field of rice research. The delegates expressed their appreciation and their willingness to continue the dialogue and cooperation with your institute in the future.



Staff News

New Joining

Dr. Papa Rao Vaikuntapu, Scientist (Biotechnology) joined the ICAR-IIRR on 3rd April, 2023 on transfer from ICAR-DGR, Junagadh, Gujarat. His joining will strengthen the hands of the Biotechnology research group at ICAR IIRR.

Dr. Chinna Babu Naik, Senior Scientist (Entomology), has joined the ICAR-IIRR on 3rd April, 2023 on transfer from ICAR-CICR, Nagpur, Gujarat. His joining will strengthen

the hands of the Entomology research group at ICAR IIRR. Dr. R M Sundaram, the Director and staff of the institute, extended a warm welcome to the two newly joined scientists, Dr. Chinna Babu Naik (Senior Scientist, Entomology) and Dr. Papa Rao Vaikuntapu (Scientist, Biotechnology), during the monthly review meeting held on April 26th, 2023.



Superannuation

Dr. L.V. Subba Rao, Principal Scientist and Head (Crop Improvement) superannuated on 31-05-2023. On this occasion IIRR-Recreation club organized a felicitation function on 31-05-2023 at 2:30 pm in SVS Shastry Auditorium.

IIRR in Press

పంటలపై రైతులకు అవగాహన సదస్సు

మోర్చూరు, ప్రభుత్వం



రైతులు భూసేత పరిష్కార విస్తరణపై సేల సామర్థ్యం అనుసరించే పంటలను పండించాలి అని కార్మికుల కార్యకర్తలు, కార్యకర్తలను అభ్యర్థించి, ముగిసాల్సిన ప్రయత్నం చేసి దివ్యవాణి పునరుద్ధరించడం మోర్చూరు

వ్యవసాయంలో వస్తున్న మార్పులపై అవగాహన చేసుకోవాలి



కోవ్వూరు, ఫిబ్రవరి 27 ప్రభుత్వం : కోవ్వూరు వ్యవసాయ సేత పరిష్కారం పలు ప్రాంతాలలో విస్తరణ చేసే ప్రయత్నం చేస్తున్న ప్రభుత్వం మోర్చూరు ప్రభుత్వం రైతులకు అవగాహన సదస్సును నిర్వహించింది. ఈ సందర్భంగా రైతులకు అవగాహన సదస్సు నిర్వహించింది. ఈ సందర్భంగా రైతులకు అవగాహన సదస్సు నిర్వహించింది. ఈ సందర్భంగా రైతులకు అవగాహన సదస్సు నిర్వహించింది.

సాక్షి

క్లోన్ ద్వారా పీచుకాల్ పువ్వులు, రైతులకు అవగాహన సదస్సు



పీచుకాల్ పువ్వులు

మొదలు పీచుకాల్ రైతులకు ఎవరెక్కో అర్హత ఉన్నారో తెలుసుకోవాలి అని వివరించారు. క్లోన్ చేసే పీచుకాల్ రైతులకు అవగాహన సదస్సు నిర్వహించింది. ఈ సందర్భంగా రైతులకు అవగాహన సదస్సు నిర్వహించింది.



క్లోన్ ద్వారా పీచుకాల్ పువ్వులు

క్లోన్ ద్వారా పీచుకాల్ పువ్వులపై అవగాహన



క్లోన్ ద్వారా పీచుకాల్ పువ్వులు

మొదలు పీచుకాల్ రైతులకు ఎవరెక్కో అర్హత ఉన్నారో తెలుసుకోవాలి అని వివరించారు. క్లోన్ చేసే పీచుకాల్ రైతులకు అవగాహన సదస్సు నిర్వహించింది. ఈ సందర్భంగా రైతులకు అవగాహన సదస్సు నిర్వహించింది.

అనుసరించాలి అని కార్మికుల కార్యకర్తలు, కార్యకర్తలను అభ్యర్థించి, ముగిసాల్సిన ప్రయత్నం చేసి దివ్యవాణి పునరుద్ధరించడం మోర్చూరు

వజా మసూరి

తెలంగాణ ప్రభుత్వం రైతులకు అవగాహన సదస్సు నిర్వహించింది. ఈ సందర్భంగా రైతులకు అవగాహన సదస్సు నిర్వహించింది. ఈ సందర్భంగా రైతులకు అవగాహన సదస్సు నిర్వహించింది.



TELANGANA

IIRR develops high-yield variety of Samba Masuri

Scientists say it will help farmers in AP & TS improve their earnings; expect commercial production by 2025-26

ANURAG SAHA @anurag
OVER the years it has been a great challenge for researchers to enhance the yield potential of the fine-grain Samba Masuri while retaining the original grain and cooking qualities. Samba Masuri (IIRR), a team led by Dr Sankar Kumar Mangrauthia start of working on this in 2016. In 2018, they received funding from I.A.R. National Agricultural Science Fund (NASF) to carry out research work in the area of genome editing.

Despite its moderate yield potential of 5.0-6.0 tons/ha, the plant variety is very popular among farmers and consumers due to its premium grain quality and superior market price. At I.C.A.R. India, an Institute of Rice Research (IIRR), a team led by Dr Sankar Kumar Mangrauthia start of working on this in 2016. In 2018, they received funding from I.A.R. National Agricultural Science Fund (NASF) to carry out research work in the area of genome editing.

The new breeding technique, genome editing, is considered to be the chosen technology in terms of precise manipulation and gene modifications. Speaking to TNIE, Dr Mangrauthia, a scientist of biochemistry at IIRR, said, "After establishing initial protocols and standardisation of techniques, we developed a high yielding version of Samba Masuri in two years using the CRISPR-Cas genome editing technology."

showed more than 35 per cent grain yield than the Samba Masuri while retaining its original grain characteristics. The genome-edited lines are early maturing and have stronger roots that may provide lodging resistant traits in addition to the enhanced grain yield," he added. Explaining their difference from the regular ones, he said, "As Samba Masuri fetches a premium price to farmers, it also has huge export potential. Farmers will obtain more yield through these genome-edited lines while the original Samba Masuri is a moderate-yielding variety. Thus, Telangana and Andhra Pradesh farmers will be able to grow the high yielding genome-edited Samba Masuri variety which will be helpful in enhancing their income."

"The evaluation at the bio-coutry glasshouse and screen house is done. We are waiting for the necessary approvals to take them for on-farm location field evaluation. If all approvals are given as soon they may be available by 2025-26 for commercial cultivation," he remarked.

సాక్షి

క్లోన్ చేసే పువ్వులకు మంచి పరిణామం



మొదలు పీచుకాల్ రైతులకు ఎవరెక్కో అర్హత ఉన్నారో తెలుసుకోవాలి అని వివరించారు. క్లోన్ చేసే పీచుకాల్ రైతులకు అవగాహన సదస్సు నిర్వహించింది. ఈ సందర్భంగా రైతులకు అవగాహన సదస్సు నిర్వహించింది.

భూసేత పరిష్కార తప్పనిసరి

సంకీర్తనాబే, ఎలవలలు తగ్గించుకోవడం ద్వారా భూసేత పరిష్కారం చేయించుకోవాలి అని కార్మికుల కార్యకర్తలు, కార్యకర్తలను అభ్యర్థించి, ముగిసాల్సిన ప్రయత్నం చేసి దివ్యవాణి పునరుద్ధరించడం మోర్చూరు



వార్త

ప్రకృతి వరిపంట పాలాలో ద్రవ జీవామ్మతం పిచికారి ప్రదర్శన



ద్రోణ పంటలో ద్రవ జీవామ్మతం వినోద ప్రదర్శన చిత్రం

కొల్లూరి మండల కైలం కలెక్టరేట్ పరిధిలో ఉన్న మండల కలెక్టరేట్ కార్యాలయంలో జరిగిన ప్రదర్శనలో ద్రవ జీవామ్మతం పిచికారి ప్రదర్శన జరిగింది. ఈ సందర్భంగా అధికారులు, పరిశోధకులు, విద్యార్థులు, ప్రజలకు ద్రవ జీవామ్మతం పిచికారి ప్రయోగం గురించి వివరాలు తెలియజేశారు. ద్రవ జీవామ్మతం పిచికారి ప్రయోగం ద్వారా పంటలోని పురుగులను నిర్మూలించి, పంటను పంట నష్టం నుండి రక్షించవచ్చును. ద్రవ జీవామ్మతం పిచికారి ప్రయోగం ద్వారా పంటలోని పురుగులను నిర్మూలించి, పంటను పంట నష్టం నుండి రక్షించవచ్చును. ద్రవ జీవామ్మతం పిచికారి ప్రయోగం ద్వారా పంటలోని పురుగులను నిర్మూలించి, పంటను పంట నష్టం నుండి రక్షించవచ్చును.

సాక్షి

దీనిని 365 రోజులు అన్ని రోజులూ పంపిణీ చేస్తారు. కలెక్టరేట్ కార్యాలయం, కొల్లూరి మండల కలెక్టరేట్ కార్యాలయం, కొల్లూరి మండల కలెక్టరేట్ కార్యాలయం, కొల్లూరి మండల కలెక్టరేట్ కార్యాలయం.

ద్రోణ పంటలో సమయం, ఖర్చు ఆదా చేయించు



ద్రోణ పంటలో సమయం, ఖర్చు ఆదా చేయించు చిత్రం

ద్రోణ పంటలో సమయం, ఖర్చు ఆదా చేయించు చిత్రం. ద్రోణ పంటలో సమయం, ఖర్చు ఆదా చేయించు చిత్రం. ద్రోణ పంటలో సమయం, ఖర్చు ఆదా చేయించు చిత్రం.

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నేలలో పోషకాలు ఉంటే అధిక దిగుబడి

నేలలో పోషకాలు ఉంటే అధిక దిగుబడి. నేలలో పోషకాలు ఉంటే అధిక దిగుబడి. నేలలో పోషకాలు ఉంటే అధిక దిగుబడి. నేలలో పోషకాలు ఉంటే అధిక దిగుబడి.



నేలలో పోషకాలు ఉంటే అధిక దిగుబడి చిత్రం

నేలలో పోషకాలు ఉంటే అధిక దిగుబడి. నేలలో పోషకాలు ఉంటే అధిక దిగుబడి. నేలలో పోషకాలు ఉంటే అధిక దిగుబడి. నేలలో పోషకాలు ఉంటే అధిక దిగుబడి.

సాక్షి

భూసార పరీక్షలు చేయించుకోవాలి

భూసార పరీక్షలు చేయించుకోవాలి. భూసార పరీక్షలు చేయించుకోవాలి. భూసార పరీక్షలు చేయించుకోవాలి. భూసార పరీక్షలు చేయించుకోవాలి.



భూసార పరీక్షలు చేయించుకోవాలి చిత్రం

భూసార పరీక్షలు చేయించుకోవాలి. భూసార పరీక్షలు చేయించుకోవాలి. భూసార పరీక్షలు చేయించుకోవాలి. భూసార పరీక్షలు చేయించుకోవాలి.

సాక్షి

సాక్షి

ఆధునిక వ్యవసాయం లాభదాయకం

ఆధునిక వ్యవసాయం లాభదాయకం. ఆధునిక వ్యవసాయం లాభదాయకం. ఆధునిక వ్యవసాయం లాభదాయకం. ఆధునిక వ్యవసాయం లాభదాయకం.



ఆధునిక వ్యవసాయం లాభదాయకం చిత్రం

ఆధునిక వ్యవసాయం లాభదాయకం. ఆధునిక వ్యవసాయం లాభదాయకం. ఆధునిక వ్యవసాయం లాభదాయకం. ఆధునిక వ్యవసాయం లాభదాయకం.

Forthcoming Events

ICAR-Indian Institute of Rice Research is organizing DST- SERB sponsored high-end workshop KARYASHALA on “Multivariate Statistical Machine Learning Methods for Modelling Agricultural Data” from 24th July to 4th August, 2023 to P.G./Ph.D. students.

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