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The global call for food security necessi-tates a thrust on enhancing productivity achievable by increasing adoption of high-quality seeds. Despite significant research investments in developing high yielding seeds, there is a notable lack of effective distribution channels, particularly in developing countries where ensuring one daily meal for the entire population remains challenging. The limited reach of the formal seed sector in these countries, coupled with a reluctance to market large volumes

of low-value seeds, results in 80-85% of smallholder farmers relying on informal sources for their seeds.

The seeds obtained through informal seed sources are often a mix of landrace or mixed races, leading to a heterogeneous blend of different varieties. Furthermore, the quality of these seeds varies in terms of purity, physical attributes and physiological parameters. Despite these challenges, there are positive instances of farmer-to-farmer seed diffusion, highlighting the significance of informal mechanisms post the initial introduction of modern seed varieties.

A potential solution lies in adopting an Integrated Seed System (ISS) approaches; informal seed systems and the formal system are complementary and incorporating specific parameters from formal systems into informal seed production. In this process, Farmer Associations, Self-Help Groups (SHGs), and Farmer Producer Organizations (FPOs) can play a pivotal role. Training these groups on formal seed production methods, government procedures for certification, and incorporating quality control measures can lead to improved seed production. The ISS approach utilizes a diverse range of locally improved crops and seeds released by formal systems. It can also facilitate the production of certified seeds through the implementation of formalized quality control measures, integrating small-scale seed enterprises into seed markets. Additionally, the system aims to upgrade informal practices to produce standard seeds and quality-declared seeds for community exchange.

The Rajiv Gandhi Mahila Vikas Pariyojana as part of a women's empowerment and poverty reduction initiative in Uttar Pradesh introduced integrated seed practices into the collaborative framework of women's self-help groups. This innovative approach enabled the successful cultivation and distribution of high-quality seeds for new rice and wheat varieties, benefiting over 30,000 small-scale farmers and significantly advancing women's empowerment at its core. The Farmers Participatory Seed Production program of Uttar Banga Krishi Viswavidyalaya facilitates the distribution of certified seeds for major field crops, especially rice, to local farmers in Sitalkuchi and Mathabhanga blocks of Cooch Behar district. This initiative ensures that farmers can access high-quality seeds at affordable prices.

National Governments should thus support both informal and formal seed sectors, emphasizing the adoption of integrated seed systems to address seed quality concerns. Neglecting the informal seed sector may result in a continued decline in quality, ultimately leading to reduced productivity in the long run.

M. Raghunandan Rao Vice Chancellor

New Initiatives

PJTSAU Rice Varieties: Released by Central Varietal Release Committe

KNM 7048 (IET 28332) - A high yielding (8000-8500 kg/ha), short duration (115-120 days), long bold, non-lodging and non-shattering rice culture with moderate resistance to leaf blast and sheath rot was released and notified through CVRC on the name of "*Telangana Rice 6*" for the states of Odisha, West Bengal in the Eastern Zone (Zone III), and Chhattisgarh, Maharashtra of the central Zone (Zone V).

KNM 6965 (IET 28343) - A short duration (115-120 days) and high yielding (7500-8000 kg/ha), long slender, rice culture with moderate resistance to leaf blast and grain discoloration was released and notified through CVRC on the name of "Telangana Rice 7" for the states of Chhattisgarh and Maharashtra.



Telangana Rice 6



Telangana Rice 7

Important Events

Breakthrough Patent Awarded for Innovative Head Load Management Device Easing Drudgery

The invention "Device to Manage Head Load" addresses the realm of drudgery-reducing technology, focusing specifically on a device designed to reduce the burden on individuals by managing head load and minimizing stress on the head and neck muscles. This device comprises of an over head frame, a shoulder frame, and straps to fasten the shoulder frame with body, wherein the overhead frame is round or square shaped, the overhead frame is connected to the shoulder frame at its upper side, the straps are attached to the shoulder frame and facilitates the fastening of the shoulder frame with body in order to distribute the weight over shoulder and back muscles.

Dr. P. Raghu Rami Reddy, Director of Research, PJTSAU acknowledged the team by organizing a felicitation ceremony and honoring Dr. A. Mrunalini, Professor (Retd.), PJTSAU, for the patented technology developed at AICRP on Home Science, Dr. V. Vijaya Lakshmi, Dean & Associate Dean,

College of Community Science, PJTSAU, Hyderabad and Ms. V. Kavitha Kiran, Assistant Professor, Dept. of HDFS, College of Community Science, Hyderabad, for their copyright achievements at the All India Coordinated Research Project on Women in Agriculture, PG & RC, PJTSAU, Rajendranagar, Hyderabad.



Device to Manage Head Load

Patent certificate for Device to Manage Head Load

Millet Marvel: Celebrating Closing Ceremony of the International Year of Millets

In the culmination event of the International Year of Millets-2023, the College of Community Science organized a special ceremony titled "Millet Marvel: Decades of Innovation and Advancement" at the College of Agriculture Auditorium, Rajendranagar on 22nd December, 2023. In the event Dr. Tara Satyavati, Director, IIMR, emphasized the pivotal role of both major and minor millets in diversifying diets to combat malnutrition and lifestyle disorders. Dr. T. V. Hymavathi, Retired Professor from the Department of Foods and Nutrition, shared insights on future foods, smart foods, and the value chain for millets. She stressed the need for diversified processing technologies for small millets.

Dr. M. Venkata Ramana, Registrar, PJTSAU urged a shift in food habits, encouraging the incorporation of millets into diets at least three days a week. The Millet Processing and Incubation Centre unveiled 12 innovative millet products, including instant idli mixes, designer bites, ragi noodles, multi-millet malt and pediatric mix.



Celebrations of closing ceremony of IYOM 2023

Dr. T. Supraja, Professor & Head, provided a concise overview of the extensive research conducted on millets over six decades by faculty and students. A highlight of the ceremony was award of cash prize to winners from the millet cooking competition. The event served to acknowledge and applaud the remarkable strides in millet innovation and the promotion of millets for fostering a healthier lifestyle.

A step Ahead Towards Green Initiatives: Inauguration of Fence around Farm **Pond at Agrobiodiversity Park**

In a notable step towards environmental conservation, Dr. P. Raghu Rami Reddy, Director of Research, PJTSAU, Rajendranagar and Anice Varkey, Head, HR Business Partner at DBS Tech, Hyderabad inaugurated the diamond mesh fencing around the farm pond at the Agrobiodiversity Park on 2nd November, 2023. The diamond mesh fencing around the farm pond, worth Rs. 5.00 lakhs, was made possible through the collaboration with DBS Tech, Hyderabad through NIRMAAN NGO. A plantation program followed the inauguration, featuring the planting of coconuts, palm plants, and flowering plants within the biodiversity park.

Anice Varkey addressing on the occasion expressed a sense of responsibility towards protecting the planet and the environment through extensive plantation activities. Mr. Nikhil Gampa from NIRMAAN provided insights into various environment related developmental programs slated for execution with the support of DBS Tech's Corporate Social Responsibility (CSR) funds. Dr. Reddy extended gratitude to both organizations for their support and commended the Agroforestry staff for its impactful initiatives. Dr. A.V. Ramanjaneyulu, Head, Agroforestry scheme enlightened the audience on ways to combat plastic pollution through the principles of reduce, reuse, and recycle. The event witnessed the participation of 130 newly appointed employees from DBS Tech, Mr. B. Thirupathi, Senior Manager, NIRMAAN NGO, Ameena Mahnej, CSR Lead from DBS Tech, and Dr. T. Chaitanya, Scientist from the Agroforestry scheme of PJTSAU.



Dr. P. Raahu Rami Reddy and Anice Varkey inaugurated the diamond mesh fencing around the farm pond at the Agrobiodiversity Park

Workshops, Conferences, Meetings, Seminars

Deliberations for Sustainable and Profitable Agroforestry Models

The annual group meeting of AICRP on Agroforestry with a theme on quality planting material and sustainable practices was organized by Professor Jayashankar Telangana State Agricultural University (PJTSAU) and ICAR-Central Agroforestry Research Institute (CAFRI), Jhansi, Uttar Pradesh from 16th to 18th October, 2023 at University Auditorium, PJTSAU, Hyderabad. Dr. S.K. Chaudhari, Deputy Director General (NRM), ICAR, New Delhi, and the Chief Guest emphasized the pivotal role of Agroforestry in ecosystem restoration, achieving Sustainable Development Goals (SDG), mitigating climate change, and zero emission goals. Noteworthy discussions included the significance of industrial Agroforestry and tree planting in arid and coastal regions for ecosystem preservation. Dr. A. Arunachalam, Director, CAFRI, presented key achievements and the role of Agroforestry, while Dr. V.K. Singh, Director, CRIDA, Hyderabad, stressed the importance of dryland Agroforestry, incorporating livestock and boundary fodder tree species for climate resilience.

Dr. M. Venkata Ramana, Registrar, PJTSAU, enlightened delegates about environmental benefits of Agroforestry and suggested the inclusion of small ruminants for enhanced profitability. The event hosted the release of Agroforestry related publications and a lecture on leadership development for Agroforestry researchers by Dr. Ch. Sreenivasa Rao, Director, NAARM. Dr. Rajbir Singh, ADG (Agronomy, Agroforestry & Climate Change), ICAR, New Delhi, highlighted the role of Agroforestry in climate change mitigation and natural disaster resilience, emphasizing the need to transfer profitable models to farmers. Dr. B.P. Bhatt, ICAR, New Delhi, recommended focusing on quality planting material production for supplying superior seedlings to Agroforestry farmers. Dr. A.K. Handa, Nodal officer, delivered a lecture on "Quality Planting Material Production," discussing the framework for nursery accreditation and certification. Dr. K.P. Mohapatra, NBPGR,

New Delhi, emphasized the significance of tree improvement for quality plant material production. Dr. C. Biradar, Country Director, Centre for International Forestry Research and World Agroforestry, India, gave a plenary talk underlining Agroforestry's contribution to sustainable goals, acknowledging AICRP on Agroforestry's impact at both national and Asia-Pacific levels. Dr. P. Raghu Rami Reddy highlighted Telangana government's initiatives under "Haritha Haram" and 'Agroforestry,' emphasizing Hyderabad's recognition as the best green city globally. He also stressed the importance of mapping Agroforestry areas in Telangana using RS and GIS tools. In addition Sri E. Venkat Reddy, Director, IFB, Hyderabad, in plenary session discussed Agroforestry's role in mitigating climatic challenges. VIPs and delegates toured Agroforestry research experiments, wood and bamboo models, and the Agribiodiversity park in PJTSAU. Over the three-day meeting, scientists deliberated on formulating plans for sustainable and profitable Agroforestry models. Participants included PJTSAU Heads of all research schemes, and 70 scientists from 20 states working in various AICRP on Agroforestry centers across different ICAR institutions and SAUs in India.



Release of agroforestry publications by the dignitaries at annual group meeting of AICRP on Agroforestry

Insights on Innovations and Sustainability in Plant Health Management

The International Conference on "Plant Health Management - Innovation and Sustainability" was organized by the Plant Protection Association of India, unfolded over four days from 15th to 18th, November 2023, at the University Auditorium, PJTSAU, Rajendranagar, Hyderabad. The inaugural ceremony witnessed the

presence of Sri M. Raghunandan Rao, IAS, Hon'ble Vice Chancellor, PJTSAU, APC & Secretary, Govt. of Telangana, Dr. Sarada Jayalakshmi Devi, Hon'ble Vice Chancellor, ANGRAU & the chief guest of the programme, Dr. S. C. Dubey, ADG (Plant protection and Biosafety), ICAR, GoI, New Delhi, and the Guests of Honour, Sri R. G. Agarwal, Chairman,

Dhanuka Agritech Ltd., India, the Special Invitee and Dr. K.R.K. Reddy, Chairman, Bioagri Inputs Producers Association, India.

Dr. B. Sharat Babu, President of PPAI and Chairman of the Conference, delivered the welcome address, tracing the historical journey of PPAI since its inception in 1972. The event witnessed the release of a special postal cover to commemorate the golden jubilee celebrations, as well as a souvenir and edited abstracts of research articles by the dignitaries.

The discussions in the conference centered on the importance of food safety, precision agriculture and the need to incorporate resistant genes for various pests and diseases in high-yielding varieties. Dr. S.C. Dubey stressed the development of new agricultural technologies to minimize chemical usage and advocated for the judicious use of pesticides and good agricultural practices. Udam Singh Gowtham, Deputy Director General, Indian Council of Agricultural Research (ICAR), in his address in closing ceremony emphasized the urgency of sustainable agriculture. He urged scientists to align their research programs with the imperative of sustainability and encouraged crop diversification among farmers to enhance farm income. Lifetime contribution awards were bestowed upon Dr. D.V. Raghava Reddy and Dr. K.S.R.K. Murthy for their notable contributions, accompanied by other recognitions. The event concluded with the recognition of 37 scientists through fellowships and awards for outstanding oral and poster presentations made during the conference.



Dr. Sarada Jayalakshmi Devi, Hon'ble Vice Chancellor, ANGRAU & the chief guest addressing the gathering



PPAI team at the International Conference

Drone-Based Practices for Enhanced Rice Cultivation

A one-day workshop on the "Development of Drone-Based Package of Practices in Direct Seeded Rice," supported by NABARD was organised at University Auditorium, PJTSAU, Hyderabad on 18th October, 2023. Smt. Suseela Chintala, CGM, NABARD, Telangana State, Hyderabad was the Chief Guest, and emphasized on the imperative shift towards advanced technologies and mechanization to cope up with the labour shortage in agriculture. She highlighted the utility of drone services from paddy sowing to harvesting and stressed the importance of comprehensive training programs for farmers and youth in drone technology. NABARD further promised to actively support such initiatives.

Dr. M. Venkata Ramana, Registrar, PJTSAU, highlighted the benefits of drones for large-scale and costeffective cultivation. The farmers actively participated in

the workshop to explore the potential of drone technology in revolutionizing rice cultivation practices. Dr. P. Raghu Rami Reddy, Director of Research, PJTSAU, along with University officers and scientists, participated in the program.



Smt. Suseela Chintala, CGM, NABARD addressing the gathering

Dr. B. Ramamoorthy 5th Memorial Lecture Ponders on Crucial Role of Soil Management in Mitigation of Climate Change

PJTSAU, Rajendranagar hosted the 5th Memorial Lecture in honour of Dr. B. Ramamoorthy on 21st November, 2023. Dr. Ch. Srinivasa Rao, Director of ICAR-National Academy of Agricultural Research Management (NAARM), delivered an enlightening lecture on "Why Soil Management is Critical for Climate Change Mitigation." The event saw the participation of esteemed individuals, including Dr. M. Venkata Ramana, Registrar, PJTSAU, Dr. P. Raghu Rami Reddy, Director of Research, Dr. S. Audilakshmi, Daughter of Dr. B. Ramamoorthy, his family members, former Vice Chancellors, University Officers, as well as Teaching and Non-teaching staff and students.



Dignitaries at 5th Memorial Lecture of Dr. B. Ramamoorthy

Capacity Building

Empowering Extension Professionals: Collaborative Training on Mobile App Recording and Editing

The Electronic Wing of PJTSAU and MANAGE, Hyderabad, joined forces to conduct an online training program titled "Recording and Editing in Mobile Apps for Extension Professionals" from 16th to 20th October, 2023. Dr. Srinivasa Charyulu Attaluri, Deputy Director (Knowledge Management), MANAGE, Hyderabad and the Chief Guest during the inaugural remarks, highlighted the transformative role of mobile devices in the hands of Agricultural Extension professionals for effective and timely communication of agro advisories to farmers.

Dr. M. Sreenivasulu, Course Coordinator, emphasized that the training program aimed to enhance the skill set of Agri-professionals, enabling them to leverage mobile apps for efficient technology transfer *via* social media. The comprehensive training covered various aspects, including the evolution of mobile apps, content planning, audio recording and editing, podcasting, video capturing, editing, publishing, photo capturing, editing, and publishing, as well as social media strategy, analytics, and insights.



Hands on Training on using Mobile Apps



Online session on Social Media Strategy on Analytics

Sri M. Kumar, Joint Director, C-DAC, Hyderabad, presented on Mobile apps and their evolution, while Dr. Ravdeep Singh, Assistant Professor, GADVASU, Ludhiana, Punjab explained the importance of Content Planning for Mobile apps. Hands-on training sessions were conducted by experts, including S. Rajesh Khanna, Director, Arcus Excellence Academy, Dr. B.N. Ambarish, Founder, Srushti Media, Bangalore, Dr. Kamma K Babu, Assistant Professor & Regional Industry Coordinator (Placements & Alumni), NIFT, Hyderabad, Dr. Amandeep Singh, Assistant Professor, GADVASU, Ludhiana, Punjab on 'Audio Recording, Editing and Podcasting', "Mobile Apps. Video Capturing, Editing and Publishing', 'Photo Capturing, Editing and Publishing' and 'Social Media Strategy on Analytics, Developing Social Media strategy and measuring success (Analytics and Insights)' respectively. The program attracted 28 participants from various parts of India.

Digital Solutions to Combat Problems in Agriculture

The Electronic Wing of PJTSAU and MANAGE, Hyderabad, came together to organize an insightful online training program entitled "Collaborative Online Training Programme on Real-Time Solutions through Digital Agriculture" on 11th to 15th December, 2023. The program aimed to equip participants with practical knowledge and skills to address agricultural challenges using digital tools.

Training sessions on "Application of Chat Bot in Agriculture", "Kisan Sarathi" as a platform for real-time farm solutions, "YouTube Live Streaming," offering handson experience in creating YouTube channels, the role of "Kisan Call Centers" in providing real-time solutions to farmers were delivered by Dr. A. Lalitha, Senior Scientist and PAIO (ANGRAU), Dr. Shiva Krishna, Programme Coordinator, KVK, Bellampalli, Dr. M. Sreenivasulu, Coordinator, Electronic Wing and Sri D. Sanath Raj, Manager, KCC respectively.

Sri M. Kumar, Joint Director, C-DAC, Hyderabad, discussed the "Use of Mobile Apps/Web Blogs for Real-Time Solutions", while Sri Ravi Teja and Sri Ch. Chandra Shekar shared insights on live TV programs and phone-in sessions for farmers' benefit and Dr. K. Vinayak Nikam covered "Impact Assessment Techniques for Real-Time Digital Platforms," and Smt. T. Prasanna shared experiences of Phone-in Live programs at All India Radio. Dr. V. Sudha Rani, Director of Extension, PJTSAU in valedictory session emphasized on transformative potential of digitalization and said it is still in nascent form in agriculture. She called for organizing offline training programs to provide practical knowledge and urged the creation of a training manual. The program witnessed participation from 28 enthusiastic individuals representing various states, contributing to a collaborative learning experience.



A Session of online training on Real-Time Solutions through Digital Agriculture

Awards and Honours

- AgHub, PJTSAU, has been honoured with the prestigious Agriculture Leadership Award 2023 under Entrepreneur Leadership Award category organized by the Agriculture Today Group.
- Dr. K. Ravi Kumar, SMS (Entomology) and Dr. Jessie Suneetha, SMS (Home Science) have received Rythu nestham awards for the year 2023.
- Mr. R. Rakesh, Agricultural College, Palem participated in Photography competition held by ISAB-Sambrama-4 Greater Noida and got selected among 17 participants in photography competition.
- PJTSAU NSS Volunteers received First Prize in Poster Competition on the topic of India 2047 at National Integration Camp, Gujarat.

Cups and Trumpets

Inter Polytechnic Meet 2023-24: A triumph of Sports, Cultural and Literary Excellence

The Regional Agricultural Research Station (RARS), Polasa, Jagtial, hosted the "Inter Polytechnic Sports, Games, Cultural and Literary Meet 2023-24" from 17th to 19th October, 2023. Dr. M. Venkata Ramana, Registrar, PJTSAU and the Chief Guest in his address stressed on the importance of sports in teaching teamwork, dedication, and graceful handling of victories and defeats. Dr. J. Satyanarayana, Dean of Student Affairs, PJTSAU, advised the students to develop entrepreneurial skills during their

Polytechnic course. Dr. G. Padmaja, Director Polytechnics, PJTSAU, highlighted the benefits of sports on physical and mental health and the role of cultural events in social skill development.

Dr. Seema, Dean of Agriculture & Member, Board of Management, PJTSAU in the valedictory session commended students for active participation and emphasized the role of sports in leadership and time management. The overall championship in Boys and Girls

for games and athletics category was bagged by Agricultural Polytechnic, Palem and Tornala jointly, while for cultural and literary events by Agricultural Polytechnic, Madhira. The event brought together teaching and non-teaching staff,

OISAs, PDs of colleges, and 230 students from 12 polytechnics fostering a spirit of healthy competition and camaraderie.



APT, Tornala girls with overall championship trophy



Dr. J. Satyanarayana, DSA, PJTSAU addressing the students at sports meet

Celebrations



Students and Staff of Agricultural College, Palem taking pledge on account of Rashtriya Ekta Divas



World Soil day celebrations at Agricultural College, Adilabad





 $A gricultural\ Education\ day\ celebrations\ at\ College\ of\ A griculture,\ Rajendranagar\ and\ A gricultural\ College,\ Aswara opet$

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