

**Brief Report**  
**on**  
**One day National Seminar on “Recent approaches for production and value addition of millets (Shree Anna) in changing climate scenario”**  
**September 29<sup>th</sup>, 2023**  
**Department of Agriculture,**  
**Integral Institute of Agricultural Sciences and Technology (IIAST)**  
**Integral University, Lucknow**

A one day national seminar on “Recent approaches for production and value addition of millets (Shree Anna) in changing climate scenario” was organized by U.P. Council of Agricultural Research (UPCAR), Lucknow and Department of Agriculture, Integral Institute of Agricultural Sciences and Technology (IIAST), Integral University, Lucknow on September 29<sup>th</sup>, 2023 at the Central Auditorium of Integral University.

**Inaugural session**

The inauguration of the event commenced with a warm and formal welcome extended by Prof. Mohammad Haris Siddiqui, Director of IIAST and Registrar of Integral University. Prof. Siddiqui expressed his gratitude to the U.P. Council of Agricultural Research (UPCAR) and the Department of Agriculture, IIAST, for their collaboration in organizing this important event. He provided an overview of the history, achievements and contributions of the Integral Institute of Agricultural Sciences and Technology (IIAST) as an agricultural institution, highlighting its emergence as a renowned institution in the field of agriculture. He also highlighted the role of millets in agricultural economy and human health.

Dr. Ashok Kumar Singh, Honorable Vice Chancellor of RLBCAU, Jhansi, graced the occasion as the esteemed chief guest during the national seminar. The seminar also witnessed the participation of prominent dignitaries including Dr. Sanjay Singh, Director General of U.P. Council of Agricultural Research; Dr. Ram Kathin Singh, former Director of Research at ANDUA&T; Mr. Piyush Kumar Sharma, Secretary

at UPCAR; and Shri P. S. Ojha, State Advisor of the FPO (Farmer Producer Organization) cell, Department of Agriculture, Government of Uttar Pradesh.

Prof. Javed Musarrat, Honorable Vice Chancellor of Integral University delivered his opening remarks, setting the tone for the event. Prof. Musarrat underscored that the attendees were not mere participants but rather custodians of knowledge, stewards of the environment and advocates for change. Their presence alongside renowned scientists and scholars in the field of agriculture particularly sustainable agriculture and millet-based production and consumption symbolized a shared commitment to address pressing challenges. Prof. Musarrat outlined the objectives of the seminar, which included engaging in rigorous discussions, sharing groundbreaking research and exploring innovative approaches to address agricultural challenges. He emphasized the unique opportunity to pool collective wisdom, transcending borders and boundaries to find solutions that benefit both the current and future generations.

Dr. Sanjay Singh, the Director General of U.P. Council of Agricultural Research, then took the stage to deliver the inaugural address sharing his valuable insights with the audience. He had addressed the audience on the subject of "Reviving the Forgotten Legacy: The Resurgence of Millets in Indian Agriculture," where he explored the journey of millets from relative obscurity to newfound prominence. This lecture explored the remarkable resurgence of millets in India. Once the cornerstone of the country's agriculture and diet, millets faded into obscurity with the rise of the Green Revolution, which prioritized high-yielding wheat and rice varieties. However, millets, including Jowar, Bajra, Ragi etc had been the backbone of India's agriculture for centuries, thriving in the warm climate and challenging conditions of the semi-arid tropics. His lecture shed light on the historical significance and the recent renaissance of these resilient cereals. He also insisted that with Uttar Pradesh being one of the major producers of millets in the country the state government has drawn plans to further boost the production of cereals to make the state number one in millet production in 2023 – the International Year of

Millet. The Agriculture Department has drawn plans to distribute free kits of seeds to farmers for increasing the area of cultivation of millets in the state. It also plans to revive millet cultivation under the rainfed farming system.

The inaugural address at the national seminar was preceded by Prof. S.W. Akhtar, the Honorable Chancellor and founder of Integral University, during which the pride and vision for the institution he has founded, were expressed. He appreciated the drive of the University for Excellence and stated that Integral University has been dedicated to nurturing the intellectual and growth of its students. The journey of the university has been marked by innovation, inclusivity and a relentless pursuit of academic excellence. It has been a matter of pride that the university has contributed to various fields of knowledge both on a national and international scale. Later the distinguished guests were felicitated and the stage was graced by the Guest of Honor, Dr. Ram Kathin Singh, former director research, ANDUA&T. Dr. Ram Kathin Singh expressed his concerns towards the lost biodiversity of millets due to rapid advent of green revolution which boosted wheat and rice production but reduced diversity in diets, especially for the poorest rural communities in India. He emphasized to strive for diverse diets and sustainable agriculture as nutri-cereals like millets must be promoted and added to the staple diet.

Mr. Piyush Kumar Sharma, Secretary, UPCAR delivered his remarks as Guest of Honor. Mr. Piyush Kumar Sharma emphasizes the significance of millets, an ancient and farmer-friendly crop known for its exceptional nutritional value, rich in vitamins and minerals. He highlighted the renewed interest in millets, including various varieties of pearl millet, sorghum millet, etc, owed to the adaptability and ease of cultivation in India. As climate-related threats loom over rice production, millets are gaining prominence as a climate-resilient alternative that could shape the future of agriculture. Mr. Piyush Kumar Sharma highlighted India's prominent position as the world's leading millet producer and fifth-largest exporter, emphasizing the nutritional and environmental benefits of millet cultivation,

including climate resilience, efficient water usage, improved soil health, and enhanced biodiversity within mixed cropping systems.

The highlight of the event was the insightful address delivered by our esteemed Guest, Shri P. S. Ojha, State Advisor, FPO (Farmer Producer Organization) cell, Department of Agriculture, Government of Uttar Pradesh, Shree Ojha's speech was filled with profound wisdom and valuable perspectives on the FPOs in Uttar Pradesh, leaving the audience both informed and inspired. Shri Ojha underscored the pivotal role that Farmer Producer Organizations (FPOs) play in the promotion of millet cultivation in Uttar Pradesh. He stressed the need to empower and support these FPOs to boost millet production, thereby enhancing food security and nutritional diversity. Shri Ojha emphasized the importance of FPOs in promoting sustainable agricultural practices among millet growers. By disseminating knowledge on organic farming, water-efficient techniques, and soil health management, these organizations can contribute to enhanced millet yields while preserving the environment. He elaborated on the need for FPOs to establish strong market linkages for millet farmers. Creating avenues for direct selling, processing, and value addition can improve the income of millet producers and boost the economic viability of millet-related FPOs. Shri Ojha stressed the significance of FPOs engaging in policy advocacy. By representing the interests of millet growers, they can influence policy decisions that promote millet cultivation, research, and marketing. Shri Ojha motivated the audience to consider registering FPOs and working toward giving them an international presence. He emphasized that FPOs could play a significant role in elevating millet-based food and value added products to a global platform, showcasing the potential of millets on an international trade. After inauguration of the souvenir, various FPO, KVKs, Departments and colleges were felicitated by all the dignitaries.

Dr. Ashok Kumar Singh, Honorable Vice Chancellor of RLBCAU, Jhansi, the chief guest concluded the proceedings with his chairman's remarks, making this event a memorable gathering of academic luminaries and leaders. He stressed that the

knowledge gained during the seminar should not remain theoretical but be translated into concrete policies and actions. Singh underlined the significance of empowering Farmer Producer Organizations (FPOs) to catalyze millet production, enhance food security, and promote sustainable agricultural practices.

Following this, Prof. Saba Siddiqui, the Head of the Department of Agriculture, IIAST extended a heartfelt vote of thanks to all the dignitaries, participants and attendees for their presence and contributions to the event. Prof. Siddiqui urged all attendees to carry forward the spirit of collaboration that had been fostered during the seminar. She stressed the importance of translating the knowledge gained into concrete policies and actions to address the real-world challenges discussed during the event. Prof. Siddiqui reiterated the shared commitment of the participants to ensure food security, mitigate the impacts of climate change and promote sustainable agriculture through the resurgence of millets. Prof. Siddiqui's words of gratitude added a warm and appreciative note to the proceedings, concluding the event on a positive and harmonious tone.

### **Technical session I**

In the technical session I titled "Overview and Scope of Millets in India and Uttar Pradesh" key points were discussed by four speakers, with notable findings as follows: The importance of expanding millet consumption as a vital dietary component for villagers, particularly biofortified millets, was stressed by Dr. B. Venkatesh Bhat, Principal Scientist at ICAR-IIMR, Hyderabad. Dr. Kirti Mani Tripathi, SMS, KVK Bulandshahar, SVPUAT, emphasized the need for heightened awareness and sensitization programs promoting millet consumption, with a focus on whole grain millets as superfoods. Shri R.K. Singh, ADA (Extension), Directorate of Agriculture, Lucknow, highlighted the Government of Uttar Pradesh's initiatives supporting millet development Prof. Kamaluddin, BUAT, Banda, emphasized the urgent development of millet varieties resistant to biotic factors and the significance of extensive area expansion through quality seed production via seed hub development and breeder seed production. The

session concluded with expressions of gratitude to the Chairman, Co-Chairman, and Rapporteur, followed by the presentation of mementos to the speakers.

### **Technical session II**

The technical session II titled “Integrated Crop Management Practices in Millets for Enhancing Productivity” featured a series of insightful lectures. Dr. BVS Sisodia highlighted the promising prospects of millets in Uttar Pradesh, emphasizing the urgent need for additional processing industries and collaboration among stakeholders for widespread cultivation. Dr. Ramwant Gupta discussed enhancing finger millet yields by modifying photosynthetic machinery. Dr. Shweta focused on pearl millet's potential in combating malnutrition and proposed various breeding strategies and action plans. Dr. Atul Kumar Singh explored the impact of changing climate scenarios on millet production, with a particular emphasis on the resilience of southern Uttar Pradesh. Dr. Rishu Gautam delved into the value addition and packaging of millets, presenting tailored packaging solutions. Lastly, Dr. Sadhna Singh advocated for millet-based value addition and popularizing millets through innovative recipes to address malnutrition, particularly among the younger generation.

### **Technical Session III**

In Technical Session III, focus was on "Millets for Nutritive Security, Value Addition, and Profitability," all four scheduled presentations were successfully delivered. Dr. Rishu Gautam, Deputy Director of the Indian Institute of Packing, underscored the importance of comprehensive millet packaging, addressing protection from environmental factors and microorganisms while minimizing costs and safeguarding product quality. Dr. Sandhana Singh, Dean of the College of Community Medicine at ANDUAT, Faizabad, highlighted the nutritional benefits of millets, particularly their fiber content, in addressing global hunger and health issues such as high cholesterol and diabetes. She also showcased millet-based products available on the ANDUAT campus. Shri PS Ojha, State Advisor for the Government of Uttar Pradesh, emphasized the entrepreneurship opportunities offered by the government, advocating for collaboration between farmers and scientists to develop policies and sharing successful entrepreneurship development stories. Er. Ashfaq, an Assistant Professor at the Department of Agriculture, IAST, Integral University, discussed the scientific approach for producing millet-based snacks from finger millets, promoting the replacement of wheat flour with finger millet flour for its high soluble fiber content, low fat, and cholesterol levels. The session concluded with expressions of gratitude

to the Chairman, Co-Chairman, and Rapporteur, followed by the presentation of mementos to the speakers. The National Seminar featured meticulously hosted Inaugural and Technical Sessions, skillfully coordinated by Dr. Srishti Thakur and Dr. Garima Yadav.

### **Poster presentation**

Furthermore, the event featured an extensive poster presentation encompassing a wide array of themes showcasing the posters on various topics including Crop Improvement: Genetic Resources, Genomics Approaches, Plant Variety Protection, and Intellectual Property Rights, Seed Hubs and Seed Production Systems. Topics in Natural Resources Management includes: Enhanced Cultivation Practices and Soil Health and Fertility. Plant Protection theme covered: Insect-Pest, Disease, and Weed Management. Furthermore, theme Nutrition, Processing and Value Addition registered these topics: Infrastructure for Processing, Infrastructure for Processing, Value Addition, Millet Based Local & Indigenous Recipes, New Food Products Development and Commercialization. Marketing and Entrepreneurship Development explored these topics: Storage and Preservation, Marketing Opportunities, Entrepreneurship, Start-ups, and their linkages with Farmer Producer Organizations (FPOs). Finally, the theme on Government Policies, Support Systems and the Future of Millets emphasized the topics like: active participation of Government and Semi-Government bodies, Private sector, NGOs and FPOs. The seminar covered diverse themes showcasing the importance of millet agriculture and collaboration for its sustainable future. The Poster Presentation Session was efficiently managed and organized under the capable supervision of Dr. Pallavi Shrivastava, Dr. Kalpana Bisht and Mr. Mahtab Ahmad. Their dedicated efforts contributed significantly to the successful execution of the seminar.

### **Exhibition**

An exhibition was also organized during seminar showcasing various value added products of millets like bajra laddu, Sorghum Peda, Ragi flakes, seeds of millet crop, etc. This exhibition served as a platform for Farmer Producer Organizations

(FPOs) and Krishi Vigyan Kendras (KVKs) to showcase their contributions, with a total of 16 stalls on display.

The National Seminar was orchestrated with great success, bearing testament to the exemplary guidance provided by our esteemed leaders. Prof. S.W. AKHTAR, the Founder & Chancellor of Integral University, Lucknow, whose visionary leadership set the foundation for this remarkable event, served as the Chief-Patron. Dr. Syed Nadeem Akhtar, Pro-Chancellor of Integral University, Lucknow, played a pivotal role in supporting and nurturing the seminar's growth as one of the esteemed Patrons. Prof. Javed Musarrat, The Vice-Chancellor of Integral University, Lucknow, brought valuable insights and expertise to ensure the seminar's success, While Dr. Sanjay Singh, the Director General of UPCAR, Lucknow, provided essential guidance and support in steering the seminar toward its triumphant realization. Under the collective guidance of these esteemed individuals, the National Seminar achieved its goals, fostering an environment of knowledge-sharing and collaborative discourse. Their unwavering commitment to the event's success was truly instrumental in making it a resounding triumph. The organizational framework for the seminar was effectively managed by a dedicated team of individuals in various key roles. Prof. Dr. Mohd. Haris Siddiqui, Registrar at Integral University, Lucknow and Dr. Sanjeev Kumar, Deputy Director General at UPCAR, Lucknow, as Chairmen, provided valuable leadership and guidance. Organizing Secretaries included Prof. Saba Siddiqui, Head of the Department of Agriculture at IIAST, Integral University, Lucknow and Dr. Vinod Kumar Tiwari, Scientific Officer at UPCAR, Lucknow, overseeing various sessions and coordination of preceding events. Serving as Convener, Dr. A.S. Yadav, Associate Professor in the Department of Agriculture at IIAST, Integral University, Lucknow, played a pivotal role. Co-conveners encompassed Mr. Nadeem Khan, Assistant Professor in the Department of Agriculture at IIAST, Integral University, Lucknow, Dr. Shipra Yadav, Assistant Professor in the Department of Agriculture at Integral University, Lucknow, and Dr. Jaipal, Scientific Officer at UPCAR, Lucknow. The Organizing Committee included Dr. Khalid Habib, Dr. Usman Sayeed, Dr. Nitish Kumar, Dr. Garima Singh, Dr. Pallavi, Dr. Zeeshan, and Dr. Abhineet, who collectively contributed to the seamless execution of the seminar. The seminar was effectively reported by Dr. Setu Ratnam and Dr. Akanksha Singh. Their comprehensive coverage and insightful reporting greatly enriched the seminar proceedings.



**Glimpses of the Seminar**



















