VIGNAN'S
Foundation for Science, Technology & Research
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-Estd. u/s 3 of UGC Act 1956

Report on International Conference on "Plant Health in Asia: Research Priorities and Partnerships" 17th to 18th December 2024

The International Conference on Plant Health in Asia (ICPHA 2024) demonstrates a strong alignment with SDG 17.2.2, which measures the volume of official development assistance (ODA) committed to partnerships.

While the conference itself is not an ODA flow, it serves as a direct and tangible manifestation of the type of partnership that SDG 17.2.2 aims to encourage and measure. The conference's core purpose and structure are a direct implementation of the "partnership" principle.

Here is the correlation broken down:

1. Direct Fulfilment of the Partnership Principle:
SDG 17.2.2 is fundamentally about fostering international cooperation. The ICPHA 2024 was a direct embodiment of this, being organized by:

- **EUPHRESCO III** (European consortium)
- **VFSTR** (Indian University)
- **APAARI** (Asia-Pacific intergovernmental organization)

This tripartite collaboration between European, Indian, and Asia-Pacific bodies is a textbook example of the North-South and multi-stakeholder partnerships that SDG 17 promotes.

2. Multi-Stakeholder Engagement:
The conference went beyond traditional academic collaboration, actively engaging the key actors essential for sustainable development:

- **Academia & Research:** VFSTR, ICAR, ICRISAT, CABI, etc.
- **Public Sector:** Representatives from the Government of Andhra Pradesh.
- **Private Sector:** Industry panel with companies like Provivi Inc. and Farm Sathi.
- **Civil Society/Farmers:** A dedicated farmers' panel ensuring grassroots perspectives were included.

This inclusive approach is a core tenet of SDG 17, aiming to mobilize and share knowledge, expertise, and technology.

3. Outcome-Oriented Collaboration for Development:
The conference was not merely a discussion forum; it produced concrete, actionable recommendations for addressing plant health challenges in Asia—a critical issue for food security (SDG 2), economic growth (SDG 8), and climate action (SDG 13). The partnerships formed and strengthened here are precisely the kind that would be supported and measured by ODA flows under SDG 17.2.2.

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Report on Global Conference on "Climate Smart Agriculture - 2023" 27th to 29th March 2023

This Global Conference on Climate Smart Agriculture (GCCSA 2023) demonstrates a strong and direct correlation with SDG 17.2.2, which measures the volume of official development assistance (ODA) committed to partnerships.

While the conference itself is not an ODA flow, it is a prime example of the multi-stakeholder partnerships that SDG 17.2.2 aims to foster and quantify. The event's organization and participation structure perfectly embody the "partnerships for the goals" principle.

Here is the specific correlation:

1. Multi-Stakeholder Collaboration as a Core Feature:
The conference was not organized by a single entity but was a collaborative effort involving:

- **International & Intergovernmental Bodies:** APAARI, ICRISAT, CIFOR-ICRAF.
- **National & State Agricultural Universities:** Prof. Jayashankar Telangana State Agricultural University (PJTSAU), Dr. Y.S.R. Horticultural University.
- **Industry & Private Sector:** Representatives from seed companies (e.g., NRI Seeds, Sangam Seeds), fertilizer companies (Dasarath Fertilizers), and banks (NABARD, Punjab National Bank).
- **Farmers and Farmer Organizations:** A dedicated panel discussion included multiple progressive farmers, ensuring grassroots input.

This diverse consortium is a textbook manifestation of the multi-stakeholder partnerships that SDG Target 17.2 seeks to encourage.

2. Alignment with the Purpose of SDG 17.2.2:
The metric 17.2.2 tracks ODA flows that support these very types of collaborative frameworks. The GCCSA 2023 served as a platform and an outcome of such a framework, directly addressing global challenges (climate change, food security) through shared knowledge, technology transfer, and policy dialogue—the core objectives that ODA for partnerships aims to achieve.

3. Outcome-Oriented Partnership for Development:
The conference produced concrete, actionable recommendations for promoting Climate-Smart Agriculture. These outcomes are the direct result of the synergistic partnership between the academic, research, private, and farming communities. This demonstrates how effective partnerships (the target of SDG 17.2) lead to tangible progress on other SDGs, particularly SDG 2 (Zero Hunger) and SDG 13 (Climate Action).

Proceedings of the International Conference on
"Plant Health in Asia: Research Priorities and Partnerships"
17th to 18th December, 2024

Organized by

The Department of Agricultural and Horticultural Sciences (AHS), Vignan's Foundation for Science Technology and Research (VFSTR) organized " **International Conference on "Plant Health in Asia: Research Priorities and Partnerships** " on 17th - 18th December, 2024, at VFSTR (Deemed to be University), Vadlamudi, Guntur in collaboration with Asia-Pacific Association of Agricultural Research Institutions (APAARI), and European Plant Health Research and Coordination III (EUPHRESCO III), knowledge partners International Crops Research Institute for the Semi-Arid tropics (ICRISAT), Centre for International forestry Research (CIFOR), World Agroforestry, Centre for Agriculture and Bioscience International (CABI), Indian Phytopathological society, Acharya N.G. Ranga Agricultural University (ANGRAU), Dr. Y.S.R. Horticultural University (YSRHU), Plant Protection Association of India (PPAI). The two day programme was organized in six technical sessions and 2 key note sessions besides inaugural session, two panel discussion sessions and valedictory session.

Prelude:

The two-day event of the International Conference was organized with an intention to congregate the experts in the field of ―Plant Health in Asia: Research Priorities and Partnerships to establish better connections in the field of Plant Health Research. The conference's key objective was to identify and prioritize critical plant health issues while fostering the development of potential partnerships aimed at addressing these challenges. By focusing on the identification of key plant health concerns, the conference aimed to promote collective action and innovative solutions. Moreover, it emphasized the importance of building strong partnerships between researchers, policymakers, industry leaders, and farmers to effectively tackle plant health issues on a global scale.

The conference holds great importance as it serves as a platform for bringing together policymakers, academicians, researchers and development institutes, industry, and farmers to the field. The primary purpose is to meet global food security challenge demands, feeding two billion more people by 2050, which requires innovations in plant health research to protect crops from pests and diseases. Pests currently cause 20-40% of global crop yield losses, costing $290 billion annually. Healthy crops are crucial for sustaining agricultural trade, ensuring compliance with international standards, and maintaining market access. Poor plant health can lead to trade restrictions and economic losses. Thus, effective plant health management is essential for global food security and competitive trade. The six sessions are organized around five sub-themes: i) Molecular Breeding and Gene Editing Approaches for Biotic Stress, ii) Changing pest scenario, Epidemiology, Forecasting & Monitoring in relation to Climate change (Insect pests), iii) Changing pest scenario, Epidemiology, Forecasting & Monitoring in relation to Climate change (Plant Diseases), iv) Sanitary, Phytosanitary and Quarantine Regulations, v) Artificial Intelligence and IoT for Plant Health Management.

During the conference, a total of 22 invited papers (6 Keynote and 16 Lead) and 19 oral presentations were presented across various sessions. Additionally, 8 abstracts were displayed for poster presentations, adding to the wealth of knowledge shared. Furthermore, the conference featured two panel discussions focusing on: i) Panel Discussion of Farmers, ii) Panel Discussion of Industries. The recommendations from each session are summarized below.

Day 1: 17th, December 2024

Inaugural session

The inaugural session started with inviting the dignitaries on to the dais; Dr. T. Ramesh Babu, Dean School of Agriculture and Food Technology, Vignan's Foundation for Science Technology and Research (VFSTR), Dr. M. Malakondaiah, Former Director General of Police, A.P. & Member, Executive Council, VFSTR, Dr. Ravi Khetarpal Executive Director, Asia - Pacific Association of Agricultural Research Institutions (APAARI), Bangkok; Dr. Baldissera Giovani Coordinator, European Plant Health Research and Coordination (EUPHRESCO III); Dr. K. S. Varaprasad Project Manager (USDA- SPS Project) APAARI & Former Director, ICAR-IIOR, Hyderabad, Dr. Lavu Rathaiah Hon'ble Chancellor, VFSTR & Chairman, Vignan Group of Institutions; Col. Prof. P. Nagabhushan Hon'ble Vice Chancellor, VFSTR; All the dignitaries had stepped forward to light the lamp. Dr. T. Ramesh Babu, Dean SAFT, VFSTR and Organizing Committee Chair enlightened about the purpose of the International Conference on ―Plant Health in Asia: Research Priorities and Partnerships‖-2024.

Dr. Babu expressed his immense pride and great honour in extending a warm welcome to all attendees of the International Conference on- "Plant Health in Asia: Research Priorities and Partnerships" and outlined the conference's agenda, which focuses on innovating and promoting sustainable agriculture models aimed at enhancing nutritional security and fostering economic prosperity. Additionally, he highlighted the initiation of consultancy services designed to empower farmers and entrepreneurs by establishing resilient agroforestry systems and integrating traditional wisdom and also emphasized the state government's vision to transition 6 million farmer households and 2 million landless workers in Andhra Pradesh by 2035. Encouraging all participants, he urged them to actively engage in the conference, leveraging this unique opportunity to exchange knowledge, collaborate, and contribute to the advancement of plant health research and practices.

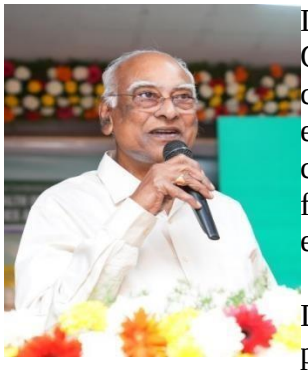
Dr. M. Malakondaih, Former Director General of Police, A.P., & member, Executive Council, VFSTR, expressed gratitude to all the delegates and dignitaries who made the effort to attend the conference, emphasizing that Dr. Ravi Khetarpal is an expert, and it is a privilege for him to have him as Conference Chair. It was hoped that the discussions taking place would be beneficial to the farming community.

Dr. Ravi Khetarpal, Executive Director, Asia-Pacific Association of Agricultural Research Institutions (APAARI), Bangkok, Chairman of the Global Forum on Agricultural Research (GFAR), mentioned that APAARI was established by the FAO of the United Nations about 35 years ago and is now seeking its own independent legal status as an intergovernmental organization (IGO) in Thailand. The organization works with the mission of improving agri-food research and innovation systems in Asia and the Pacific. Emphasizing the global projects undertaken by APAARI, Dr. Ravi noted that another key point for the organization is its involvement in the world of agroecology, in partnership with Rythu Sadhikara Samstha (RySS), Govt. of A.P., India, which was also highlighted. Dr. Ravi expressed confidence that they are on the verge of achieving something great. Commending Vignan University, Dr. Ravi acknowledged its great potential. Having served on the school research board, he has seen firsthand the efforts being made beyond capacity. He noted that Vignan University excels in areas where no other institution competes, giving it a unique selling point. Dr. Ravi is confident that the university will continue to move forward and achieve its goals. Despite being located in a corner of Guntur, Vignan University is steadily making its mark on the international map and is poised to gain global recognition through numerous collaborations and high-quality research.

Dr. Baldissera Giovani, Coordinator, European Plant Health Research and Coordination (EUPHRESCO III), expressed his profound happiness, stating that standing in front of the audience as a representative of EUPHRESCO was a great honour, and expressed his gratitude for hosting the event in such a beautiful location full of young people, who represent the next generation of talented professionals to be guided by the professors who possess today‘s knowledge. Dr. Baldissera shared that he felt a sense of disconnection between people, which is why EUPHRESCO III has emerged. EUPHRESCO III is a global phytosanitary research coordination initiative that spans different countries and regions, including South East Asia. Emphasizing that, in his view, global efforts refer to ensuring that all actors are represented and that all perspectives are considered in order to meet the diverse needs of various people and representatives from local authorities.

Dr. K. S. Varaprasad, Adviser, Biosecurity and Bioresources, expressed his gratitude towards Dr. Baldissera for accepting the proposal from Dr. Ravi Khetarpal to hold the conference this year and mentioned that it is very inspiring to work with EUPHRESCO. He stated that APAARI is extremely happy to collaborate with Dr. Baldissera's team. Dr. Varaprasad applauded the beloved Chairman of VFSTR, noting that he is not only an entrepreneur but also exemplifies excellence in performance in whatever he does. He expressed that VFSTR is the best host he has ever seen, offering all the necessary facilities, and he is extremely thankful. Dr. Varaprasad shared his pride in being associated with Dr. Vijay Kumar, highlighting that working with him has always provided an extra privilege whenever he travels to any country outside of India. Having visited 45 countries,

Dr. Varaprasad noted that they initiated the agro ecology program in Andhra Pradesh in collaboration with these countries, many of which are now working with global organizations. He acknowledged that this represents a significant opportunity for India and Asia, as the first two phases of EUPHRESCO were not global and were mostly confined to EUPHRESCO itself, while the third phase has expanded to a global scale. Dr. Varaprasad drew attention to the undeniable fact that the younger generation must possess professional competence and a strong commitment to managing such projects, as well as the essential infrastructure, laboratories, and human resources to lead the project and foster global networking.



Dr. Lavu Rathaiah, Hon'ble Chancellor of VFSTR & Chairman of Vignan Group of Institutions, praised the conference on plant protection as a commendable initiative in a sector where 60 percent of the population is engaged in agriculture. Even minor advancements in this field, he noted, could lead to significant improvements. The conference was expected to foster productive discussions, particularly in areas where small enhancements in production could create a substantial impact.

Dissatisfaction was expressed regarding previous loan policies that prevented farmers with four to five acres of land from securing loans. However, with the recent amendment by the RBI, loans can now be obtained without security. The feasibility of natural farming under current conditions was questioned, citing Sri Lanka as an example where government policies promoting natural farming resulted in failure and food shortages. The viability of natural farming was emphasized as dependent on production levels matching those of conventional methods, highlighting the necessity of scientific research and validation before widespread adoption. The importance of natural pest control methods was also underscored, as they could help address concerns about consuming contaminated food. Additionally, the role of IoT technology in enhancing agricultural management was highlighted.

.Dr. T. Vijay Kumar, IAS (Retd), Executive Vice-Chairman, Rythu Sadhikaraka Samstha (RySS) & Advisor, Department of Agriculture and Cooperation, Govt. of Andhra Pradesh, INDIA. In his address, he highlighted the significant growth of RySS, which started in 2016 with 40,000 farmers and has now reached 1 million participants statewide. He emphasized that natural farming progresses gradually and is a voluntary choice for farmers, contrasting it with Sri Lanka's abrupt elimination of chemical fertilizers and – "Natural Farming Mimics Nature to boost biodiversity, resilience, and planetary health while addressing the CLIMATE CHANGE". He also noted farmers are natural scientists who experiment, learn, and lead transformative changes in agriculture. He cited remarkable benefits of natural farming, including increased yields, lower costs, and higher net incomes, beginning in the first year, illustrating its resilience to disasters, sharing examples of banana and cotton crops surviving floods while chemically farmed crops suffered extensive damage. He concluded his address with the inspiring statement, "Every farmer has the power to heal the planet."

Col. Prof. P. Nagabhushan, Hon‘ble Vice Chancellor, VFSTR, expressed that he was wondering about maintaining plant health, stating that the reason for maintaining plant health is to increase yield and extract more from the plant. He highlighted that the Government of India has recognized the importance of acknowledging previous learning and the inherent knowledge gained by farmers in the field of agriculture, which is beneficial, and from their experiences, much valuable knowledge can be gained, allowing them to be equated with diploma holders and reach greater heights. He highlighted that ―Farming should be embraced as entrepreneurship, elevating its status and inspiring innovation while making it aspirational to attract youth and encourage women to see farmers as ideal life partners, driving rural prosperity.

The compendium for the conference and Book on Good Agricultural Practices (GAPs) in Palms (Coconut, Oil Pam and Palmyrah) was released by the dignitaries present on the dais.

Dr. T. Naresh, Coordinator, AHS, first and foremost expressed sincere appreciation to Dr. Vijay Kumar, IAS (Retd), for his inspiring presence and words of encouragement, which set the tone for the event. He extended his immense gratitude to Dr. Ravi Khetarpal, Chairman of the Conference, for his unwavering support. He expressed that the conference is going to be enlightening and thought-provoking and acknowledged his privilege to extend heartfelt gratitude to all those who have graciously made time in their busy schedules to attend. To the esteemed speakers and panellists, he expressed that he is indebted to all the upcoming sole contributions, stimulations, discussions, and innovative perspectives. He stated that the expertise is going to elevate the quality of the conference and enrich our understanding. He extended his gratitude to all the sponsors and partners who have been instrumental in bringing the event to fruition. He extended a warm thanks to the Organizing Committee and Technical Committee for their dedication. He further stated to everyone that we should all carry the momentum forward and continue striving for excellence in respective fields.

Keynote Presentations

Chairperson: Dr. Ravi Khetarpal, Executive Director, APAARI, Bangkok.

Co- Chairpersons: 1) Dr. S. V. Ramana Rao, Principal Scientist (Agrl.Economics) ICAR-IIOR, Hyderabad.

2) Dr. C. Kannan, Principal Scientist (Plant Pathology), ICAR-IIRR, Hyderabad.

Rapporteurs: 1) Dr. Rajanand Hiremath, Asst. Professor, AHS, VFSTR

2) Dr. Pandu U., Asst. Professor, AHS, VFSTR

During this session, two prominent keynote presentations took center stage and captivated the delegates.

1. Plant Health in the Era of Agri-food Systems Transformation

- Dr. Ravi Khetarpal

Dr. Ravi Khetarpal, Executive Director of APAARI, Bangkok, delivered an insightful presentation titled "Plant Health in the Era of Agri-food Systems Transformation," addressing plant health challenges and opportunities in the Asia-Pacific region. He emphasized the growing importance of plant health in ensuring sustainable agricultural practices and food security.

The presentation outlined key objectives, beginning with the mitigation of pesticide residues to enhance food safety. He also stressed the need to improve trade opportunities through better residue management practices.

- A significant focus was on managing aflatoxin contamination to be addressed through the – "One Health Approach". He also highlighted the need for improving phytosanitary trade compliance, particularly in Bangladesh.
- He discussed several ongoing projects aimed at addressing objectives like focuses on developing strategies to reduce pesticide residues in agricultural produce, aflatoxin management to ensure food safety and public health, and efforts to enhance phytosanitary standards. Building robust compliance frameworks to meet international standards was emphasized as a critical strategy. Capacity development was underscored as a cornerstone of plant health management.
- Dr. Ravi concluded by advocating for a 360-degree approach to capacity development, integrating research, policy, and practical interventions.

2. Plant Health Research Coordination: An International Endeavour

- Dr. Baldissera Giovani

Dr. Baldissera Giovani, Coordinator, EUPHRESCO III, delivered an enlightening presentation focusing on the current status of plant health research under European conditions. He provided an overview of the EUPHRESCO research and development landscape, emphasizing its role in advancing plant health through coordinated efforts. He highlighted the importance of focusing research on sustainable plant protection methods against pests and pathogens.

- The presentation shed light on the organizations, research institutes, academia, and industry networks actively engaged in plant health research. He also discussed recent

research initiatives, including the study of *Spodoptera frugiperda* (fall armyworm) invasion and associated pathogens in Europe.

- Building a global network under EUPHRESCO III was presented as a critical goal to make research more impactful. Further, he emphasized the need for a regional prioritization system to facilitate the engagement of stakeholders. He outlined the importance of aligning research with phytosanitary needs at various levels. Identifying and addressing these requirements at the national, regional, and global levels was deemed essential for effective plant health management. The role of international collaboration in combating plant health threats was underlined as a vital strategy.
- Dr. Giovani highlighted the benefits of building synergies between research and industry to advance practical solutions. The presentation emphasized the significance of proactive measures to prevent the spread of invasive species and pathogens and presented EUPHRESCO III as a model framework for fostering global cooperation.
- The presentation concluded with a call to expand EUPHRESCO III‘s global reach for better coordination and impact and for South East Asia to contribute by providing research expertise and political support to global phytosanitary research coordination.

Recommendations from the keynote presentation:

1. Advocate for the **One Health Approach** to manage aflatoxin contamination and pesticide residues, linking plant health to broader environmental, animal, and human health systems.
2. Enhance phytosanitary standards through capacity-building programs for farmers, exporters, and policymakers, ensuring compliance with international trade standards.
3. Establish frameworks similar to **EUPHRESCO III** in Asia to prioritize regional research needs, address pest and pathogen challenges, and foster collaboration across countries.
4. Build global networks linking Asian and European research efforts, focusing on shared challenges like the invasion of pests (e.g., fall armyworm) and emerging plant pathogens.
5. Facilitate collaborations between academia, industry, and policymakers to translate research outcomes into scalable, practical solutions.
6. Implement a **360-degree approach to capacity development**, integrating education, research, and extension services to equip stakeholders with the necessary skills and knowledge.
7. Establish regional centers of excellence for plant health research, focusing on local and global threats to agriculture.
8. Encourage partnerships between governments, research organizations, and the private sector to co-develop innovative solutions for plant health issues.
9. Invest in scalable technologies for sustainable agriculture and export-driven production systems.




Technical session I

Chairman	:	Dr. TVK Singh, Former Dean of Agriculture, PJTSAU, Hyderabad, Telangana State, India
Co-Chairperson	:	1) Dr. B. K. M. Laksmi, Principal Scientist & Head, MRS, Nuzvid. 2) Dr. K. Sireesha, Principal scientist (Ento.), Horticultural research station, Lam, Dr. Y.S.R. Horticultural University
Rapporteurs	:	1) Dr. B. Srinivasulu, Asst. Professor, AHS, VFSTR 2) Dr. P. Praveen Kumar, Asst. Professor, AHS, VFSTR

During this session, three distinguished lead papers and one oral presentation took center stage and captivated the delegates.

1. Global Status and Effective Management Options for tackling the South East Asian Thrips, *Thrips parvispinus* (Karny, 1922)

- Dr. Sridhar V.

Dr. Sridhar V, Principal Scientist (Entomology), ICAR-IIHR, Bangalore, presented on the global status and management of the invasive pest *Thrips parvispinus*, a significant threat to horticultural crops such as chilli. He attributed its spread to globalization, climate change, and ineffective early detection, highlighting its severe economic impact, with yield losses exceeding 85% in affected areas.

- Management strategies emphasized an Integrated Pest Management (IPM) approach, including cultural practices, biological controls, and eco-friendly chemical treatments. He also noted the effectiveness of white traps for monitoring and control, stressing the need for collaborative research to fill knowledge gaps in the pest's bioecology.

2. An overview of fruit flies (Diptera: Tephritidae) of south and southeast Asia

- Dr. K. J. David

Dr. K. J. David, Senior Scientist, ICAR-NBAIR, Bengaluru, presented an overview of fruit flies in South and Southeast Asia, underlining their diversity and economic implications. With over 5000 species globally and around 330 identified in India, fruit flies like *Bactrocera dorsalis* and *Zeugodacus cucurbitae* were highlighted for their significant crop damage, particularly to fruits.

- Dr. K. J. David emphasized that *Tephritidae* not only infest fruits and leaves but also target shoots, such as with bamboo shoot flies. Additionally, some species within this family also attack weeds.
- Dr. David emphasized the importance of taxonomic and phylogenetic studies to address identification challenges and recommended sustainable pest management strategies, including male annihilation techniques and improved focus on natural parasitoids.

3. Mitigating threats from emerging insect pests in Bangladesh

-Dr. Nirmal Kumar Dutta

Dr. Nirmal Kumar Dutta, Chief Scientific Officer & Head, Entomology Division, Bangladesh Agricultural Research Institute (BARI), Gazipur 1701, Bangladesh, set forth that Bangladesh's rich biodiversity makes it highly vulnerable to invasive pest species, especially with the liberalization of global trade. Emerging pests like the fall armyworm (FAW), rugose spiraling whitefly, and bagworms have become major agricultural threats in recent years.

Dr. N. K. Dutta stressed that the indiscriminate use of chemical insecticides has worsened pest problems, leading to resistance development and environmental harm. However, biopesticides have emerged as a sustainable alternative, with over 109 brands now available in Bangladesh. The use of natural enemies like parasitoids and predators, combined with biopesticide-based technologies, has reduced chemical pesticide usage by 11.5% in 12 years. This progress reflects the country‘s commitment to adopting eco-friendly pest management practices.

Furthermore, challenges such as lack of awareness, inaccessibility of resources, and inadequate implementation of policies need to be addressed. Collaborative efforts among scientists and stricter enforcement of national and regional strategies are essential. Continued research and development, supported by governmental initiatives, will further strengthen Bangladesh‘s resilience against invasive pest threats.

4. Invasion of *Thrips parvispinus* in chilli ecosystem of Andhra Pradesh and its management.

- Dr. K. Sireesha

Dr. K. Sireesha, Principal Scientist (Ento.), Horticultural Research Station, Lam, Dr. Y.S.R. Horticultural University, underscored the importance of importance of destructive pest black thrips on chilli ecosystem of Andhra Pradesh and its management practices.

- She highlighted the pest's polyphagous nature, adaptability to diverse environments, and rapid reproduction, making it a significant agricultural threat. Originating from the Asian tropics, particularly Thailand, this pest has spread to regions like Southeast Asia, Northern Australia, India, and New Zealand.

- She also stressed on economic impact of thrips is significant, with up to 90% yield loss observed in some chilli-growing areas like Guntur, Palanadu, and Prakasam. Their damage is characterized by upward curling of leaves, browning, and reduced photosynthesis, particularly during rainy seasons.
- Dr. K. Shireesha emphasized the differences between *Scirtothrips dorsalis* and *Thrips parvispinus.*
- Dr. Shireesha suggested that control efforts for *Thrips parvispinus* should focus on the flowering and later stages of the crop, rather than targeting the pest from the beginning of the crop cycle.
- Dr. K. Shireesha elaborated the effective management strategies like Integrated Pest Management (IPM) approaches, combining cultural, biological, and chemical measures to minimize crop damage while ensuring environmental safety.

Recommendations from the Technical Session I:

1. Prioritize research on the bioecology, population dynamics, and ecological adaptations of invasive species like *Thrips parvispinus*, *Silba capsicarum*, and fall armyworm in diverse agroecosystems.
2. Develop and integrate advanced diagnostic tools, including molecular markers and remote sensing, for rapid identification and monitoring of emerging pests.
3. Expand studies on IPM strategies that combine cultural, biological, and chemical controls, focusing on pest-specific approaches like white traps for thrips and male annihilation techniques for fruit flies.
4. Investigate the interaction between host plants and pests, emphasizing breeding or engineering crop varieties resistant to pests and their associated viruses.
5. Promote the use of natural bioagents, such as parasitoids and predators, in combination with eco-friendly interventions like neem cake and reflective mulches.
6. Conduct detailed taxonomic studies of cryptic species and species complexes, such as the *Bactrocera dorsalis* complex, using morphological and molecular techniques.
7. Model pest outbreaks under different climate scenarios to predict and mitigate potential threats.
8. Strengthen collaborations among farmers, researchers, policymakers, and international organizations like CABI to enhance pest surveillance, exchange knowledge, and implement effective management strategies.
9. Facilitate workshops and training programs to raise awareness about pest management among stakeholders.


Concurrent Technical Session II

Theme: Molecular Breeding and Gene Editing Approaches for Biotic Stress

Chairman	:	Dr. Alapati Satyanarayana, Former director of Extension, ANGRAU & Present Executive Director, Sangam Seeds
Co-Chairperson	:	1) Dr. D. Vijay Ramu, Dean PCF and Dean School of Biotechnology and Pharmaceutical Sciences, VFSTR **2)** Dr. B. Kalyan Babu, Principal Scientist (Biotechnology), ICAR-IIOPR, Pedavegi, Andhra Pradesh
Rapporteurs	:	1) Dr. P. Susmitha, Asst. Professor, AHS, VFSTR 2) Ms. V. Priyanka Raj, Asst. Professor, AHS, VFSTR

During this session, three distinguished lead and one oral presentation delivered valuable insights and research findings to the delegates.

1. Sustainable pulses production through plant health

-Dr. Alapati Satyanarayana

Dr. Alapati Satyanarayana, Former director former director of Extension, ANGRAU, and present executive director, Sangam Seeds, chaired the session and was the lead speaker, emphasizing the importance of sustainable pulses production.

- Discussed the low productivity of pulses due to agronomic, environmental, and socio-economic factors, addressing the stagnation in pulse production and outlining government policies aimed at enhancing output.
- Specific varieties of blackgram, such as LBG-645 and LBG-685, were highlighted, along with the damaging effects of Yellow Mosaic Virus (YMV) and the genetics of resistance to this disease.
- In relation to redgram, he pointed out the threats posed by *Helicoverpa* pod borer and diseases like wilt, advocating for alternative agricultural methods that avoid chemical use.

2. Molecular Breeding and Gene Editing Approaches for Improving Plant Health

-Dr. M. Sujatha

Dr. M. Sujatha, Emeritus Scientist (Plant Breeding) ICAR-IIOR, Hyderabad, presented on the evolution of molecular breeding technologies, discussing various

publications and advancements in molecular marker technologies, including SSRs, SNPs, and Marker-Assisted Selection (MAS).

- Enlisted about new approaches of transgenic crops like CRISPR-Cas9 gene Editing and RNA interference (RNAi), heat- and drought-tolerant traits
- Discussed about gene editing process and its importance
- Gene editing technologies like CRISPR-Cas9 are being used to enhance biotic stress tolerance in rice and major crops by introducing resistance to pathogens, pests, and viruses. This involves editing genes related to immunity or susceptibility, enabling crops to withstand diseases and reduce yield losses.
- Enlightened about current genome editing projects at CGIAR centres for biotic stress.

3. Molecular breeding and Genome editing for plant health management: Special reference to Oil palm (*Elaeis guineensis*)

-Dr. B. Kalyan Babu

Dr. B. Kalyan Babu: Principal Scientist (Biotechnology), ICAR-IIOPR, Pedavegi, Andhra Pradesh, discussed the crossing of Tenera and Pisifera sps in oil palm The crossing of Tenera (a hybrid between Dura and Pisifera species) and Pisifera in oil palm is aimed at improving yield and disease resistance. Tenera‘s high oil yield and Pisifera‘s disease resistance are combined to create more productive and resilient varieties.

- Highlighted the integrated genomic approaches like Bulk Segregant Analysis (BSA), Whole-Genome GWAS, and Bioinformatics combine genetic mapping, association studies, and computational tools to identify key loci associated with traits. These methods accelerate crop breeding by enabling precise gene identification and trait improvement. And also followed by validation of population at the farmers level
- Discussed GWAS for yield and oil yield GWAS for yield and oil yield in crops identifies genetic loci associated with these traits by correlating phenotypic data with genetic markers across a population. This helps pinpoint specific genes involved in high yield and oil content, aiding in the development of improved varieties through marker-assisted selection.

4. Genome editing for imparting grey mold resistance in castor (*Ricinus communis L.*)

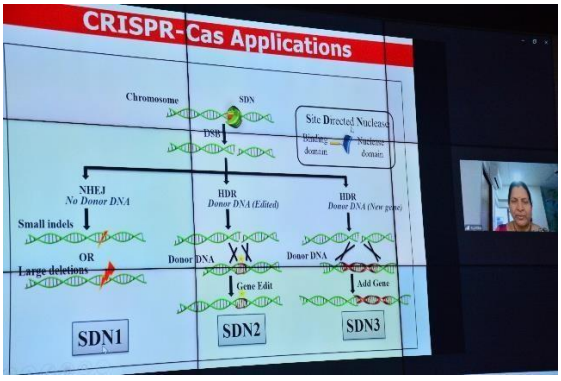
- Dr. B. Usha Kiran

Dr. B. Usha Kiran, Sr. Scientist (Agril. Biotechnology), ICAR-IIOR, Rajendranagar, Hyderabad, discussed the key components for genome editing in castor, include the CRISPR-Cas9 system for precise gene targeting and delivery vectors such as Agrobacterium or ribonucleoprotein complexes for efficient transformation. These tools enable the modification of genes related to traits like oil content and stress resistance.

- Listed approaches for tackling grey mold resistance in castor, like the use of molecular breeding to identify and introduce resistant genes through markers and genetic modification. Additionally, integrated pest management strategies and the development of fungicide-resistant varieties are explored to reduce disease impact.
- Enlightened about CAS 9 efficacy in castor Cas9 efficacy in castor has been demonstrated for precise gene editing, enabling targeted modifications for traits like oil content and stress resistance. The system shows promise in generating transgenic lines with improved agronomic characteristics, enhancing breeding efforts in castor.

Recommendations from the Concurrent Technical Session II:

1. Develop optimized CRISPR-Cas9 protocols for a wide range of crops, including pulses, oil palm, and castor, focusing on resistance to major biotic stresses like fungal diseases, insect pests, and viral pathogens.
2. Explore alternative genome-editing tools such as base editing and prime editing to achieve more precise and efficient genetic modifications.
3. Expand the use of marker-assisted selection (MAS) and genome-wide association studies (GWAS) to identify biotic stress-resistant traits in crops.
4. Establish high-throughput SNP-based CAPS marker systems for early-stage varietal identification and resistance screening.
5. Focus on the genomic analysis of key genes, such as those involved in immune responses and secondary metabolite biosynthesis, to improve tolerance mechanisms.
6. Implement functional validation of candidate genes through RNA interference (RNAi) and transgenic approaches.
7. Crop-Specific Research Initiatives- Develop superior hybrid varieties through advanced molecular breeding, focusing on high oil yield, disease resistance, and dwarfness for better management for oil palm.
8. Promote collaborative research projects among national and international institutes to accelerate the development of sustainable agricultural practices through genome editing.



Concurrent Technical Session III

Theme: Changing pest scenario, Epidemiology, Forecasting & Monitoring in relation to Climate change (Insect pests)

Chairman : Dr. Gururaj Katti, Principal Scientist (Entomology) & Head (Crop Protection), ICAR-IIRR, Hyderabad

Co-Chairperson : 1) Dr.Srinivas Parimi, Director – Field Development and Technical Partnerships, Provivi Inc., Hyderabad
2) Dr. M. Visalakshi, Principal Scientist (Entomology), AICRP on Biological Control, RARS, Anakapalle

Rapporteurs : 1) Dr. T. Naresh, Coordinator-AHS, VFSTR
2) Dr. L. Geethanjali, Asst. Professor, AHS, VFSTR

In this session, three pivotal lead papers and eleven oral presentations were delivered.

1. Novel Technologies in Management of Cotton Plant Health

- Dr. N.V.V.S. Durga Prasad

Dr. N.V.V.S. Durga Prasad, Associate Director of Research RARS, Lam, Guntur, emphasized the initial increase in cotton production through Bt technology but noted the challenges faced over the past nine years due to insect resistance.

- Outlined key constraints like sucking pests, bollworms, and leaf curl virus, and introduced novel technologies such as AI- powered pheromone traps, specialized lure application technology, and genetically engineered cotton hybrids expressing pest-resistant genes.
- Policy recommendations suggested prioritizing hybrids with pest tolerance based on performance in different conditions.

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2. Fall Army Worm: An Overview

-Dr. J. C. Sekhar

Dr. J. C. Sekhar, Principal Scientist, ICAR-Indian Institute of Maize Research, Hyderabad, enlightens the importance of Fall armyworm (FAW) as emerging major pest in India. In 2018, it was first reported in Kerala. It is known for attacking crops like maize, causing significant economic losses. Screening resistant germplasms has been a priority in combating FAW, with institutions like CIMMYT leading efforts in testing over 6,000 maize varieties.

- Studies on biosynthesis of secondary metabolites and phytohormone alterations in maize have provided insights into natural resistance mechanisms. Additionally, RNA interference (RNAi) technologies and semi chemicals such as pheromones have enhanced the ability to monitor and manage FAW populations effectively.
- Dr. J. C. Shekhar highlighted the importance of biological control methods, which play a significant role in FAW management. Conservation agriculture, intercropping, and maintaining parasitoid diversity have shown potential in suppressing FAW outbreaks. Egg parasitoids, larval predators, and encapsulated Bt formulations are among the effective biopesticides used against FAW.

- Furthermore, Dr. J.C. Shekar also emphasized the research a priority continues to evolve, focusing on genomic analyses to identify significant single-nucleotide polymorphisms (SNPs) linked to FAW resistance.

3. Integration of Pheromones into pest management practices of Asia – experiences from Indonesia

-Dr. Srinivas Parimi

Dr. Srinivas Parimi, Director–Field Development and Technical Partnerships, Provivi Inc., Hyderabad, highlighted the importance of pheromones in IPM. QUEM SOMOS has developed 15 pheromones whereas Provivi manufactures pheromones with proprietary biocatalyst and low cost raw materials to reduce the steps needed to synthesize pheromones with higher production for which Green chemistry award was given.

- Dr. Parimi listed Proviiv products like:
  1. Pheron RSB against rice yellow stem borer (50% insecticide reduction and 74% yield)
  2. Provivi FAW against FAW (30% insecticide reduction and 72% yield win rate was achieved)
  3. Pherogen Spray FAW–against FAW (40% insecticide reduction and 82% yield win rate was achieved)
- He also informed about some collaborations of Godrej Agrovet with Provivi for achieving sustainable rice and maize production. Syngenta biologicals and Provivi were developing products against devastating pests in key crops across Asia.

Oral presentations included Dr. M. Sesha Maha Lakshmi, Professor (Entomology), Technical Officer (Polytechnics), ANGRAU, Lam, Guntur, discussed solar light traps for monitoring insect pests, emphasizing the use of IoT tools and the effectiveness of light traps against pink bollworms.

Dr. M. Sampathkumar, Senior Scientist (Agrl. Entomology) Division of Germplasm Collection and Characterization, ICAR- NBAIR, Bangalore focused on the occurrence of invasive insect pests in horticultural crops, linking their emergence to globalization and free trade. He specifically addressed the mango soft scale and apple leaf blotch miner, recommending biological control measures and highlighting the role of pest alerts in managing these threats.

Dr. G. Shali Raju, Scientist (Entomology), Krishi Vigyan Kendra, Venkataramannagudem, presented research on the population dynamics of the mango fruit fly, correlating infestation levels with weather parameters, while Dr. P. Damodar Reddy Asst. Professor, Department of Entomology, JC Diwakar Reddy Agricultural College, examined the influence of seasonal weather on the Rugose Spiralling Whitefly in guava.

Research scholars also contributed valuable findings follow.

- The effects of plant essential oil compounds on *Spodoptera litura* proteins, revealing the potential of phytochemicals as contact toxicants and repellents.
- Characterization of Bacterial Gut Symbionts of Diamondback Moth, *Plutella xylostella* focused on the bacterial gut symbionts of the Diamondback Moth, proposing future research directions aimed at symbiont-based pest control strategies and optimizing pest diets.

Recommendations from the Concurrent Technical Session III:

1. Enhance the development of Genetically Engineered crops with tolerance to multiple pests, including sucking pests, bollworms, and emerging invasive species like the Fall Armyworm.
2. Look forward to new area of research, particularly on microbiome/microbiota, a key area to be explore further.
3. Employ genomic tools such as SNP analysis and RNA interference (RNAi) technologies to accelerate the identification of resistant crop germplasm.
4. Develop AI-powered, IoT-integrated pest monitoring tools like pheromone traps equipped with cameras, acoustic devices, and solar light traps.
5. Establish databases and models for pest population dynamics and correlations with weather parameters to forecast outbreaks effectively.
6. Enhance biological control efforts by conserving natural enemies (e.g., parasitoids and predators) and promoting conservation agriculture practices.
7. Strengthen quarantine measures and pest alert systems to minimize the entry and spread of invasive pests like the mango soft scale and apple leaf blotch miner across agro-ecological zones.
8. Conduct region-specific studies on invasive pests to develop targeted management strategies, including chemical and biological controls.
9. Test crop and pest resilience under simulated climate change conditions to anticipate and mitigate future challenges.

Concurrent Technical Session IV

Theme: Changing pest scenario, Epidemiology, Forecasting & Monitoring in relation to Climate change (Plant Diseases)

Chairman	:	Dr. Paul WJ Taylor, Technical Coordinator, APAARI
Co-Chairperson	:	1) Dr. P. Kishore Varma, Principal Scientist (Plant Pathology), RARS, Lam
Rapporteurs	:	1) Dr. M.L.N.Nandini, Asst. Professor, AHS, VFSTR 2) Mrs. T. Umamaheswari, Asst. Professor, AHS, VFSTR

During this session, one lead paper and five oral presentations were delivered.

1. Diseases in rice and their management – current scenario and future path for a sustainable production

- Dr. C. Kannan

Dr. C. Kannan, Principal Scientist (Plant Pathology) at ICAR-IIRR, Hyderabad, delivered an insightful presentation on the current state of rice production and its challenges, focusing on the management of false smut disease in rice.

- Emphasizing integrated disease management, he outlined strategies such as cultural practices, the use of disease-resistant varieties, biological control agents (BCAs), and chemical control methods.
- He also highlighted advancements in microbial bioformulation technology as an eco-friendly alternative to agrochemicals. The isolation of microbial secondary metabolites from strains of *Trichoderma* led to the commercialization of compounds like masovia lactone and six pentyl-2H-pyrone.
- The need for capacity-building initiatives among farmers was also highlighted.

Oral presentations included Dr. B.K.M. Lakshmi, Principal Scientist (Plant Pathology) & Head, Dr.YSRHU-Mango Research Station, Nuzvid, AP, discussed the emerging threat of sooty mold to mango production in Coastal Andhra Pradesh. She presented findings on major mango diseases, particularly focusing on sooty mold caused by the fungus *Capnodium sp.*, which thrives on sugary secretions from sucking pests.

Dr. S.V. Ramana Rao, Principal Scientist (Agri. Econ) at ICAR-Indian Institute of Oilseeds Research, Hyderabad, presented on the role of partnerships in fostering plant health through bio-inoculants, stressing the challenge of producing sufficient food to meet global demands. The presentation highlighted the importance of partnerships with institutions for technology transfer and training, as well as engaging Farmer Producer Companies (FPCs) to ensure efficient distribution of bio-inoculants.

Dr. M. Mutyala Naidu, Principal Scientist (Hort.) & Head, Dr. YSRHU Horticultural Research Station, Mahanandi, Nandyal (Dt.), A.P., focused on viral diseases in banana production, discussing significant viruses like banana bract mosaic virus and banana bunchy top virus. Highlighted the susceptibility of certain banana varieties and proposed management strategies such as producing virus-free planting materials and implementing quarantine measures.

Dr. Nandappa Chorgasti, Assistant Professor at Malla Reddy University, Hyderabad, shared his findings from a survey on chilli diseases in Telangana, particularly anthracnose,

which poses a severe threat to chilli cultivation. He collected and identified various isolates, confirming the presence of pathogenic *Colletotrichum* species.

Lastly, Ms. Niveditha Pollumahanti, Project Associate II at the DBT One Health Project, NABL Accredited Food Microbiology Laboratory, National Meat Research Institute, Hyderabad, addressed the screening and isolation of Listeria monocytogenes from organic and non-organic leafy vegetables in Hyderabad. She found a higher contamination risk in non-organic vegetables and assessed the virulence of the pathogen, emphasizing the need for stringent quality control and regular monitoring to enhance food safety.

Recommendations from the Concurrent Technical Session IV:

1. Promote IDM practices that combine cultural, biological, and chemical approaches to minimize pest and disease impact while reducing environmental harm.
2. Scale up the use of bio-control agents (BCAs) and microbial formulations as eco-friendly alternatives to chemical pesticides.
3. Focus on interdisciplinary research to develop advanced tools for disease forecasting and monitoring under changing climate conditions.
4. Encourage studies on the genetic diversity and virulence of pathogens to better understand disease dynamics.
5. Strengthen disease surveillance and forecasting systems to anticipate outbreaks in the context of climate change.
6. Develop and disseminate region-specific management practices that address emerging diseases in key crops such as rice, mango, banana, and chillies.
7. Encourage the cultivation of climate-resilient and disease-resistant crop varieties.
8. Foster public-private partnerships (PPP) for scaling up bio-inoculant production and distribution.
9. Implement the "4P Approach" (Promote, Partner, Participate, Progress) to engage youth in agriculture and plant health initiatives.

Concurrent Technical Session V

Theme: Sanitary, Phytosanitary and Quarantine Regulations

Chairman	:	Dr. Baldissera Giovani, Coordinator, EUPHRESCO III
Co-Chairperson	:	1) Dr. S. V. S. Gopala Swamy, Principal Scientist (Entomology), RARS, Lam 2) Dr. Harikishan Sudini, Principal Scientist and Head- Science Quality and Strategy, ICRISAT, Hyderabad
Rapporteurs	:	1) Dr. Vishnupandi Senthil Kumar, Asst. Professor, AHS, VFSTR 2) Dr. G. Siva Nagaraju, Asst. Professor, AHS, VFSTR

During this session, two pivotal lead papers were delivered.

1. Mycotoxins as Global Risks for Food and Nutrition Security: Need for One Health, One world Approach

-Dr. M. K. Naik

Dr. M. K. Naik, Former Vice-Chancellor of KSNAHU, Shivamogga, began by discussing the significant issue of aflatoxin contamination in chillies within Telangana State, shedding light on the quantitative and qualitative estimation of phytotoxins.

- Highlighted the production of various aflatoxins, including Cap17, caf 23, caf 43, and caf 48, using ELISA techniques.
- Presented findings from analyses conducted in Gulbarga, Beilary, and Raichur districts, along with results from farm trials aimed at improving groundnut management through Good Agricultural Practices (GAP).
- Dr. Naik provided recommendations from a 'One Health' roadmap, emphasizing the need for comprehensive strategies that integrate food security, nutrition, and health.

2. A Holistic approach to Aflatoxin management in Groundnut is Key for safe and fair trade

-Dr. Harikishan Sudini

Dr. Harikishan Sudini, Principal Scientist and Head of Science Quality and Strategy at ICRISAT, Hyderabad, initiated his presentation by underscoring the necessity of a holistic approach to aflatoxin management in groundnuts to ensure food safety. Elaborated on mycotoxins and aflatoxins, sharing alarming reports of incidents such as the death of ten elephants in an Indian national park and further cases of elephants succumbing after consuming infected kodo millet.

- Focused on the secondary metabolites produced by various strains of Aspergillus, specifically AFB1, AFB2, and AFG2, detailing their toxicological implications and presenting a range of approaches to address aflatoxin contamination, highlighting interventions aimed at reducing the risks associated with aflatoxins in food systems.
- Dr. Sudini concluded his presentation by emphasizing the need for research to focus on the developmental biology, biochemistry, and gene expression of the peanut seed coat to enhance understanding and utilization of its natural resistance mechanisms against *A. flavus* and aflatoxin contamination.

Recommendations from the Concurrent Technical Session V:

1. Conduct comprehensive studies on the occurrence, distribution, and impact of mycotoxins, such as aflatoxins, in diverse crops and regions, emphasizing contamination hotspots like Telangana, Gulbarga, Bellary, and Raichur.
2. Develop and refine **quantitative and qualitative diagnostic tools**, such as ELISA and advanced molecular techniques, to improve the detection and monitoring of aflatoxin contamination.
3. Promote the adoption of Good Agricultural Practices (GAP) and crop-specific interventions to mitigate mycotoxin risks at the farm level.
4. Advance research that integrates plant health, soil health, and sustainable farming practices as part of a resilient food health system under the -One Health‘ framework.
5. Investigate the role of seed coat biology in resisting fungal infections, focusing on biochemical pathways, such as the inhibitory effects of ferulic acid and lignin content, as demonstrated in peanut varieties like 55-437.
6. Train farmers in the use of mycotoxin detection methods, linking them to platforms like **www.nurture.com** for quality testing and market access.
7. Strengthen sanitary and phytosanitary (SPS) regulations with a focus on regional and global compliance, ensuring safe and fair trade of agricultural products.
8. Foster collaboration between research institutions, policymakers, and industry to address aflatoxin management comprehensively.

Concurrent Technical Session VI

Theme: Artificial Intelligence and IoT for Plant Health Management

Chairman : Dr. M. K. Naik, Former Vice Chancellor, KSNAHU, Shivamogga

Co-Chairperson :
1) Dr. Sunil Kumar, Principal Scientist, Utkar
2) Ms. Madhu Manjari, Agri Digital Tools Coordinator- South Asia, CABI International

Rapporteurs :
1) Dr. Mahesh Vinayak Hadole, Coordiator, AE, VFSTR
2) Dr. Md. Anwar Ali, Asst. Professor, AHS, VFSTR

During this session, two pivotal lead papers and one oral presentation was delivered.

1. Human centric Design approaches for sustainability and scalability of farmers' advisory through CABI PlantwisePlus digital Advisory tools

- Ms. Madhu Manjari

Ms. Manjari, Agri Digital Tools Coordinator- South Asia, CABI International, highlighted CABI's establishment of plant clinics in over 27 countries, showcasing their commitment to delivering science-based agricultural knowledge to farmers.

- She pointed out the key features of CABI tools, such as gender inclusivity, free access, multilingual support, and user-friendly interfaces in web and mobile applications, designed to promote sustainable agricultural practices. Furthermore, CABI offers digital learning courses in nine languages, comprehensive plant health information, and crop protection support, all grounded in a human-centric design approach that addresses stakeholders' challenges.
- The chair suggested expanding this focus to include soil and crop-centric considerations, along with addressing the literacy rates among the targeted farming communities, as digitization requires a certain level of literacy.
- The presentation concluded with an overview of the human-centric design processes, tool validation, challenges faced, and a SWOT analysis of the initiatives.

2. Drone based package of practices for wet direct seeded rice – Innovation and challenges

- Dr. N. Ramagopalavarma

Dr. N. Ramagopalavarma, Principal Scientist (Entomology), Institute of Rice Research, PJTSAU, Hyderabad, introduced drone technology's transformative potential in Indian agriculture, sharing field experimental results and discussing the development of standard operating protocols for seven crops, including groundnut, cotton, and rice.

- Dr. Varma elaborated on pest detection models and the role of AI and machine learning in developing specific application algorithms. He highlighted a NABARD project utilizing drones for direct seeding in wet-seeded rice, noting the extensive data generated to optimize drone operations.
- The speaker compared the efficacy of drone spraying with conventional methods, asserting that drones are more economical and efficient.
- The chairman noted the importance of considering buffer zones during spray applications to protect water bodies and amphibian species.

Oral presentation incudes "Drone-based Granular Spreader: SOPs for Application of Granular Insecticides in Rice." She detailed her experimental results and parameter

optimization for a disc-type UAV-based spreading device, conducting a comparative study with conventional methods, underscoring the advantages of drone technology in agricultural practices. The session concluded with a robust discussion, allowing participants to exchange ideas and insights.

Recommendations from the Concurrent Technical Session VI:

1. Expand research to incorporate human-centric design approaches alongside crop- and soil-centric strategies. Tools and technologies should address stakeholder needs while also considering crop health, soil conditions, and ecological sustainability.
2. Conduct literacy assessments within farming communities to design digital solutions that are inclusive, user-friendly, and accessible, even in low-literacy regions.
3. Conduct long-term validation studies to ensure the reliability and scalability of digital advisory tools across diverse agro-climatic regions.
4. Research and standardize drone-based Standard Operating Procedures (SOPs) for granular insecticide spreading and crop protection applications, ensuring optimal effectiveness and minimal environmental impact.
5. Enhance AI and machine learning models for pest detection, crop health assessment, and predictive analytics to provide precise, real-time solutions for farmers.
6. Develop datasets that capture crop-specific pest behaviors, disease patterns, and climatic variables to improve AI algorithm accuracy.
7. Conduct awareness campaigns and workshops on the use of IoT devices and AI tools to encourage widespread adoption and improve digital literacy among farming communities.
8. Encourage cross-border research on pest and disease control, particularly for invasive species that impact multiple regions.
9. Develop a SWOT-based evaluation framework to assess the scalability and sustainability of AI and IoT tools, ensuring they align with regional needs and challenges.
10. Implement robust monitoring mechanisms to measure the real-world impact of digital tools and drone technologies on crop yield, pest management, and environmental health.

Day 2: 18th December 2024

Keynote and Lead Papers Presentations

Chairman : Dr. K.S. Varaprasad
Adviser, Biosecurity and Bioresources

Co-Chairperson : 1) Dr. Gururaj Katti, Principal Scientist (Entomology) & Head (Crop Protection), ICAR-IIRR, Hyderabad
2) Ms. Madhu Manjari, Agri Digital Tools Coordinator- South Asia, CABI International

Rapporteurs : 1) Dr. Chandra Surya Rao M, Asst. Professor, AHS, VFSTR
2) Dr. T. Prabhakar Rao, Asst. Professor, AE, VFSTR

A total of three keynote and one lead papers were delivered during this session.

1. **Policy Dimensions of SPS compliances for Agricultural Trade Facilitation: Bangladesh as Case study**

– Dr. K. S. Varaprasad

Dr. K.S. Vara Prasad, Project Manager (APAARI-EUPHRESCO III & USDA-SPS) & Former Director, ICAR- NBPGR, Bengaluru, keynote presentation provided an in-depth examination of strategic interventions to address the challenges of Sanitary and Phytosanitary (SPS) compliance in Bangladesh, emphasizing the vital role of the Asia- Pacific Association of Agricultural Research Institutions (APAARI) and its partners in enhancing capacity development and regulatory alignment to facilitate agricultural trade.

- Key challenges identified included export denials due to excessive pesticide residues, insufficient quarantine infrastructure, and limited stakeholder awareness of SPS protocols.
- Dr. Prasad proposed targeted training modules, public-private partnerships, and modernization of diagnostic and quarantine facilities as practical solutions. He highlighted notable achievements, such as advancements in quarantine inspection frameworks and a marked decrease in biopesticide residues.
- The presentation concluded with recommendations to establish a national Maximum Residue Limit (MRL) framework and expand the diagnostic laboratory network to support a resilient agricultural export system.

Following this, Dr. Sarath Babu queried the insufficient emphasize on capacity building in Bangladesh, to which Dr. Ravi Khetarpal responded that the brief tenure of governmental officers hinders effective communication and that systemic corruption has led to a lack of financial resources for capacity-building initiatives.

2. **Challenges for Mitigating Risks of Incursion by Exotic Plant Pathogens**

- Dr. Paul WJ Taylor

Professor Dr. Paul Taylor, Technical Coordinator, APAARI, then discussed the pressing plant health challenges in South and Southeast Asia, focusing on diagnostics, disease management, and sustainable practices.

- He emphasized the importance of advanced molecular diagnostic methodologies, such as PCR and LAMP, for bolstering biosecurity.

- Dr. Taylor presented case studies on significant phytopathological threats, including anthracnose and fusarium wilt, advocating for regional cooperation and capacity-building efforts, such as masterclasses and breeding disease-resistant crop varieties.
- A recommendation was made for EUPHRESCO to increase its engagement in the Asian region to effectively tackle these challenges through collaborative efforts.

3. Plant Health in Asia: The IPPC perspective

- Ms. Sarah Brunel

Ms. Sarah Brunel, Implementation & Facilitation Lead, IPPC Secretariat, FAO, Italy, highlighted the critical role of plant health within the One Health framework, addressing the rapid spread of invasive pests due to globalization and climate change, which pose threats to ecosystems and public health.

She discussed the IPPC e-Phyto Solution, which has facilitated over 7 million secure exchanges globally, enhancing efficiency in agricultural trade. Other transformative initiatives, such as the Phytosanitary Capacity Evaluation framework, were also spotlighted.

4. Crop biosecurity against plant viral diseases in Asia: Challenges

- Dr. V. Celia Chalam

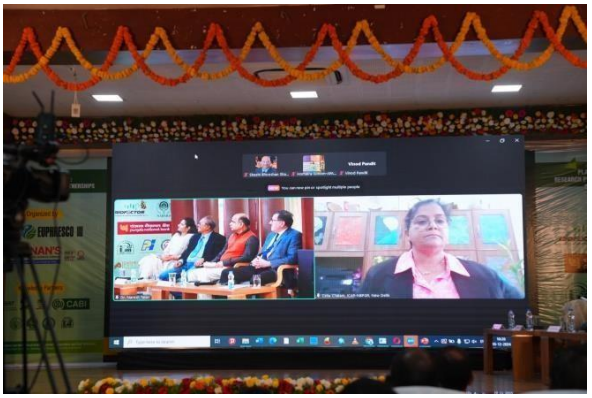
Dr. V. Celia Chalam, Principal Scientist & Head, Division of Plant Quarantine, ICAR-National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi, addressed crop biosecurity challenges from plant viral diseases, stressing the need for robust quarantine measures and standardized procedures for germplasm exchange. She highlighted the significant operations of ICAR-NBPGR's centres, which have processed over 700,000 germplasms, reinforcing the necessity of stringent quarantine systems.

1. Dr. Sashi B. Sharma reinforced the importance of capacity enhancement through CABI's initiatives and the need for region-specific SPS measures.
2. He urged collaborative efforts that align regional priorities with international standards, and he advocated for a comprehensive biosecurity bill to protect agricultural systems from invasive pests.

Recommendations from the keynote presentation:

1. Developing a National Maximum Residue Limit (MRL) Framework- Research should focus on creating a robust MRL system for pesticide residues tailored to local crop and trade requirements.
2. Design targeted training modules for stakeholders, emphasizing long-term capacity building and knowledge retention among government officers.
3. Enhance partnerships among institutions such as APAARI, EUPHRESCO, and CABI to address transboundary plant health challenges effectively.
4. Expand research into PCR and LAMP methodologies to improve early detection and management of phytopathological threats.

5. Enhance the collection and integration of plant health data within the One Health framework, ensuring timely detection and response to emerging threats.
6. Conduct research to establish SOPs for drone-based pest control and granular insecticide applications, focusing on minimizing environmental impact.
7. Advocate for a national biosecurity policy that aligns with global standards and addresses the increasing threats of invasive pests and diseases.
8. Digital Certification Systems: Expand the use of e-Phyto solutions for efficient, secure, and traceable germplasm exchanges.
9. Leverage funding opportunities from EUPHRESCO to address regional priorities, especially in diagnostics, pest management, and sustainable trade practices.



Panel Discussion of Farmers

Moderator : Sri Y. Venkateshwar Rao, Chairman, Rytunestam Foundation

Coordinator : Dr. T. Ramesh Babu, Dean SAFT, VFSTR

Panelist

1. Sri V. Sambireddy, Kollipara
2. Sri U. Chakrapani, Eluru
3. Sri Sharath Babu
4. Sri K. Ramakrishna
5. Sri Harikrishna

Rapporteur Dr. Harisha N, Assistant Professor, AHS, VFSTR.
Dr. Y. Varaprasad, Assistant Director, AHS, VFSTR.

Sri Y. Venkateshwar Rao, addressed the gathering, highlighting the detrimental effects of excessive agrochemical usage on soil and water health. He acknowledged the initial decline in crop yields when transitioning to organic manures, bio-pesticides, and bio- agents but noted that yields stabilize over time. He urged farmers to share their experiences and emphasized the importance of farmer-led extension activities for Technology Transfer (ToT). He also suggested implementing 30 crop kit trials at the farmer level.

Dr. T. Ramesh Babu, Dean, SAFT, VFSTR, welcomed the participants and elaborated on the theme of plant health. He discussed the mission of APAARI and EUPHRESCO III, stressing the importance of "Research Priorities and Partnerships" for improving the farming community's well-being. Dr. Babu emphasized Public-Private-Farmer partnership models and ToT approaches such as Lab-to-Land, Land-to-Lab, and Farmer- to-Farmer initiatives. He also committed to organizing the *Polam Badi Programme* with the partnership of Bio Factor Pvt. Ltd and farmers under this partnership model to enhance knowledge-sharing among farmers and between farmers and the industry.

Sri Boda Laxminarayana underscored the role of bio-fertilizers and bio-control agents in promoting plant health and suggested measures to improve soil organic carbon.

Sri Hari Krishna, Panelist, advocated for Integrated Farming Systems with livestock to enhance soil microorganisms. He encouraged the use of organic fertilizers, green manures, and bio-control agents, emphasizing their role in reducing crop maladies and improving soil organic carbon. He also urged farmers to conduct pilot studies to explore the feasibility of organic farming.

Sridhar Kollipara recommended utilizing bio-inoculants, fish meal, Panchagavya, and calotropis leaf extract to preserve soil flora and fauna.

Hon'ble Lavu Rathaiah, Chairman, VFSTR, stressed the importance of ensuring viable incomes for organic commodities through premium pricing. He encouraged collaborative research on natural farming and the adoption of farm mechanization, IoT, Artificial Intelligence, and Machine Learning for effective farm management. He also emphasized

the need for practical exposure to farm-level innovations.

Sri U. Chakrapani, Panelist, advocated for intercropping systems using organic fertilizers in horticultural crops like turmeric, oil palm, coconut, and guava. He urged farmers to adopt IoT and sensor-based technologies and encouraged scientists to conduct pilot studies for identifying feasible solutions.

Sri Sambi Reddy, Panelist, shared the success story of the Shrestha FPO in Kollipara. He raised awareness about Good Agricultural Practices (GAP), value addition, branding, and the export potential of organic commodities.

Sri Katta Ramakrishna, an ICAR awardee, emphasized the benefits of crop rotation with pulse crops in enhancing soil fertility and health. He advocated the use of Farm Yard Manure (FYM) in combination with bio-fertilizers to reduce issues like dry root rot in Bengal gram.

Sri Saarath Babu expressed optimism about the conference's potential to drive positive changes in soil and plant health practices.

Dr. Ravi Ketharpal, Executive Director, APAARI, congratulated the farmers on their active participation. He emphasized regional and national partnerships with agricultural institutions, innovative technology adoption, and linking farmers to global markets through triangular cooperation among universities, industries, and farmers.

Dr. Baldissera Giovsani, EUPHRESCO III Coordinator, highlighted the interconnectedness of soil, plant, animal, and human health. He lauded the partnership approach for enhancing global productivity and commended the farmers for their active engagement.

Sri Venkata Rao Kadapa, Bio Factor suggested solutions for organic carbon improvement through their products in the Chilli Crop. He promised to supply organic bio factor products on a free basis to conduct field testing.

The panel discussion concluded with the felicitation of panel members and farmer participants by the Dean of SAFT, along with the AHS fraternity, in recognition of their valuable contributions.

All the farmer participants expressed happiness with the resolutions of panel discussion

Recommendations from the farmer's panel discussion:

1. Transition to organic manures, bio-pesticides, and bio-control agents to improve soil health, water quality, and crop resilience over time. Expect an initial decline in yields, but anticipate stabilization with proper management.
2. Adopt IFS to improve soil microorganism diversity, enhance soil health, and provide multiple income streams.
3. Conduct small-scale trials to evaluate the feasibility of organic farming and identify effective practices for broader implementation.
4. Explore Artificial Intelligence and Machine Learning for farm management, yield prediction, and pest control.

5. Share experiences and practices through Farmer-to-Farmer (F2F) initiatives, creating a community-driven knowledge pool.
6. Engage in field-level programs to bridge gaps between research, industry, and farmer practices.
7. Collaborate with companies like Bio Factor for free field testing of organic products to improve organic carbon levels in chilli farming.
8. Include pulses in crop rotations to fix nitrogen, enhance soil fertility, and reduce pest and disease incidences.
9. Engage with universities, industries, and farmer groups for collaborative research, funding opportunities, and innovative technology transfer.
10. Participate in research initiatives on natural farming practices to improve productivity and sustainability.
11. Conduct 30-crop kit trials at the farmer level to evaluate new technologies and practices for wider adoption.

Panel Discussion of Industries

Coordinator : Dr. B. Sarath Babu, President, Plant Protection Association of India (PPAI)

Panelist

1. Dr. K. S. Thyagarajan
2. Shri. L. N. Reddy
3. Mr. Sushanth Manasa
4. Shri. Venkat Rao

Rapporteur Dr. S. Karthikeyan, Coordinator, FT, VFSTR.

Dr. Syed Irshaan, Assistant Professor , FT, VFSTR.

Dr. B. Sarath Babu, President of PPAI, aptly began the session by emphasizing the importance of partnerships among farmers, industrialists, public-private universities, and research centers. This sentiment set the tone for a collaborative and solution-oriented dialogue.

Key Insights from the Panel:

- **Dr. K. S. Thyagarajan** brought attention to India's 39th rank in the 2024 Global Innovation Index and emphasized sustainable and safer formulations in pesticides. He highlighted emerging areas like bioherbicides, biopesticides, and the innovative use of natural substances such as essential oils, plant extracts, and even spider and bee venom for pest control.
- **Shri. L. N. Reddy** focused on the critical balance between biological and chemical fertilizers, stressing their role in improving soil health and plant productivity. The concept of **metabiome**, introduced by Dr. Sukumar, was particularly noteworthy as a sustainable microbial solution addressing climate change and drought mitigation. The connection between global fertilizer dynamics and plant protection chemicals was thoughtfully articulated.
- **Mr. Sushanth Manasa** showcased Farm Sathi's innovative electric farm robots designed for efficient farming practices. By reducing operation costs, eliminating the need for skilled labor, and enhancing productivity, these robots represent a step forward in empowering farmers to double their income.
- **Shri. Venkat Rao** shed light on the need for short-duration crops and uniform harvesting methods, addressing photosensitivity and operational efficiency in farming practices.

Recommendations from the industrialists' panel discussion:

1. Prioritize innovations in bio-solutions that align with environmental safety and regulatory standards.
2. Scale up the development and deployment of electric farm robots, like those from Farm Sathi, to reduce operational costs, eliminate dependence on skilled labor, and boost productivity.

3. Research further automation technologies tailored to Indian agricultural needs, considering smallholder farms and diverse crop systems.
4. Invest in R&D for nano-fertilizers and water-soluble fertilizers that optimize nutrient delivery, reduce wastage, and mitigate environmental impact.
5. Collaborate with research institutions to align agricultural practices and outputs with WTO agreements to enhance global market opportunities for Indian products.
6. Partner with private universities and industry leaders to develop a comprehensive data-generation bank that informs plant protection advisories and policy frameworks.
7. Design industry-backed pilot programs to test and demonstrate new technologies and sustainable solutions at the farm level.
8. Develop customized nutrient plans using soil health data and precision agriculture tools.
9. Encourage value addition through processing, branding, and export-oriented production.

Recommendations of ICPHA 2024

1. **Advocate for the One Health Approach to manage aflatoxin contamination and pesticide residues, linking plant health to broader environmental, animal, and human health systems.**

   APAARI's *role in policy advocacy**,** regional collaboration, and promoting sustainable agriculture makes it an ideal organization to coordinate efforts to integrate agricultural practices with human, animal, and environmental health systems.*
   APAARI promote methods like crop rotation, timely harvesting and pest control. Conducts training on proper drying, sorting and storage to prevent mold growth. It promotes the use of non toxigenic strains of Aspergilllus to outcompete the toxigenic ones in the field.

2. **Establish frameworks similar to EUPHRESCO III in Asia to prioritize regional research needs, address pest and pathogen challenges, and foster 1collaboration across countries.**

   APAARI *should take the lead in establishing a regional research framework in Asia and* ***SAUs / Universities / Research Institutions*** *will play a critical role in implementing and adapting research to local conditions.*

3. **Prioritize research on the bioecology, population dynamics, and ecological adaptations of invasive species like *Thrips parvispinus**, Silba capsicarum**,* and fall armyworm in diverse agroecosystems.**

   EUPHRESCO *would likely be the most effective choice for coordinating high-level, interdisciplinary research on invasive species in diverse agroecosystems, while* ***APAARI*** *could complement this with regional studies, particularly for the Asia-Pacific area.* ***State Agricultural Universities / Universities / Research Institutions*** *would be crucial for field-based research, but global collaboration would enhance the impact and scope of their work.*

   APAARI's risk identification tools like GIS mapping, farmers reporting systems can be adapted to track thrips outbreaks. Collection of samples for identifying samples and detecting resistance patterns, Explore biological control options such as introducing predatory insects or entomopathogenic fungi.

4. **Model pest outbreaks under different climate scenarios to predict and mitigate potential threats.**

   EUPHRESCO *focuses on the coordination of phytosanitary research, which includes plant protection, pest forecasting, and biosecurity research, particularly in the context of climate change and has Strong focus on pest prediction, biosecurity, and phytosanitary research.*

5. **Develop optimized CRISPR-Cas9 protocols for a wide range of crops, including pulses, oil palm, and castor, focusing on resistance to major biotic stresses like fungal diseases, insect pests, and viral pathogens.**

APAARI *can leverage research networks and collaborations*

*across countries where crops like pulses, oil palm, and castor are of significant agricultural importance****. SAUs / Universities / Research Institutions*** *often have strong connections to local farming communities and real-world agricultural challenges, which gives them an edge in testing and applying CRISPR-Cas9 technologies for practical crop improvement.*

APAARI prioritizes genes or pathways for editing such as those related to disease resistance, insect deterrence, or toxin neutralization.. It focusses on improving efficiency in gene delivery systems (AG mediated, particle bombardment etc). focusses on research to validate off target effects and gene editing prescion under regional conditions.

6. **Crop-Specific Research Initiatives- Develop superior hybrid varieties through advanced molecular breeding, focusing on high oil yield, disease resistance, and dwarfness for better management for oil palm.**

APAARI *stands out as the most suitable organization, given its regional focus on the Asia-Pacific region, where oil palm is a major crop. APAARI's ability to foster collaboration across multiple countries in the region makes it ideal for advancing molecular breeding strategies for oil palm hybrids*.

APAARI mobilizes research on Genotypying-By-Sequencing(GBS) and QTL mapping for key traits like:

A) High mesocarp-to-fruit ratio (High oil content)
B) Shorter trunk weight or slow vertical growth (For easy harvesting)
C) Resistance to Basal stem rot (Ganoderma)

7. **Develop AI-powered, IoT-integrated pest monitoring tools like pheromone traps equipped with cameras, acoustic devices, and solar light traps.**

EUPHRESCO *is the best-suited organization for developing AI-powered, IoT-integrated pest monitoring tools. Their advanced focus on phytosanitary research, pest forecasting, and data analytics, combined with their strong international collaboration network, makes them ideal for integrating AI, IoT, and remote sensing technologies into pest management systems. EUPHRESCO's expertise will allow them to design and deploy sophisticated pest monitoring systems across diverse agricultural systems in Europe and beyond.*

8. **Enhance biological control efforts by conserving natural enemies (e.g., parasitoids and predators) and promoting conservation agriculture practices.**

> ***EUPHRESCO's*** *research is centered on sustainable plant protection practices, which include biological control and the promotion of IPM systems that reduce the use of synthetic chemicals. EUPHRESCO supports the development of agroecological approaches, which align well with conservation agriculture practices.*
>
> ***It focusses on enhacing habitat conditions to support existing natural enemies, managing non-crop vegetation (Hedge rows and flowering strips) to provide refuge, nectar and alternative prey***
> ***It aligns with sustainable farming by promoting practices like Reduced tillage and soil cover which help to preserve habitat for ground dwelling predators.***
> ***Cover cropping can harbor natural enemies during off season***

9. **Promote IDM practices that combine cultural, biological, and chemical approaches to minimize pest and disease impact while reducing environmental harm.**

> ***EUPHRESCO*** *is uniquely positioned to lead the promotion of IDM practices, particularly given its focus on sustainable plant protection. Its strong research base, capacity for collaboration, and expertise in integrated pest management make it an ideal choice for promoting IDM at a broader level*

10. **Strengthen disease surveillance and forecasting systems to anticipate outbreaks in the context of climate change.**

> ***SAUs / Universities / Research Institutions*** *conduct extensive field research, which is essential for validating disease forecasting models in real-world conditions. They can implement pilot disease surveillance programs that integrate local data and climate forecasts.*

11. **Conduct comprehensive studies on the occurrence, distribution, and impact of mycotoxins, such as aflatoxins, in diverse crops and regions, emphasizing contamination hotspots like Telangana, Gulbarga, Bellary, and Raichur.**

> ***SAUs' / Universities / Research Institutions*** *connection with farmers allows them to evaluate the real-world impact of mycotoxins and advise on pre-harvest management strategies to mitigate contamination. They conduct region-specific studies and have the infrastructure to assess aflatoxin contamination in crops grown in these hotspots, including groundnut**,** maize, and rice.*

12. Develop and refine **quantitative and qualitative diagnostic tools**, such as ELISA and advanced molecular techniques, to improve the detection and monitoring of aflatoxin contamination.

> ***EUPHRESCO, ICRISAT*** *has the capacity to engage in the development of high-throughput molecular techniques, such as qPCR*

(quantitative PCR) and CRISPR-based diagnostics, for sensitive and rapid detection of aflatoxins.

13. **Conduct literacy assessments within farming communities to design digital solutions that are inclusive, user-friendly, and accessible, even in low-literacy regions.**

    SAUs / Universities / Research Institutions *can design user- friendly digital tools that are specifically tailored to the needs of farmers in their regions, taking into account local literacy levels**,** language, and cultural factors.*

14. **Research and standardize drone-based Standard Operating Procedures (SOPs) for granular insecticide spreading and crop protection applications, ensuring optimal effectiveness and minimal environmental impact.**

    EUPHRESCO *is involved in research on precision agriculture, which includes improving the efficiency and effectiveness of pesticide application. Their network could contribute to the development of SOPs that focus on precision pest control and environmental impact reduction**.***

15. **Developing a National Maximum Residue Limit (MRL) Framework- Research should focus on creating a robust MRL system for pesticide residues tailored to local crop and trade requirements.**

    APAARI *is the best to coordinate the development of a National MRL framework for pesticide residues, with* ***SAUs / Universities / Research Institutions*** *focusing on empirical research and local implementation.*

16. **Expand research into PCR and LAMP methodologies to improve early detection and management of phytopathological threats.**

    APAARI *should take the lead in coordinating regional research on PCR and LAMP methodologies, ensuring that diagnostic tools are adapted to the diverse agricultural ecosystems of the* ***Asia- Pacific region****.*

17. **Adopt IFS to improve soil microorganism diversity, enhance soil health, and provide multiple income streams.**

    SAUs / Universities / Research Institutions *have expertise in crop production**,** livestock management, and soil science, making them well-equipped to design and implement integrated systems that promote diverse income streams and improve soil health**.***

18. **Explore Artificial Intelligence and Machine Learning for farm management, yield prediction, and pest control.**

SAUs / Universities / Research Institutions *have in-depth knowledge of local agricultural challenges**,** making them ideal for developing context-specific AI applications that can improve farm management in specific regions**.***

19. **Scale up the development and deployment of electric farm robots, like those from Farm Sathi, to reduce operational costs, eliminate dependence on skilled labor, and boost productivity.**

    SAUs / Universities / Research Institutions *can engage directly with farmers to understand their needs, allowing them to tailor the development of electric farm robots to the specific challenges of different regions (e.g., smallholder farms**,** specific crop types, and labor issues**).***

20. **Collaborate with research institutions to align agricultural practices and outputs with WTO agreements to enhance global market opportunities for Indian products.**

    APAARI *is well-placed to work with governments, regulatory bodies, and international organizations to ensure that Indian agricultural practices comply with global standards, including those set by the WTO.*

Valedictory session

The conference, organized by the Asia Pacific Association for Agricultural Research Institutes (APAARI) and the European Plant Health Research and Coordination (EPRHRESCO III), was a resounding success, characterised by meaningful discussions, innovative ideas, and valuable partnerships. Below is an elaborate account of the speeches and expressions of gratitude from key speakers during the conference.

Dr. K. S. Varaprasad, Project Manager (USDA-SPS Project) APAARI & Former Director, ICAR-IIOR, Hyderabad, in his address, expressed his heartfelt gratitude to all those involved in organizing the conference. He conveyed his sincere appreciation for the level of the international conference, which exceeded his expectations. Dr. K.S. Varaprasad highlighted the serene campus of Vignan University, emphasizing the vibrant student community and the extensive involvement of all sectors in the Research Academy. He remarked that the active participation from diverse sectors and the constructive deliberations, even when marked by differences of opinion, were essential for the fruitful outcomes that the conference aimed to achieve. His speech was an acknowledgement of the collaborative spirit that made the event a resounding success.

Dr. Paul WJ Taylor, Technical Coordinator, APAARI, conveyed his deepest appreciation, describing the conference as an absolute pleasure. He mentioned how the event provided him with an impressive opportunity to engage in various research works and contribute to discussions that left a positive impact. Dr. Paul WJ Taylor expressed particular admiration for the students who participated and the individuals responsible for organizing the event. He also acknowledged the involvement of stakeholders, such as farmers, who played a critical role in bringing a real-world perspective to the discussions and also shared his experience that the event had successfully bridged the gap between research and practical applications, making it a memorable experience for all attendees.

Dr. Ravi Khetarpal, Executive Director, Asia-Pacific Association of Agricultural Research Institutions (APAARI), Bangkok, in his address, shared his immense gratitude, emphasizing that the event was made possible by the efforts of an individual—a man from Italy residing in France, whose passion for India had brought all the participants together. Dr. Ravi Khetarpal highlighted a key observation from the conference, stressing the importance of partnerships, particularly in the context of the farmers‘ panel. He proposed that a global coordination program should be established where farmers from around the world could be brought together to share their perspectives and contribute to meaningful projects. Dr. Ravi Khetarpal also underscored the valuable contributions of the private sector, acknowledging how companies with vast knowledge and visionary outlooks could play a pivotal role in fostering innovation and advancing research.

Dr. Baldissera Giovani, Coordinator, European Plant Health Research and Coordination (EUPHRESCO III), began his speech by applauding the conference organizers for successfully hosting such a large-scale event involving multiple stakeholders. He described it as a unique experience and praised the logistics and coordination that made the event run smoothly. Dr. Baldissera shared his profound sense of happiness, stating that he never felt alone during the conference, as there was always a protective and supportive presence around him. He also shared his perspective on the importance of institutionalising future initiatives to ensure the sustainability of the global network. Dr. Baldissera stressed that while passionate individuals may drive initiatives today and tomorrow, only institutionalisation would guarantee the long-term success and forward momentum of global partnerships.

Dr. S.V. Ramana Rao, Principal Scientist (Agri. Economics) ICAR-IIOR, Hyderabad, expressed his belief in the vast potential of Vignan University, particularly in the area of innovation. He praised the university for having a highly intelligent and capable student body, encouraging them not to merely seek jobs but to create opportunities for others. Dr. S.V. Ramana Rao emphasized the importance of topics like plant health and the development of ecosystems, noting that Vignan could lead in these fields by fostering practical, forward-thinking solutions. He conveyed his trust in the institution's ability to take the lead and make a significant impact in plant health and related areas.

Col. Prof. P. Nagabhushan, Hon'ble Vice Chancellor, VFSTR, expressed his deep gratitude towards Dr. Ravi Khetarpal for his positive approach and ability to find optimism in challenging situations. He highlighted how Dr. Ravi Khetarpal's constructive observations had set an example for the delegates to follow. Col. Prof. P. Nagabhushan also expressed his gratitude to Dr. T. Ramesh Babu, Dean, SAFT, VFSTR, for his visionary work in involving farmers in the academic and research spheres. He lauded the concept of public-private-farmer partnerships (PPFP), emphasizing that this approach was key to integrating farmers more deeply into research and policy discussions. This concept was seen as a game-changer in building sustainable, inclusive partnerships for the future.

Dr. B. Sarath Babu, President, Plant Protection Association of India (PPAI), in his speech, reflected on the strong partnership he shares with Dr. Katti and Dr. TVK Singh in the Plant Protection Association of India. He expressed his immense satisfaction with the conference's proceedings, recalling how Dr. Ramesh Babu's work in organizing international conferences on plant health management had made a significant impact. Dr. Babu also acknowledged the pivotal role played by Dr. K.S. Varaprasad as the president of the society, making the event a monumental success. His words celebrated the continued collaboration and the strength of partnerships that had emerged from the conference.

Dr.Pandu. U, Asst. Professor, AHS, VFSTR, on behalf of the Organizing Committee, expressed immense privilege and profound gratitude for the opportunity to host the International Conference on —Plant Health in Asia: Research Priorities and Partnerships‖.. He specifically extended his appreciation to the knowledge partners for their invaluable cooperation in making the event a success. Dr. Pandu also acknowledged the crucial role played by the keynote speakers in providing insightful perspectives on plant health research and the importance of fostering strong partnerships. He took the opportunity to thank all the faculty members, researchers, and volunteers whose tireless efforts ensured the smooth execution of the conference, highlighting their significant contributions to its success.

In conclusion, the International Conference on Plant Health in Asia was not only a platform for presenting cutting-edge research but also a gathering that fostered collaboration, innovation, and partnerships across multiple sectors. The reflections and expressions of gratitude from key figures underscored the importance of continued cooperation between academic institutions, the private sector, farmers, and other stakeholders to address global challenges in plant health. The event marked a significant step forward in building a global network for research, knowledge-sharing, and sustainability in plant health management.

VIGNAN'S FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH ★ VADLAMUDI

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International Conference on
PLANT HEALTH IN ASIA :
RESEARCH PRIORITIES AND PARTNERSHIPS
17-18, DECEMBER, 2024
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మాట్లాడుతున్న వరప్రసాద్

పొన్నూరు: బంగ్లాదేశ్‌లో అమలు పరుస్తున్న త్రిముఖ వ్యూహాన్ని (నాణ్యత, భద్రత, ప్రపంచ మార్కెట్‌లో సులభ వాణిజ్యం) మన దేశమూ అనుసరించాల్సిన ఆవశ్యకత ఉందని అపారి ప్రాజెక్ట్ మేనేజర్ కేవీఎస్ వరప్రసాద్ అన్నారు. వడ్లమూడి విజ్ఞాన్ యూనివర్సిటీలో బుధవారం ప్లాంట్ హెల్త్ ఇన్ ఆసియా రీసెర్చ్ ప్రయారిటీస్ అండ్ పార్ట్‌నర్‌షిప్స్ అనే అంశంపై నిర్వహించిన అంతర్జాతీయ సదస్సుకు ఆయన ముఖ్యఅతిథిగా వ్యవహరించారు. ఈ సందర్భంగా ఆయన మాట్లాడుతూ బంగ్లాదేశ్‌లో ఎస్‌పీఎస్ (ఫైటోశానిటరీ) అనేవి వ్యవసాయ, ఉత్పత్తులు, ఆరోగ్య భద్రతను కాపాడటానికి, పర్యావరణ పరిరక్షణకు రూపొందించిన నిబంధనలని పేర్కొన్నారు. ఈ విధానాలు అంతర్జాతీయ వాణిజ్యంతో సంబంధం కలిగి ఉంటాయని వెల్లడించారు. కార్యక్రమంలో విజ్ఞాన్స్ విద్యా సంస్థల అధ్యక్షుడు రత్తయ్య, ఉప కులపతి పి.నాగభూషణ్, ఛార్జి రిజిస్ట్రార్ పీఎంవీ రావు పాల్గొన్నారు.

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(AMARAVATI GUNTUR) PageNo : 04

విజ్ఞాన్స్ వర్సిటీలో ముగిసిన జాతీయ సదస్సు

ప్రజాశక్తి-గంటూరు

మాట్లాడుతున్న వరప్రసాద్

బంగ్లాదేశ్‌లో అమలు చేస్తున్న త్రిముఖ వ్యూహాన్ని (నాణ్యత, భద్రత, ప్రపంచ మార్కెట్‌లో సులభ వాణిజ్యం) మనం కూడా అనుసరించాలని ఐకార్- ఐఐఓఆర్ మాజీ డైరక్టర్, అపారి ప్రాజెక్ట్ మేనేజర్ డాక్టర్ కేవీఎస్ వరప్రసాద్ అన్నారు. వడ్లమూడి విజ్ఞాన్ యూనివర్సిటీలో 'ప్లాంట్ హెల్త్ ఇన్ ఆసియా- రీసెర్చ్ ప్రయారిటీస్ అండ్ పార్ట్‌నర్‌షిప్స్' అనే అంశంపై రెండ్రోజులపాటు నిర్వహించిన ఇంటర్నేషనల్ సదస్సు బుధవారం ముగిసింది. సదస్సులో వరప్రసాద్ మాట్లాడుతూ బంగ్లాదేశ్‌లో ఎస్‌పీఎస్ (ఫానిటరీ, ఫైటోశానిటరీ) అనేవి వ్యవసాయ ఉత్పత్తులు, ఆహార ఉత్పత్తుల ఆరోగ్యభద్రతను కాపాడటానికి, పర్యావరణ పరిరక్షణకు రూపొందించబడిన నిబంధనలని తెలియజేశారు. ఈవిధానాలు అంతర్జాతీయ వాణిజ్యంతో సంబంధం కలిగి ఉంటాయన్నారు.అనేక దేశాలు తమ నిర్దిష్టమైన ఉత్పత్తులు, ప్రత్యేకించి వ్యవసాయ ఉత్పత్తులు, విదేశీ మార్కెట్లకు రవాణా చేసే ముందు ఆహార భద్రత, వ్యాధి నియంత్రణ, పర్యావరణ ఆవశ్యకత తదితర అంశాల్లో నియంత్రణలు అమలు చేయడం అనివార్యంగా భావిస్తాయన్నారు. బంగ్లాదేశ్‌లో నాణ్యత, భద్రత, ప్రపంచ మార్కెట్లో సులభ వాణిజ్యాన్ని ప్రోత్సహించేందుకు అమలు చేస్తున్న ఫానిటరీ నియమాలు ఆహార భద్రతపైన, ఫైటోశానిటరీ మొక్కల ఆరోగ్యానికి సంబంధించి, వాటి ఉత్పత్తి, వ సంబంధించినవని తెలియజేశారు. ఈ విధానాలు దేశానికి ఎ పెంచడమే కాకుండా, పంటల నాణ్యత పెంచడం, వర కాపాడటం, రైతుల ఆదాయాలను మెరుగుప సహాయపడతాయన్నారు. ఐబీలోని ఐబీపీసీ సెక్రటెరియట్ ఇంప్లిమెంటేషన్ అండ్ ఫెసిలిటేషన్ లీడ్ డాక్టర్ సారా మాట్లాడుతూ మొక్కల ఆరోగ్యం అనేది వ్యవసాయం సుస్థిరత, పరిరక్షణ, ఆహార భద్రతకు సంబంధించిన ఒక కీలక అం ప్రపంచవ్యాప్తంగా మొక్కల వ్యాధులు, కీటకాలు, ఇతర సమస్యలు వ్యవసాయ రంగాన్ని కనింగా ప్రభావిత ఉంటాయన్నారు. ఆసియాలో మొక్కల వ్యాధులు, కీటక మార్కెట్లో వేగంగా వ్యాపిస్తున్నాయని, అంతర్జాతీయ వాణిజ్యం తసమస్యలు మరింత తీవ్రమవుతున్నాయని తెలియజేశారు. ఉన్న పర్యావరణ మార్పులు, వేడి పెరగడం, ముఖ్యంగా వర్షాలు పరిస్థితులు మొక్కల ఆరోగ్యాన్ని ప్రభావితం చేస్తున్నా కార్యక్రమంలో సౌత్ ఏసియా సీఏబీఐ ఇంటర్నేషనల్ రీజనల్ డాక్టర్ వినోద్ పండిట్ ప్రసంగించారు. అనంతరం వర్సిటీ క్రిష్ణ, పశ్చిమ గోదావరి, గుంటూరు జిల్లాలకు చెందిన 14 రైతులతో రైతునేస్తం చైర్మన్ డాక్టర్ వై.వెంకటేశ్వరరావు ప్యానెల్ చర్చ నిర్వహించారు.అనంతరం వర్సిటీ ప్రొవైస్ ఛాన్సలర్ పీ.నాగభూషణ్, ఇంచార్జి రిజిస్ట్రార్ డాక్టర్ పీ. తదితరులు పాల్గొన్నారు.

Stress on modern methods in agri-food syst

EXPRESS NEWS SERVICE
@ Vijayawada

A two-day international conference on 'Plant Health in Asia: Research Priorities and Partnerships' was inaugurated on Tuesday at Vignan University, Vadlamudi, Chebrolu Mandal, in collaboration with APARI (Asia-Pacific Association of Agricultural Research Institutes) and the European Plant Health Research and Coordination.

T Vijay Kumar, Executive Vice Chairman of Rythu Sadhikara Samstha and Advisor to the Department of Agriculture and Cooperation, addressed the gathering as the chief guest, emphasising the organisation's commitment to the welfare of farmers, agricultural development, and improving livelihoods in the state.

Vijay Kumar also announced that the government would provide financial and technical support, including
to farmers, while p
ganic farming pra

Dr Ravi Khetarp
Director of APARI
the need for mode
in the agri-food sy
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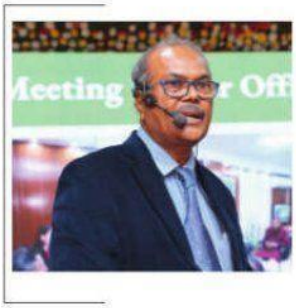
drones, and digital
tect plant health, e
disease detection a
tervention. Dr Bal
ni, Coordinator o
Phytosanitary Res
dination, discusse
collaboration in
research.



ముగిసిన అంతర్జాతీయ సదస్సు

దిశ ప్రతినిధి, గుంటూరు : బంగ్లాదేశ్‌లో అమలుపరుస్తున్న త్రిముఖ వ్యూహాన్ని (నాణ్యత, భద్రత, ప్రపంచ మార్కెట్‌లో సులభ వాణిజ్యం) మనం కూడా అనుసరించాలని ఐకార్ – ఐఐఓఆర్ మాజీ డైరక్టర్, అపారి ప్రాజెక్ట్ మేనేజర్ డాక్టర్ కేవీఎస్ వరప్రసాద్ అన్నారు. చేబ్రోలు మండలం వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలోని స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలోని డిపార్ట్‌మెంట్ ఆఫ్ అగ్రికల్చరల్ అండ్ హార్టికల్చరల్ సైన్సెస్, అపారి (ఆసియా–పసిఫిక్ అసోసియేషన్ ఆఫ్ అగ్రికల్చరల్ రీసెర్చ ఇనిస్టిట్యూట్స్) , యూరోపియన్ ప్లాంట్ హెల్త్ రీసెర్చ్ అండ్ కోఆర్డినేషనల సంయుక్త ఆధ్వర్యంలో '' ప్లాంట్ హెల్త్ ఇన్ ఆసియా : రీసెర్చ్ ప్రయారిటీస్ అండ్ పా ర్టన ర్‌షిప్స్'' అనే అంశంపై రెండు రోజుల పాటు నిర్వహించిన ఇంటర్నే షనల్ సదస్సును బుధవారం ముగించారు. ఈ కార్యక్రమానికి ముఖ్య అతిథిగా హాజరైన వరప్రసాద్ మాట్లాడుతూ బంగ్లాదేశ్‌లో ఎస్ పీఎస్ అనేవి వ్యవసాయ ఉత్పత్తులు, ఆహార ఉత్పత్తుల ఆరోగ్యభద్రతను కాపాడటానికి, పర్యావరణ పరిరక్షణకు రూపొందించిన నిబంధనల న్నారు. ఈ విధానాలు అంతర్జాతీయ వాణిజ్యంతో సంబంధం కలిగి ఉంటాయన్నారు. అనంతరం సారా బ్రూనెల్ (ఇటలీ) సౌత్ ఏసియా సీఏబీఐ ఇంటర్నేషనల్ రీజనల్ డైరక్టర్ డాక్టర్ వినోద్ పండిట్ మాట్లాడారు. అలాగే పల్నాడు, ప్రకాశం, క్రిష్ణ, పశ్చిమ గోదావరి, గుంటూరు జిల్లాలకు చెందిన 145 మంది రైతులతో రైతునేస్తం చైర్మన్ డాక్టర్ వై.వెంకటేశ్వరరావు ప్యానెల్ డిస్కషన్ నిర్వహించారు.

దిశ Thu, 19 December 2024
https://epaper.dishadaily.com/c/76450366

రైతు సంక్షేమం, వ్యవసాయ అభివృద్ధే లక్ష్యం

విజ్ఞాన్స్ సదస్సులో సాధికార సంస్థ ఎగ్జిక్యూటివ్ వైస్‌చైర్మన్ టి.విజయ్‌కుమార్

ప్రజాశక్తి-గుంటూరు

పాంప్లేట్స్ విడుదల చేస్తున్న విజయ్‌కుమార్, తదితరులు

రైతుల సంక్షేమం, వ్యవసాయాభివృద్ధి, జీవనోపాధి మెరుగుదలకు కృషి చేయడమే రైతు సాధికార సంస్థ ప్రధాన లక్ష్యమని సంస్థ ఎగ్జిక్యూటివ్ వైస్‌చైర్మన్ టి.విజయ్ కుమార్ అన్నారు. వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలో ఆసియా-పసిఫిక్ అసోసియేషన్ ఆఫ్ అగ్రికల్చరల్ రీసెర్చ్ ఇన్స్టిట్యూట్స్, యూరోపియన్ ప్లాంట్‌హెల్త్ రీసెర్చ్ అండ్ కోఆర్డినేషన్‌ల సంయుక్త ఆధ్వర్యంలో 'ప్లాంట్ హెల్త్ ఇన్ ఆసియా- రీసెర్చ్ ప్రయారిటీస్ అండ్ పార్ట్‌నర్‌షిప్స్' అనే అంశంపై రెండ్రోజుల సదస్సును మంగళవారం ప్రారంభించారు. సదస్సులో టి.విజయ్‌కుమార్ మాట్లాడుతూ రైతులకు ఆర్థిక, సాంకేతిక సహాయం, ఉచిత సలహాలు, మార్గదర్శకాలు అందిస్తామన్నారు. వీటితోపాటు సేంద్రియ వ్యవసాయాన్ని కూడా ప్రోత్సహిస్తామన్నారు. రైతులకు వ్యవసాయ పెట్టుబడుల కోసం సబ్సిడీలు అందించడం, పంటల బీమా పథకాలను అమలు చేయడం, పంటల డైవర్సిఫికేషన్, రైతులను వివిధరకాల పంటలు సాగు చేసుకునేలా ప్రోత్సహించడం, మార్కెటింగ్ సదుపాయాలు కల్పిస్తామన్నారు. బ్యాంకాక్ లోని అపారి ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ రవి ఖేతర్‌పాల్ మాట్లాడుతూ ఆహార ఉత్పత్తి నుంచి వినియోగం వరకు వ్యవసాయ-ఆహార వ్యవస్థలో ఆధునిక పద్ధతులను అనుసరించడం అవసరమన్నారు. మొక్కల ఆరోగ్యాన్ని పరిరక్షించడంలో ఫీల్డ్ సెన్సార్లు, డ్రోన్లు, డిజిటల్ పద్ధతుల ఉపయోగం ఎక్కువగా కనిపిస్తుందన్నారు. ఈ టెక్నాలజీలు వ్యవసాయ ప్రదేశాలలో తక్షణమే వ్యాధులను గుర్తించి, వాటిని నివారించేందుకు సహాయపడుతాయని వెల్లడించారు. స్మార్ట్ ఫోన్లు, డేటా అనలిటిక్స్ ఆధారంగా పురుగుల దాడిని ముందుగానే అంచనా వేసి, సమయానుకూలంగా చర్యలు తీసుకోవడం సాధ్యమవుతుందన్నారు. కార్యక్రమంలో యూరోపియన్ ఫైటోశానిటరీ రీసెర్చ్ కోఆర్డినేషన్ కోఆర్డినేటర్ డాక్టర్ బల్డిస్సెర జియోవాని, హైదరాబాద్ లోని ఐకార్-ఐఐఓఆర్ ప్రాజెక్ట్ మేనేజర్ డాక్టర్ కే.ఎస్.వరప్రసాద్, అపారి టెక్నికల్ కోఆర్డినేటర్ డాక్టర్ పాలిదబ్యూజ్ బేర్, సౌత్ ఆసియా కాబి ఇంటర్నేషనల్ రీజనల్ డైరెక్టర్ డాక్టర్ వినోద్ పండిట్, విజ్ఞాన్స్ చైర్మన్ డాక్టర్ లావు రత్తయ్య, వీసీ ప్రొఫెసర్ పి.నాగభూషణ్ పాల్గొన్నారు.

రైతుల సంక్షేమం, వ్యవసాయ అభివృద్ధే లక్ష్యం

● రైతు సాధికార సంస్థ ఎగ్జిక్యూటివ్ వైస్ చైర్మన్ విజయ్ కుమార్


మాట్లాడుతున్న విజయ్‌కుమార్

గుంటూరు (విద్య), డిసెంబరు 17 (ఆంధ్ర జ్యోతి): రైతు సాధికార సంస్థ ప్రధానంగా రాష్ట్రంలోని రైతుల సంక్షేమం, వ్యవసాయ అభివృద్ధి, జీవనోపాధి మెరుగుదలకు కృషి చేయడమే లక్ష్యమని రైతు సాధికార సంస్థ ఎగ్జిక్యూటివ్ వైస్ చైర్మన్, ఏపీ ప్రభుత్వ డిపార్ట్‌మెంట్ ఆఫ్ అగ్రికల్చర్ అండ్ కో ఆపరేషన్ అడ్వైజర్, మాజీ ఐఏఎస్ టీ.విజయ్‌కుమార్ అన్నారు. చేబ్రోలు మండలం వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలోని స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలోని డిపార్ట్‌మెంట్ ఆఫ్ అగ్రికల్చర్ అండ్ హార్టికల్చర్ సైన్సెస్, అపారి (ఆసియా పసిఫిక్ అసోసియేషన్ ఆఫ్ అగ్రికల్చరల్ రీసెర్చ్ ఇనిస్టిట్యూట్స్),

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సుస్థిర వ్యవసాయంతోనే ఉత్పత్తి సాధ్యం

-సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ

గుంటూరు, మేజర్ న్యూస్: ప్రపంచంలో రోజు రోజుకు పెరుగుతున్న వాతావరణ మార్పులు, పర్యావరణ సమస్యలు, పెరుగుతున్న జనాభాకు తగ్గ స్థిరమైన ఉత్పత్తిని సాధించాలంటే సుస్థిర వ్యవసాయంతోనే సాధ్యమని సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ పేర్కొన్నారు. చేబ్రోలు మండలం వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలోని స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలోని అగ్రికల్చరల్ అండ్ హార్టికల్చరల్ సైన్సెస్ డిపార్ట్‌మెంట్ ఆధ్వర్యంలో " క్లైమేట్ స్మార్ట్ అగ్రికల్చర్" అనే అంశంపై మూడు రోజుల పాటు నిర్వహిస్తున్న అంతర్జాతీయస్థాయి కాన్ఫరెన్స్ రెండో రోజైన మంగళవారం ఘనంగా ముగిసింది. కార్యక్రమానికి ముఖ్య అతిథిగా హాజరైన సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ మాట్లాడుతూ సుస్థిర వ్యవసాయమును సామాజిక, పర్యావరణ, ఆర్థిక రంగాలుగా విభజించవచ్చునన్నారు. సుస్థిర వ్యవసాయ పద్ధతులను వినియోగిస్తున్నప్పుడు ఎదురయ్యే అడ్డంకులను గుర్తించడంతో పాటు వాటిని అధిగమించడానికి విద్యార్థులు కృషి చేయాలన్నారు. ధార్వాడలోని యూనివర్సిటీ ఆఫ్ అగ్రికల్చర్ సైన్స్ మాజీ వైస్ చాన్సలర్ డాక్టర్ ఆర్ఆర్ హంచినల్ మాట్లాడుతూ సీడ్ ఇండస్ట్రీలో ఉన్న అవకాశాలను విద్యార్థులు అందిపుచ్చుకోవడానికి సిద్ధంగా ఉండాలన్నారు. సీడ్ ప్రొడక్షన్‌లో ఆధునిక మెలుకవలను వినియోగించి విస్తృత పరిశోధనలు చేయాలన్నారు. హైదరాబాద్‌లోని ఐసీఏఆర్-ఐఐఓఆర్ డైరెక్టర్ డాక్టర్ ఆర్.కే. మాథూర్ పెరుగుతున్న దేశ జనాభాకు అవసరమైన వంట నూనెల్లో ఎక్కువ శాతం విదేశాల నుండి దిగుమతి చేసుకుంటున్నామన్నారు. గోధుమ, వరి, ఆహారపంటలు సాగు విస్తీర్ణంతో పోలిస్తే నూనె గింజల పంటల సాగు పెరుగుదల తక్కువేనన్నారు. నూనె గింజల ఉత్పత్తిలో దేశ ప్రజల అవసరాలు తీర్చడానికి పెద్ద ఎత్తున వివిధ వ్యవసాయ భౌగోళిక మండలాల్లో అక్కడి వాతావరణ పరిస్థితులకు అనువైన పంటల సాగు అవసరమని తెలిపారు. కార్యక్రమంలో రాజమహేంద్రవరంలోని ఐసీఏఆర్-సీటీఆర్ఐ డైరెక్టర్ డాక్టర్ ఎం. శేషు మాధవ్ విజ్ఞాన్స్ యూనివర్సిటీ వైస్ చాన్సలర్ ప్రొఫెసర్ పీ.నాగభూషణ్, రిజిస్ట్రార్ డాక్టర్ ఎంఎస్ రఘునాథన్, డీన్ ఎస్ఏఎఫ్‌టీ, ఆయా విభాగాల డీన్లు, అధిపతులు, అగ్రికల్చరల్ విద్యార్థులు పాల్గొన్నారు.

ఆంధ్రప్రభ

త్రిముఖ వ్యూహాన్ని అనుసరించాలి

అపారి ప్రాజెక్ట్ మేనేజర్ డాక్టర్ కేఎస్ వరప్రసాద్

గుంటూరు, డిసెంబర్ 18 (ఆంధ్రప్రభ) : బంగ్లాదేశ్‌లో అమలుపరుస్తున్న త్రిముఖ వ్యూహాన్ని (నాణ్యత, భద్రత, ప్రపంచ మార్కెట్‌లో సులభ వాణిజ్యం) మనం కూడా అనుసరించాలని ఐకార్ - ఐఐఓఆర్ మాజీ డైరెక్టర్, అపారి ప్రాజెక్ట్ మేనేజర్ డాక్టర్ కేఎస్ వరప్రసాద్ అన్నారు. విజ్ఞాన్స్ యూనివర్సిటీలోని స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలోని డిపార్ట్‌మెంట్ ఆఫ్ అగ్రికల్చరల్ అండ్ హార్టికల్చరల్ సైన్సెస్, అపారి (ఆసియా-పసిఫిక్ అసోసియేషన్ ఆఫ్ అగ్రికల్చరల్ రీసెర్చ్ ఇనిస్టిట్యూట్స్) ఎ యూరోపియన్ ప్లాంట్ హెల్త్ రీసెర్చ్ అండ్ కోఆర్డినేషన్‌ల సంయుక్త ఆధ్వర్యంలో ప్లాంట్ హెల్త్ ఇన్ ఆసియా : రీసెర్చ్ ప్రయారిటీస్ అండ్ పార్ట్‌నర్‌షిప్స్ అనే అంశంపై రెండు రోజుల పాటు నిర్వహించిన ఇంటర్నేషనల్ సదస్సును బుధవారం ముగించారు.

ముఖ్య అతిథిగా హాజరైన ఐకార్ - ఐఐఓఆర్ మాజీ డైరెక్టర్, అపారి ప్రాజెక్ట్ మేనేజర్ డాక్టర్ కేఎస్

వరప్రసాద్ మాట్లాడుతూ బంగ్లాదేశ్‌లో ఎస్‌పీఎస్ (శానిటరీ, ఫైటోశానిటరీ) అనేవి వ్యవసాయ ఉత్పత్తులు, ఆహార ఉత్పత్తుల ఆరోగ్యభద్ర తను కాపాడటానికి, పర్యావరణ పరిరక్షణకు రూపొం దించబడ్డ నిబంధనలని తెలియజేసారు. మరో ముఖ్య అతిథి ఇటలీలోని ఐపీపీసీ సెక్రటరియట్, ఎఫ్ఏవో ఇంప్లిమెంటేషన్ అండ్ ఫెసిలిటేషన్ లీడ్ డాక్టర్ సారా బ్రూనెల్ మాట్లాడుతూ మొక్కల ఆరోగ్యం అనేది వ్యవసాయం సుస్థిరత, పర్యావరణ పరిరక్షణ, ఆహార భద్రతకు సంబంధించిన ఒక కీలక అంశమన్నారు. ప్రపంచవ్యాప్తంగా మొక్కల వ్యాధులు, కీటకాలు, ఇతర ఆపత్కాల సమస్యలు వ్యవసాయ రంగాన్ని కఠినంగా ప్రభావితం చేస్తూ ఉంటాయన్నారు.

మరో ముఖ్య అతిథి సౌత్ ఏసియా సీఏబీఐ ఇంటర్నేషనల్ రీజనల్ డైరెక్టర్ డాక్టర్ వినోద్ పండిట్ మాట్లాడుతూ సీఏబీఐ ఆధ్వర్యంలో రైతులకు ఎస్‌పీఎస్ ప్రమాణాలపై శిక్షణా కార్యక్రమాలు, ఉత్పత్తి నాణ్యతను మెరుగుపరిచే టెక్నాలజీ పరిచయం, ప్రభుత్వం మరియు ప్రైవేట్ రంగాల భాగస్వామ్యంతో వ్యాపారాన్ని ప్రోత్సహిం చడం వంటి వాటిపై అవగాహన కల్పిస్తామన్నారు. అనంతరం ముఖ్య అతిథులను ఘనంగా సన్మానిం చారు. కార్యక్రమంలో విజ్ఞాన్స్ చైర్మన్ డాక్టర్ లావు రత్తయ్య, వర్సిటీ వైస్ చాన్స్‌లర్ కల్నల్, ప్రొఫెసర్ పీ.నాగభూషణ్, ఇంచార్జి రిజిస్ట్రార్ డాక్టర్ పీఎంవీ రావు, ఆయా విభాగాల డీన్లు, అధిపతులు, పరిశోధన విద్యార్థులు పాల్గొన్నారు.

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ACKNOWLEDGEMENT

Climate Smart Agriculture plays a pivotal role in acknowledging the urgent imperative to address the ever-increasing challenges posed by climate change, which significantly affect the global food security, livelihoods, and the ecosystems upon which we rely. Climate Smart Agriculture not only plays a crucial part in mitigating these challenges but also in adapting to them, ensuring the sustainability and resilience of our food production systems. We are acutely aware of the intricate interplay between climate, agriculture, and human well-being. It is our responsibility to promote sustainable practices that enhance agricultural productivity, reduce greenhouse gas emissions, and strengthen the resilience of our food systems.

The Global Conference on Climate Smart Agriculture revolved around the main theme of "Transforming Agri-food Systems amid Changing Climate." This significant event was meticulously organized into nine technical sessions, each thoughtfully structured around five key sub-themes. These sub-themes encompassed critical areas, including regenerative agriculture, the impact of climate change on agriculture and rural livelihoods, climate-smart supply chain management, digital innovations aimed at enabling climate-smart agriculture, and the essential policies required to mainstream these transformative practices.

Throughout the conference, a total of 25 scholarly papers were presented. These included 12 enlightening keynote presentations and 13 lead papers, each offering invaluable insights into the challenges and opportunities of climate-smart agriculture. Furthermore, 20 abstracts were thoughtfully selected for poster presentations, enriching our collective knowledge. The event also featured two engaging panel discussions. The first delved into the strategic approach towards developing climate-smart landscapes and food systems, while the second explored farmers' level strategies for promoting climate-smart agriculture.

As the Chairperson of this conference, I extend my profound gratitude to the esteemed guests, distinguished keynote speakers, lead presenters, dedicated researchers, diligent farmers, aspiring students, and respected delegates who graced the "Global Conference on Climate Smart Agriculture" with their presence and unwavering commitment. Your active involvement in this significant event has added immeasurable value to the discourse on climate-smart agriculture.

I also take this opportunity to acknowledge the vital role played by the University Management and Administration. Their unwavering dedication to our academic and research pursuits has undeniably been the foundation upon which our institution's success stands. Their steadfast support, both in terms of logistical arrangements and administrative coordination, has been truly indispensable in ensuring the seamless execution of this conference.

I must also express our heartfelt gratitude to Chithanya Godavarai Grameena Bank, the National Bank for Agriculture and Rural Development (NABARD), Punjab National Bank, Dasarath Fertilizers, Siri Seeds, Sri Venkateswara Irrigation Systems, and Sree Ramanjaneya Micro Irrigation Services for their generous financial support for the Global Conference on Climate Smart Agriculture. Your contributions have been instrumental in making this event a reality, and we are deeply appreciative of your support.

Lastly, I wish to extend a special thanks to Dr. V. Dinesh Rahul, Dr. T. Naresh, Ms. P. Sai Ravali, Ms. V. Priyanka Raj, and Dr. M. Chandra Surya Rao of AHS for their dedicated efforts in compiling the proceedings of the Global Conference. Your hard work and dedication are deeply appreciated.

Dr. T. Ramesh Babu, Dean,
School of Agriculture and Food Technology,
VFSTR (Deemed to be University)
Conference Chair, GCCSA

Proceedings of the Global Conference on
"Climate Smart Agriculture - 2023"
27th to 29th March 2023

Proceedings of the Global Conference on
"Climate Smart Agriculture - 2023"

The Department of Agricultural and Horticultural Sciences (AHS), Vignan's Foundation for Science Technology and Research (VFSTR) organized a "Global Conference on Climate Smart Agriculture (GCCSA)" on 27th - 29th March, 2023, at VFSTR (Deemed to be University), Vadlamudi, Guntur with the technical collaboration of Asia-Pacific Association of Agricultural Research Institutions (APAARI), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Plant Protection Association of India (PPAI), Dr. Y.S.R. Horticultural University (Dr. YSRHU), Prof. Jayashankar Telangana State Agricultural University (PJTSAU), Sri Konda Lakshman Telangana State Horticultural University (SKLTSHU) and World Agroforestry (CIFOR-ICRAF). The three-day programme was organized in nine technical sessions besides inaugural session, two panel discussion sessions and valedictory session.

Prelude:

The B. Sc. (Hons.) Agriculture was offered by the Department of Agricultural and Horticultural Sciences, the course commenced in the University from the academic year 2021 – 22. The three-day event of the global conference was organized with an intension to congregate the experts in the field of "Climate Smart Agriculture" and to establish better connections for the university in the field of Agriculture research. The conference's key objectives were to showcase research on the impact of climate change on agriculture, examine structural changes and resource degradation and explore strategies to enhance farm income. Given the growing concern over climate change's effects on Indian agriculture, the conference specifically focused on discussing the adverse implications of climate change and potential Climate Smart Interventions.

The conference holds great importance as it serves as a platform for bringing together policymakers, academics, research and development institutes, industry and farmers in the field of Agriculture. The primary purpose is to discuss policy matters, strategies, and implementation challenges related to "Climate Smart Agriculture". The conference's main objective is to gather specialists from various fields, particularly those focused on adapting food, agriculture and allied sectors to climate change, in order to propose future action plans for sustaining agricultural production. The discussions during the conference provide a roadmap for increasing farmers' income through Climate Smart Agriculture. The 9 sessions are organized around five sub themes: i) Regenerative Agriculture, ii) Climate Change: Agriculture and Rural Livelihoods, iii) Climate Smart Supply Chain Management, iv) Digital innovations for enabling Climate Smart Agriculture, v) Enabling Policies for mainstreaming Climate Smart Agriculture. During the conference, a total of 25 invited papers (12 Keynote and 13 Lead) and 13 accepted papers were presented across various sessions. Additionally, 20 abstracts were approved for poster presentations, adding to the wealth of knowledge shared. The recommendations from each session are summarized below. Furthermore, the conference featured two panel discussions focusing on i) Strategic approach towards developing climate Smart landscapes and food systems ii) Farmers level strategies for promoting Climate Smart Agriculture.

Day 1: 27th March 2023

Inaugural session

The inaugural session started with inviting the dignitaries on to the dias; Dr. T. Ramesh Babu, Dean School of Agriculture and Food Technology, Vignan's Foundation for Science Technology and Research (VFSTR), Dr. M. S. Raghunathan, Registrar, VFSTR; Dr. B. Sarath Babu, President, Plant Protection Association of India (PPAI); Dr. Manoj Dabas, Deputy Chief of Party, Trees Outside Forest in India (TOFI), CIFOR-ICRAF; Dr. K. S. Vara Prasad, Former Director, ICAR-IIOR, present Project Manager, USDA-SPS Project, APAARI; Dr. C. Vasudevappa Vice Chancellor, National Institute of Food Technology Entrepreneurship and Management (NIFTEM); Dr. S. R Niranjana, Former Vice Chancellor, Gulbargha University; Dr. B. Venkateswarlu, Former Vice Chancellor, VNMKV and Former Director, ICAR- CRIDA; Dr. R. R. Hanchinal, Former Vice Chancellor, UAS- Dharwad and Former Chairman, PPVFR; Dr. N. S. Rathore, Former Deputy Director General of Education, ICAR and Former Vice Chancellor, MPUAT; Dr. M. Malakondaih, Former Director General of Police A. P, Advisor - VFSTR; Prof. P. Nagabhushan, Vice Chancellor, VFSTR; Dr. Lavu Rathaiah, Chancellor, VFSTR; Dr. Arvind Kumar Deputy Director General- ICRISAT. All the dignitaries had stepped forward to light the lamp. Dr. T. Ramesh Babu, Dean SAFT, VFSTR and Conference Chair enlightened about the purpose of the Global Conference on Climate Smart Agriculture – 2023.

Prof. P. Nagabhushan, Hon'ble Vice Chancellor, VFSTR, expressed delight at the significant expansion of the School of Agriculture and Food Technology (SAFT). He emphasized the conference's potential to greatly contribute to the field of agriculture. Prof. Nagabhushan noted that individuals from diverse departments, including Electronics, Mechanical engineering, and Computing, often have agricultural roots, with many having parents from an agricultural background. VFSTR stands out among private universities as the first to wholeheartedly implement the expectations of the National Educational Policy (NEP), focusing on continuous learning and assessment, as witnessed by the students. He commended SAFT for introducing the innovative minor course on Smart Farming. Prof. Naga Bhushan expressed his belief in the exceptional logical and analytical thinking abilities of budding Agriculture graduates, which he anticipated would become a reality within the next ten years.

Dr. T. Ramesh Babu, Dean of SAFT, welcomed the esteemed guests both present on the stage and off the stage with great warmth and enthusiasm. Further, Dr. Ramesh Babu assured all the conference participants that the three-day programme comprising of 12 keynote papers, 13 lead papers and 13 oral presentations, 20 poster presentations and two panel discussions one with stakeholders and the other with farmers would be productive and informative for everyone involved. Besides, Dr. Ramesh Babu made reference to the 6th Deans

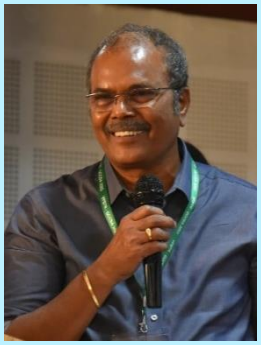
report of ICAR, highlighting the proposal for a B. Sc. (Hons) Agri. degree consisting of 160 credits, with an additional requirement of 20 online credits for Honors degree. Further, he also mentioned that a minor course called Smart Farming (Future of Agriculture) has been introduced at VFSTR, comprising five courses worth 20 credits in total. These courses include Basics of crop production and precision farming, Hitech Horticulture, Agri-Business Management, Soilless Farming, and Digital Agriculture. Furthermore, he appealed to the ICAR stall bodies in attendance to consider incorporating the provision of minor course concept in place of online course whereas in the 6th Dean's committee, as it would greatly benefit the students and potentially enhance their employability or foster entrepreneurial ventures.

Cmde. Dr. M.S. Raghunathan, Registrar, VFSTR expressed his gratitude to all the delegates and dignitaries who had made the effort to attend the conference. Dr. M.S. Raghunathan, acknowledged the remarkable achievements of VFSTR in the fields of academics, research, and training, despite being established only 14 years ago. Further, Dr. M.S. Raghunathan highlighted that nearly 12,000 students have successfully graduated from VFSTR as of 2022. Additionally, he mentioned that the university has undergone two cycles of NAAC accreditation, resulting in an upgrade from grade A to grade A^{+}. Furthermore, he emphasized that the agriculture degree offered by VFSTR has not only attracted students from nearby areas but also from other regions of Andhra Pradesh. Moreover, he drew attention to the fact that out of the total 82.86 acres of VFSTR's campus, a significant 40-acre portion has been specifically allocated for the Department of Agricultural and Horticultural Sciences (AHS), underscoring its importance.

Dr. B. Sarath Babu, President, PPAI commended the university for its impressive growth and development within a relatively short span of 14 years. Dr. Sarath Babu expressed admiration for the department of AHS for its proactive approach in integrating three technology courses, namely Python Programming, Machine Learning, and Statistical Methods with Data Visualization. In addition to that Dr. Sarath Babu emphasized that the inclusion of these technology courses would provide students with valuable skills, making them more desirable to technology companies and industries.

Mr. Manoj Dabas, Deputy Chief of Party, TOFI: CIFOR-ICRAF emphasized that the true Smartness of agriculture lies in the intelligence and adaptability of farmers themselves. Additionally, Mr. Manoj expressed that merely implementing technology alone is insufficient to make agriculture Smart; it requires farmers who are knowledgeable and willing to embrace technological advancements. Further Mr. Manoj compared the battle between the sea and the land as a metaphor for the ongoing challenges faced between nature and mankind. Also, he highlighted that the current forest cover in India stands at 21%. Moreover, Mr. Manoj mentioned that to enhance the resilience of agriculture,

a Smart approach of reintegrating trees into agricultural practices is necessary. Furthermore, Mr. Manoj added that strengthening the tree component of agriculture would ensure food security for the growing population and address the pressing needs of the nation.



Dr. K.S Varaprasad, Project Manager (USDA – SPS PROJECT) APAARI acknowledged the undeniable reality of climate change and stressed that those who are adaptive and intelligent will endure, while those who are not will face extinction. Further, Dr Varaprasad emphasized that being Smart is not a choice but a necessity in the face of climate change. Also, he specifically highlighted the profound impact of climate change on farmers, particularly small-scale farmers who make up 80% of the farming population in our country. Additionally Dr. Varaprasad expressed his hope for meaningful discussions that would empower farmers with the knowledge and skills needed to navigate these challenges and ensure their survival, as they currently find themselves on the precipice of disappearing. Furthermore, Dr. Varaprasad emphasized that it is our collective responsibility to empower and uplift farmers by equipping them with the necessary tools to adapt and thrive in the face of climate change.

Dr. C. Vasudevappa, the Vice Chancellor of NIFTEM, Haryana, highlighted that India has been fortunate to attain food security. However, he pointed out that there is a significant amount of food loss within the food supply chain management. He stressed that in order to achieve food security by 2050, it is crucial to prioritize the reduction of food wastage. Moreover, during his discussion, he emphasized the significance of consuming healthy food and encouraged students to cultivate entrepreneurial skills specifically in the domains of Agriculture and Food Technology.

Dr. S.R Niranjana, Former Vice Chancellor, Gulbarga University commended the university for selecting the topic of "Climate Smart Agriculture" as a forward-looking initiative. Further Dr. Niranjana highlighted the importance of researching and identifying the means and techniques necessary to meet future food demands by the year 2050. He acknowledged that significant efforts and work need to be devoted to this endeavor. Furthermore, he expressed appreciation for the Vice-Chancellor, Prof. P. Nagabhushan, for successfully implementing the choice-based credit system at Mysore University, making it a notable achievement.

Dr. B. Venkateswarlu, Former Vice Chancellor, VNMKV Parbhani and Former Director, ICAR-CRIDA emphasized that climate change is currently the most pressing issue, surpassing all others in importance. Further, Dr. Venkateswarlu noted that climate change affects all sectors, but the agricultural sector is particularly vulnerable. Adding to that Dr. Venkateswarlu mentioned just a week ago, the country was expecting a bountiful harvest of 110 million tons of wheat in the *Rabi* season, with everything progressing smoothly. However, unforeseen,

and untimely rains accompanied by hailstorms struck 5-6 states in North India, causing significant damage. He highlighted this event as an example of how climate change can disrupt and have profound consequences. Furthermore, he stressed the urgency of addressing climate change and the need for immediate action to mitigate its impacts, emphasizing the potential consequences, if necessary, measures are not taken.

Dr. R. R Hanchinal, Former Vice Chancellor, UAS, Dharwad, Former Chairman, PPVFR highlighted the potential for significant advancements by making agriculture Smarter, especially in response to current uncertainties. Besides, Dr Hanchinal cited impressive achievements in food production, with 328 million tons of food and 340 million tons of horticulture produced in the previous year. Further, he mentioned the success of various revolutions, including the green revolution, blue revolution, yellow revolution, and advancements in vegetable production. However, he cautioned that with every 2.5^0C increase in temperature, there is a corresponding reduction in yield, accompanied by the emergence of new diseases and pests. Furthermore, he pointed out the challenge of supporting 17 percent of the world's population with only 2.38 percent arable land, along with limited freshwater resources accounting for just 4 percent. Given these circumstances, he stressed the imperative to feed a population of 1.416 billion amidst unfavorable climate conditions, necessitating the generation of new innovations and proactive measures to address climate change.

Dr. N. S. Rathore, Former DDG (Edn.) ICAR and Former Vice Chancellor, MPUAT brought attention to the undeniable fact that climate change has already occurred, and he emphasized the urgency to take action. He introduced the acronym "SRIRAM," which stands for Scientific Research Intervention, Resilience Agriculture Adoption, Climate Change, and Mitigation Climate Change. Dr. Rathore explained that resilience agriculture refers to the capacity and ability of our agricultural system to effectively confront climate change challenges and respond promptly. Additionally, he highlighted the significance of mechanization and secondary agriculture. He emphasized that adoption entails taking proactive measures to ensure our ability to withstand the impacts of climate change and secure our survival in the face of these changing climatic conditions.

Dr. Lavu Rathaiah, Chancellor, VFSTR expressed his dissatisfaction with the current situation, noting that everyone involved in agriculture seems to be Happy except farmers themselves. Dr. Rathaiah highlighted the perspective that both the government and society tend to view agriculture solely as an economic issue, neglecting the social aspects that are often overlooked by the media. Further, he emphasized the importance of agriculturalists engaging in conversations with individuals from various parts of the world to learn how technology can be effectively adopted to simplify farmers' tasks. In conclusion he drew attention to the adverse effects of global warming on agriculture.

Also advised young aspiring agriculturalists to conduct research and discover new methods that enable crops to adapt to the extreme conditions caused by climate change.

The souvenir prepared for the conference containing Keynote Papers, Lead Papers, Strategic Papers and Accepted Papers (Oral and Poster Presentation) was released by the dignitaries present on the dais.

Dr. Arvind Kumar, Deputy Director General – Research, ICRISAT reminisced about an experience where he was assigned the responsibility of converting forest land into agricultural land for IRRI in the prime minister's constituency. Additionally, Dr. Aravind praised the chairman's visionary approach towards nurturing young entrepreneurs and agricultural scientists to sustain the vitality of agriculture. Furthermore, he stressed that we owe a responsibility to farmers to make agriculture less burdensome, more technology-friendly, and Smarter. Also, he reminded everyone not to forget that they chose this path to serve farmers and contribute to a larger cause.

Prof. P. Nagabhushan, Hon'ble Vice Chancellor, VFSTR in his presidential remarks noted that the university has introduced the opportunity for professionals to pursue a Ph.D. Further, Prof. P. Nagabhushan drew attention to the wastage of food in modern society, expressing his dissatisfaction with unnecessary excess consumption. Also, he emphasized that wasting cooked food is highly inappropriate. In addition to that he highlighted the significance of not only procuring food but also preserving it, underscoring its importance. Furthermore, he stressed the value of combining traditional knowledge with techno-scientific knowledge in the field of agriculture. Nonetheless, he recalled Lal Bahadur Shastri's slogan, "Jai Jawan Jai Kisan," which emphasized the vital roles played by both the soldier and the farmer in providing for our well-being and enjoyment. In conclusion he remarked that adversity serves as a catalyst for progress, and therefore, welcomed challenges as they enable us to become Smarter and more resilient.

Dr. N. Narayan Rao, HoD, Applied Engineering in his Vote of thanks conveyed his gratitude for having the opportunity to attend and participate in the opening ceremony alongside esteemed dignitaries. Further, he expressed his honor at the presence of distinguished guests and participants, recognizing their significance in inaugurating what are expected to be a meaningful and promising event. Also, he extended his

heartfelt appreciation to the guests for graciously sparing time from their busy schedule to be part of the conference. Additionally, he expressed sincere thanks to the organizing committee, volunteers, and staff for their dedicated efforts in arranging the conference. Furthermore, he expressed gratitude to the sponsors and partners whose support and collaboration have contributed to making the event even more vibrant and impactful.

Technical session I

Chairman : Dr. Arvind Kumar, Deputy Director General (Research), ICRISAT

Co-Chairman : Dr. K. S. Varaprasad, Former Director, ICAR-IIOR
Project Manager (USDA – SPS Project),APAARI, Bangkok

Dr. T. Ramesh Babu, Former Dean of Agriculture, ANGRAU
Dean, School of Agriculture and Food Technology, VFSTR

Rapporteurs : Dr. M. V. Hadole, Assistant Professor, VFSTR
Mr. Md. Rahaman Khan, Assistant Professor, VFSTR

During this session, three prominent keynote and invited papers took center stage and captivated the delegates.

1. Climate Resilience for Drylands

- Dr. Arvind Kumar

Dr. Arvind Kumar, Deputy Director General of Research at ICRISAT, delved into the intricacies of dryland agriculture and underscored the significance of embracing climate-resilient technologies to tackle the impending food crisis predicted for 2050. Advocating for a forward looking approach, he suggested favoring millet cultivation over conventional rice-wheat farming.

Dr. Aravind also emphasized the pivotal role of mechanization in mitigating the challenges posed by climate change in agriculture. In addition to this, he shed light on the importance of identifying millet market opportunities and adopting water budget-based cropping techniques to ensure sustainable agricultural practices. His insights shed valuable light on the path towards a resilient and prosperous future for agriculture in drylands.

2. Climate Smart Agriculture: Can India Cope with Climate Change Impacts?

- Dr. B. Venkateswarlu

Dr. B. Venkateswarlu, Former Vice Chancellor of VNMKV, Parbhani, and Former Director of ICAR-CRIDA, delved into the profound implications of climate change on agriculture in India. With eloquence, he elucidated the essence of climate change and its inherent year-to-year variations, bringing attention to anthropogenic warming and its far-reaching consequences on global temperatures, notably the escalation of night temperatures.

In his comprehensive presentation, Dr. Venkateswarlu expounded on the dual nature of climate change's impact on crops, encompassing both positive and negative aspects, while also elaborating on its significant economic ramifications. He passionately emphasized the imperative adoption of climate-resilient crop varieties, embracing diversified cropping patterns, prioritizing irrigation and soil management, advocating water harvesting techniques, and promoting agroforestry practices.

Moreover, Dr. Venkateswarlu stressed the urgency for sustained long-term research to effectively tackle the multifaceted challenges posed by climate change. His insights not only enriched the understanding of climate change's repercussions on agriculture but also underscored the pressing need for proactive measures to ensure a sustainable and secure future for Indian agriculture.

3. Making Agriculture Smart: Need to Integrate Trees with Cropping Patterns

-Mr. Manoj Dabas

Mr. Manoj Dabas, the Deputy Chief of Party at TOFI, CIFOR – ICRAF, underscored the pivotal role of trees in fostering intelligent agriculture. He passionately stressed the adverse effects of conventional energy generation processes on the environment and the alarming rate at which deforestation outpaces reforestation efforts.

Mr. Dabas shed light on India's substantial wood demand, leading to imports from less developed countries like Indonesia. He emphasized the pressing need for sustainable practices, particularly in agroforestry, as trees play a vital role in safeguarding the soil from erosion and contributing to agricultural prosperity.

The core message of his presentation centered around the significance of increasing forest cover for effective carbon sequestration and the mitigation of CO_2 emissions. Mr. Dabas passionately advocated for planting more trees to ensure the sustainable production of wood and foster a greener and healthier future for agriculture and the environment.

The chairman stressed the utmost importance of climate-Smart agriculture in the face of ongoing climate change impacts. The session's papers focused on several critical aspects, highlighting the need for proactive measures:

- Adapting Climate Resilience Technology: To meet the food requirements of the growing population, it is imperative to adopt climate-resilient technologies. The projected decrease in rice yield by 2050 necessitates urgent action to ensure food security.
- Enhancing Millet Market Demand in Drylands: In regions with drylands, identifying opportunities to boost the market demand for millets is crucial. Implementing water budget-based cropping patterns can contribute to sustainable agriculture in these areas.
- Dual Impact of Climate Change on Crops: Climate change has both positive and negative effects on crops, making it essential to understand and address these challenges for successful agricultural practices.
- Climate Change's Impact on India's Agriculture GDP: Predictions indicate that climate change will significantly impact India's Agriculture GDP, underscoring the urgency to develop adaptive strategies.
- Development of Drought-Tolerant Crop Varieties: The need for drought-tolerant crop varieties and the adoption of diversified cropping patterns is crucial to build resilience against climate-induced adversities.
- Importance of Increasing Vegetative Cover: Wood contains 50% carbon by weight, making it a significant resource in mitigating climate change effects. Increasing vegetative cover, particularly through forests, has the potential to sequester billions of tons of greenhouse gases, emphasizing its role in climate change mitigation.
- The Trees Outside Forests in India (TOFI) program is a collaborative effort of USAID and MoEFCC, Government of India. This five-year initiative, spearheaded by a consortium of eight partners led by CIFOR-ICRAF, is dedicated to increasing the expanse of trees outside forests to enhance both livelihoods and the environment.

These research findings and insights presented during the session underscore the necessity of urgent and coordinated efforts to implement climate-Smart practices and technologies to safeguard agriculture and the environment for future generations.

Technical Session II

Chairman : Dr C. Vasudevappa, Vice Chancellor, NIFTEM-Kundli

Co-Chairman: Dr D. Vijaya Ramu, Dean PCF, VFSTR

Rapporteurs : Dr. Syed Irshaan
Dr. Mrinmoy Roy

During this session, four distinguished keynote and invited papers presents valuable insights and research findings to the delegates.

1.Climate Smart Supply Chains (Food Supply Chain Perspective)

- Dr. C. Vasudevappa

Dr. Vasudevappa, Vice Chancellor, NIFTEM-Kundli underscored the paramount importance of the Agriculture, Animal Husbandry, and Aquatic sectors in fostering national growth and achieving food self-sufficiency. During his address, he shed light on the critical issue of food losses and waste in the supply chain.

Recognizing the challenges posed by population growth and climate change, Dr. Vasudevappa emphasized the necessity of Climate Smart Agriculture as a proactive approach to ensure food security and sustainability. The impacts of climate change on food production were discussed in depth, emphasizing the urgency for responsive strategies.

In pursuit of effective mitigation, the Vice Chancellor outlined various approaches, including assessing linkages across the supply chain, promoting sustainable agricultural practices, facilitating better access to finance, and developing robust postharvest infrastructure.

Moreover, the session highlighted the significance of Climate Resilient Supply Chains, integration of Information and Communication Technology (ICT), and the adoption of green supply chain practices as key enablers of increased productivity and sustainability in these sectors.

The comprehensive insights presented by the Vice Chancellor emphasized the imperative need for coordinated efforts and innovative solutions to address the challenges faced by agriculture, animal husbandry, and aquatic sectors, ensuring their vitality in fostering national growth and securing food self-sufficiency for the future.

2.Transforming Agrifood systems amid climate change

– Dr. Ravi Khetarpal, Executive Director, APAARI, Bangkok

Dr. K.S. Varaprasad, the Project Manager of USDA-SPS Project at APAARI Bangkok, delivered an insightful presentation that emphasized the interconnectedness between sustainable development goals and climate change. He drew attention to the critical 5F crisis (Food, Feed, Fuel, Fertilizer and Finance) that humanity faced during the COVID-19 pandemic, exposing weaknesses in agrifood systems.

During his talk, Dr. Varaprasad highlighted the mission and strategy of the Food and Agriculture Organization (FAO), aiming to achieve more efficient, inclusive, resilient, and sustainable agrifood systems for enhanced production.

Introducing (The Modelling System for Agricultural Impacts of Agriculture (MOSAICC), an interdisciplinary tool for climate change impact assessment, he underlined the pressing threat climate change poses to agriculture. To combat these challenges, he stressed the essentiality of integrating climate-Smart agriculture as part of the solution.

Furthermore, Dr. Varaprasad called upon the global community to take decisive action in reducing emissions and promoting sustainable practices to safeguard agricultural systems and ensure a more resilient and sustainable future. His presentation resonated with the audience, encouraging a collective commitment towards a more climate-resilient and sustainable world.

3. Transformation of Agri-Food System to Agroecology-based Natural Farming: A Sustainable Solution to Climate Change

- Dr. K. S. Varaprasad

During his presentation, Dr. K. S. Varaprasad, the Project Manager of USDA-SPS Project at APAARI, Bangkok, brought attention to the adverse effects of climate change on various aspects of the agricultural value chains, transportation, and livestock productivity.

Addressing the environmental impact of agriculture and livestock production, he emphasized the significant contribution of these sectors to greenhouse gas emissions and deforestation. To counteract these negative effects, Dr. Varaprasad advocated for the adoption of sustainable practices like Agro ecology and Natural Farming. These approaches, he highlighted, can not only enhance biodiversity and soil health but also facilitate carbon sequestration while concurrently reducing GHG emissions.

Furthermore, the presentation emphasized the importance of crop diversification and efficient water usage in sustainable agriculture. Dr. Varaprasad showcased the success of Zero Budget Natural Farming as a viable model for sustainable agriculture.

To further promote these sustainable approaches, the speaker urged increased investments in research and development focused on natural farming. By adopting these practices, agricultural systems can become more resilient to climate change while fostering ecological balance and sustainable food production.

In his address, Dr.P.S. Brahmanand, the Director of WTC, ICAR-IARI, New Delhi, underscored the critical challenges facing water and food security in India. He shed light on the impact of population growth, dwindling water resources, and the effects of climate change on these vital sectors.

To tackle these challenges, Dr. Brahmanand recommended the adoption of climate-resilient water management technologies developed by ICAR. He emphasized the significance of practicing Climate-Smart Agriculture and implementing resilient water management practices to ensure sustainable food production and water security.

A key focus of his presentation was on the concept of integrated water resource management. He highlighted the importance of utilizing innovative techniques to control drought and ensure the long-term sustainability of agriculture and water resources in India.

By embracing these strategies and technologies, India can work towards overcoming the hurdles posed by water and food security, fortifying its resilience to changing climatic conditions and securing a prosperous and sustainable future.

In his closing remarks, the chairman of the session emphasized the pressing need for the integration of Information and Communication Technology (ICT) in the climate-Smart supply chain management of agricultural produce. The papers presented during the session mainly focused on the following key aspects:

- Weaknesses Exposed by the COVID-19 Pandemic and 5F Crisis: The COVID-19 pandemic and the 5F crisis revealed vulnerabilities and low resilience in agrifood systems, calling for robust measures to address these challenges.

- MOSAICC as an Interdisciplinary Climate Change Impact Assessment Tool: The Modelling System for Agricultural Impacts of Climate Change (MOSAICC) was introduced as a country-driven, interdisciplinary tool for assessing climate change impacts at a national level.
- Climate Resilient Supply Chains: Key areas for Climate Resilient Supply Chains were explored, including increasing agricultural productivity and income sustainability, adapting small-holder farming systems, reducing greenhouse gas emissions, adopting regenerative agriculture, and implementing green supply chains.
- Agro ecology for Climate Change Mitigation: Sustainable approaches like Agro ecology were discussed, aiming to address the climate change crisis by enhancing biodiversity, soil health, ecosystem services, and promoting social equity and resilience.
- Natural Farming for Soil Health and Carbon Sequestration: Natural Farming, characterized by minimal or no tillage, was presented as a sustainable solution to reduce soil disturbance, increase soil organic matter, and enhance carbon sequestration, contributing to climate change mitigation by reducing greenhouse gas emissions.
- Benefits of Crop Diversification and Efficient Water Use: Crop diversification, intercropping, and crop rotation were identified as practices that enhance biodiversity, improve soil health, and reduce the risk of pests and diseases. Additionally, natural farming practices promote efficient water use through techniques like rainwater harvesting and water-saving technologies, which can significantly reduce water consumption compared to flood irrigation.
- Adoption of Innovative Water Management Techniques: The integration of innovative water management techniques into policies like the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was emphasized to enhance agricultural water efficiency and sustainability.

These insights presented during the session underline the importance of integrating sustainable practices and innovative technologies to address climate change challenges and ensure the resilience and sustainability of agricultural systems.


Climate Smart Agriculture


27th - 29th MARCH 2023
ICRISAT

Technical Session III

Chairman : Dr. N. S. Rathore, Former DDG (ICAR)
Former Vice Chancellor, MPUAT, Udaipur

Co-Chairman: Dr. K. P. Vidhu, Joint Director, NIPHM, Hyderabad
Dr. N. Narayan Rao, Asso. Professor and Head, AE, VFSTR

Rapporteurs : Ms. K. Sravya, Assistant Professor, AHS, VFSTR
Mr. G. Adithya, Assistant Professor, AE, VFSTR

In this session, three pivotal keynote and invited papers were delivered.

1. Mechanization and Post-Harvest Technology

- Dr. N. S. Rathore

Dr.N.S. Rathore, former Deputy Director General (Education), ICAR and former Vice Chancellor of MPUAT, Udaipur, set forth the significance of mechanization in Indian agriculture and its current progress. He underscored the importance of adopting optimal design criteria for precision farming machinery, addressing the concerns arising from improper machinery selection by farmers. Moreover, he explored the challenges associated with integrating artificial intelligence into agricultural mechanization.

Dr. Rathore also delved into a wide range of opportunities in secondary agriculture, with a particular focus on post-harvest activities and value addition. He emphasized the need for improved policies and the development of suitable machinery to enhance post-harvest operations in the agricultural sector. His insightful discourse provided valuable insights into the future of mechanized farming in India.

2. Assessment of Pesticide Spraying Awareness for Optimal Efficiency and Reduced Exposure Hazards

–Dr. K. P. Vidhu

Dr. K. P. Vidhu, Joint Director of NIPHM, Hyderabad, delved into the critical issue of environmental pollution caused by pesticides and chemicals. He shared the results of a comprehensive survey that encompassed irrigation methods, plant protection techniques, and behavioral patterns observed among farmers.

Dr. Vidhu emphasized the noteworthy disparities in the behavior and health of farmers who used protective gear while applying pesticides and fertilizers in contrast to those who did not. This highlighted the importance of adopting safety measures to protect farmers from potential harm.

Furthermore, he stressed the necessity of enhancing the understanding of chemical labels and promoting proper disposal of pesticide containers to prevent environmental contamination.

In conclusion, Dr. Vidhu advocated for a revision of policies that would limit pesticide spraying solely to licensed personnel. This approach aims to mitigate the adverse impact of pesticides on the environment and human health, ensuring a more sustainable and responsible agricultural ecosystem.

3. Innovation and Partnership for Climate-Smart Agriculture: Incubating Solutions for a Sustainable Future – Mr. Sandeep

During his talk, Mr. Sandeep, the CEO of TBI (Technology Business Incubator) at VFSTR, highlighted the presence of several noteworthy Agri-tech incubators in India, including

ICRISAT in Hyderabad, Villgro in Chennai, Vignan TBI, ANGRAU Poshan incubator, GRAMEENA incubation center in Visakhapatnam, and SVCET TBI in Chittoor.

He addressed the challenges faced by innovators in the agricultural technology sector, which encompassed limited resources, technical and market hurdles, a need for mentorship, funding constraints, and the importance of networking for growth and success.

Mr. Sandeep emphasized the pivotal role played by the government and its policies in supporting innovation and fostering partnerships for the advancement of climate-Smart agriculture.

In conclusion, he encouraged students to share their innovative ideas and concepts, urging them to seek support from relevant organizations and funding agencies available at VFSTR to further develop and bring their agricultural innovations to fruition.

The session's chairman expressed the view that the future of mechanization should be intertwined with artificial intelligence. Additionally, he underscored the significance of farmers selecting the appropriate machinery for specific purposes to make agriculture Smarter and more efficient.

The key points from this session are:

- Precise design criteria are essential in the development of machinery for Precision Farming to ensure optimal performance.
- Addressing the challenges that farmers encounter in selecting appropriate machinery for specific tasks is crucial for improving agricultural efficiency.
- Integrating artificial intelligence into mechanization presents both challenges and significant opportunities in India.
- Improving farmer's knowledge about reading chemical labels and identifying the chemicals they use is imperative and requires attention.
- Implementing proper disposal methods for pesticide containers is vital to address ecological and health concerns.
- VFSTR is committed to support and empower young entrepreneurs to pursue their startup aspirations by offering encouragement and assistance.



Day 2: 28th March 2023

Technical Session IV

Chairman : Dr. R.R Hanchinal, Former Vice Chancellor, UAS Dharwad
Former Chairman, PPVFR

Co-Chairman: Dr. B. Sarath Babu, Former Principal Scientist and Head,
ICAR-NBPGR, Regional Station,Hyderabad, President, PPAI
Dr. T.C Venkateswarlu, HOD, Biotechnology, VFSTR

Rapporteurs : Ms. V. Priyanka Raj, Assistant Professor, AHS, VFSTR
Dr. D. Lavanya, Assistant Professor, FT, VFSTR

A total of four keynote and invited papers were delivered during this session.

1. Enhancing agriculture productivity through climate Smart seed delivery systems

– R. R. Hanchinal

Dr. R.R Hanchinal, former Vice Chancellorof UAS, Dharwad, emphasized the significance of Climate-Smart Agriculture in combating world hunger through improved crop production. He delved into the evolution of the Indian seed industry and provided insights into the present status of seed production in both the public and private sectors. Dr. Hanchinal discussed how seed security directly impacts food, nutritional, and social security.

Furthermore, he shed light on the challenges posed by climate change and stressed the importance of adopting Smart cultivation practices to mitigate its effects. Dr. Hanchinal concluded by emphasizing the critical role of quality seeds in achieving a Second Green Revolution, highlighting their paramount importance in sustainable agricultural development.

2. Sustainable Agricultural Production through Soil Health Management and Robust Varieties in the wake of Climate Change

- Dr. A. Satyanarayana

Dr. A. Satyanarayana, Former Director of Extension at ANGRAU and Executive Director of Sangam Seeds, emphasized the fundamental importance of healthy soils in cultivating nutritious crops, leading to the overall well-being of individuals and the nation.

He discussed the concept of eco-agriculture and elucidated the crucial role of humus in maintaining soil health. Dr. Satyanarayana also highlighted the significance of green revolution technology in agricultural practices.

Moreover, he shed light on the benefits of using potassium humate and the role of microorganisms in promoting soil fertility. Additionally, he explored the intricate relationship between phyto hormones and plant parasites.

Dr. Satyanarayana concluded by underscoring the pivotal role of soil fertility in producing healthy crops and enhancing national health through innovative agricultural practices. He emphasized the need for development of climate resilient varieties with enhanced resilience to changing climate. He also addressed the impacts of climate change on food production systems and the various actors in the food supply chain.

Dr. B. Sarat Babu, Former Principal Scientist and Head at ICAR-NBPGR, Regional Station, Hyderabad, focused on policy and legal frameworks concerning plant genetics conservation. He covered several crucial topics, including the PGR (Plant Genetic Resources) policy, the protection of plant varieties, and biodiversity conservation.

Dr. Babu delved into the impact of climate change on plant genetic resources and stressed the significance of their sustainable use and development. He highlighted the crucial role played by the Indian plant genetic resource management system in acquiring, evaluating, conserving, and utilizing germplasm.

In conclusion, Dr. Babu emphasized the paramount importance of leveraging plant genetic resources to enhance cultivars, leading to increased productivity and addressing the nation's challenges related to hunger and food security. His presentation shed light on the importance of sound policy and legal measures for preserving and utilizing plant genetics for the benefit of society and agriculture.

3. Genetically Modified Technology for Nutrition and Food Security

–Dr. S. R. Niranjana

Dr. S.R. Niranjana, Former Vice Chancellor of Gulbarga University and current Professor and Chairman of the Department of Biotechnology at the University of Mysore, underscored the urgency of modernizing agriculture to meet the increasing food demands of the growing population.

Dr. Niranjana extensively discussed the pivotal role of genetic modification in improving crop production. He addressed the challenges posed by climate change and soil health while emphasizing the benefits of biotechnology in enhancing food security.

Throughout his presentation, Dr. Niranjana provided examples of genetically modified (GM) foods to showcase the potential of this technology in agriculture. He concluded by emphasizing the careful adoption of GM technology, which has the capacity to significantly increase crop production while promoting eco-friendly farming practices. His insights shed light on the potential of biotechnology in shaping a sustainable and food-secure future for the nation.

The session's chairman expressed appreciation for the significance of seeds as the primary agricultural input and stressed the need for research and development to prioritize climate-resilient crop varieties.

The salient points outing the deliberations from this session are:

- Climate change challenges and Smart cultivation practices: The impact of climate change, including rising temperatures, pests, diseases, water scarcity, and desertification, was discussed. The session emphasized the importance of using climate-resilient crop varieties like Navara rice, Borah rice, and salt-tolerant wheat to manage these challenges.
- The significance of quality seeds for the Second Green Revolution: The success of the Second Green Revolution was highlighted, emphasizing the critical role played by the availability of high-quality seeds.
- Soil health and its connection to healthy crops and food: The session emphasized the integral link between healthy soils, healthy crops, nutritious food, and the overall well-being of the people and the nation.
- Climate Smart Agriculture and its benefits: Climate Smart Agriculture was presented as a solution for sustainable productivity growth, income increase, adaptation, resilience building, and reduced greenhouse gas emissions. It was discussed how this

approach integrates global supply chains, sustainable production systems, technological innovations, and diverse consumer bases.

- Sustainable use of plant genetic resources: The impact of climate change on plant genetic resources and the significance of their sustainable use and development in addressing climate change challenges were discussed. Both conscious and unconscious selection methods for crop protection were explored.
- Conservation methods for genetic resources: The session covered ex-situ conservation methods such as in-vitro techniques, pollen collection, tissue culture, and DNA preservation, along with in-situ conservation methods that involve preserving natural habitats, ecosystems, and bio resource heritage sites.
- Biotechnology and its contributions to food security: The challenges posed by climate change and soil-borne pathogens in agriculture, particularly in irrigation-dependent food production, were addressed. The role of biotechnology, exemplified by BT cotton production in India, in enhancing food security, increasing crop productivity, reducing insecticide use, and promoting poverty alleviation and income growth was discussed.
- Genetically modified (GM) foods and their production: The session explored the production of genetically modified (GM) foods using genetic engineering technology. Examples such as BT brinjal, corn, golden rice, tomato, and herbicide-resistant BT cotton were highlighted as prominent instances of GM food production.

Technical Session V

Chairman : Dr. K.P. C Rao, Honorary Fellow, ICRISAT
Co-Chairman: Dr. P.S. Rao, Professor and Head, Agri-Food, IIT Kharagpur
Dr. R. Srikanth, Head, Innovation Hub (iHub)
Senior Scientist (Digital Agriculture), ICRISAT
Rapporteurs : Mr. Narendra Kumar, Assistant Professor, FT, VFSTR
Dr. V. Dinesh Rahul, Assistant Professor, AHS, VFSTR

A total of three keynote and invited papers were delivered during this session.

1. Climate Information Services for Climate-Smart Agriculture

-Dr. K.P.C. Rao

Dr. K.P.C. Rao,Honorary Fellow at ICRISAT, strongly advocated the utilization of the Intelligent Systems Advisory Tool (ISAT) as a comprehensive solution for accessing, analyzing, generating, and disseminating contextualized advisories from multiple sources. This tool empowers users in the agricultural sector to make well-informed decisions while planning and managing their agricultural systems.

Dr. Rao highlighted that ISAT integrates a wealth of information, including historical climate data analysis, climate impacts on crop production, short, medium, and long-range climate and weather forecasts, and locally relevant production technologies. By utilizing this extensive data, the tool is capable of generating location-specific advisories with actionable information tailored to the needs of farmers.

Pilot studies conducted in India, Kenya, and Zambia have demonstrated the efficacy of ISAT. The tool proved invaluable to farmers, enabling them to make timely and appropriate decisions, manage their farms profitably, and reduce risks effectively. ISAT stands as a promising advancement in agricultural technology, empowering farmers to adapt and thrive amidst changing climate conditions

2. Climate Smart Agriculture in Asia: Prospects and Perspectives

– Dr. Ancha Srinivasan (Online Presentation)

Dr. Ancha Srinivasan, Principal Climate Change Specialist and Climate Change Focal Point for Southeast Asia at the Asia Development Bank, delivered a comprehensive talk on Climate Smart Agriculture in Asia and its future prospects.

Dr. Srinivasan addressed the pressing challenges to food security in Asia and globally, particularly the need to increase food grain production by 2050 while taking into account the impacts of climate change. He underscored the importance of adopting climate-resilient Smart agricultural practices, advanced technologies, and efficient water and greenhouse emission management.

Moreover, he highlighted the significance of promoting the adaptation of good manufacturing practices (GMP) in agribusiness to enhance overall productivity and sustainability.

Dr. Srinivasan also discussed the adverse effects of climate change on food prices, water scarcity, food safety, and productivity. Recognizing these challenges, he emphasized the importance of implementing game-changing policies and greenhouse technologies to foster climate-responsive agriculture production.

In conclusion, Dr. Srinivasan stressed the urgent need to prioritize climate-responsive agriculture production technologies and sustainable practices in India to ensure food security

and safeguard the environment. His insights shed light on the crucial role of Climate-Smart Agriculture in addressing the complex challenges facing the agricultural sector in Asia and beyond.

Dr. R. Srikanth, Head of Innovation Hub (iHub) and Senior Scientist at ICRISAT, delved into the integration of agriculture into digital platforms, focusing on three essential pillars: ideate, mitigate, and impact.

Dr. Srikanth highlighted the pivotal role played by digital platforms in agriculture, particularly during the challenging times of the COVID-19 pandemic. He emphasized the transformative impact of using Artificial Intelligence (AI) in various aspects of farming, such as crop monitoring, pest control, remote sensing, drones, and the Internet of Things (IoT), to benefit farmers.

The presentation included a classification of digital agriculture and discussed the challenges encountered while implementing Artificial Intelligence (AI) in agricultural practices. Dr. Srikanth emphasized the importance of various entities, such as Farmer Producer Organizations (FPOs), Self-Help Groups (SHGs), and agribusinesses, in facilitating the adoption of digital agriculture.

In conclusion, Dr. Srikanth underscored the urgent need to embrace digital tools to effectively address the threats posed by climate change to agriculture and food security. His insights shed light on the potential of digital integration in agriculture and its capacity to enhance sustainability, productivity, and resilience in farming practices.

The Chairman of the session extensively discussed the economic impact of climate change on agriculture in developing nations. He underscored the urgency of leveraging technology to create improved market and advisory systems to address the challenges posed by climate change in the agricultural sector.

The actionable points out of this session are:

- Adoption of climate-resilient Smart agriculture: The session emphasized the importance of farmers embracing advanced technologies, efficient water management techniques, and greenhouse gas emission management strategies developed by ICAR to ensure climate-resilient and sustainable agriculture.
- Promotion of Good Manufacturing Practices (GMP) in agribusiness: Promoting GMP to reduce carbon emissions, meet sanitary and phytosanitary requirements, and utilize agro-climatic conditions. It also emphasized the introduction of climate-resilient crop varieties and the implementation of essential policies.
- Game-changing policies for productivity and climate change mitigation: The session stressed the necessity of implementing impactful policies that enhance agricultural productivity and effectively address the challenges posed by climate change, including the adoption of efficient greenhouse technology.
- Utilizing AI in agriculture: Prioritizing the application of Artificial Intelligence (AI) in various aspects of farming, including crop monitoring, pest control, weather forecasting, drones, irrigation, satellite data analysis, and providing information to farmers.

- Addressing challenges and case studies: The session covered the challenges faced by AI in agriculture and showcased case studies of innovative technologies. It also focused on the efficient handling of agricultural goods among stakeholders in Farmer Producer Organizations (FPOs), Self-Help Groups (SHGs), and Agribusinesses.
- FPO digital implementation: The session shed light on how the digital implementation of Farmer Producer Organizations (FPOs) has piqued farmers' interest in agricultural production, highlighting the potential benefits of technology in transforming farming practices.

Technical session VI

Chairman : Dr. R.K. Mathur, Director, ICAR-IIOR
Co-Chairman: Dr. M. Sheshu Madhav, Director, ICAR-CTRI
Rapporteurs : Ms. N. Kavya, Assistant Professor, AHS, VFSTR
Ms. M. Kalyani, Assistant Professor, AHS, VFSTR

A total of three invited papers were presented during this session.

1. Climate Resilient Oil Seed Crops: Approaches, Technologies and Future Prospects

-Dr. R. K. Mathur

In his presentation, Dr. R. K. Mathur, Director of ICAR-Indian Institute of Oilseeds Research, discussed the reasons behind low oilseed productivity, including a significant portion of rainfed cultivation and cultivation on marginal and sub marginal lands. He emphasized the urgent need to change seed varieties and improve farmer-state linkages to achieve better seed replacement rates.

Dr. Mathur also highlighted the importance of climate-resistant technologies, particularly for soybean, gram, and oilseeds, to address the challenges posed by climate change. He discussed how climate change can lead to yield reductions and price increases and emphasized the need to tackle issues like rising import bills, shrinking land availability, and emerging pests in the oilseed sector.

Furthermore, Dr. Mathur emphasized the utilization of plant genetic resources and provided insights into the status of oilseed germplasm collections and traits for pyramiding in various oil crops.

The presentation explored various strategies for Smart agriculture aimed at enhancing oil production. These strategies included harnessing root architecture, drought screening, improved agronomic practices, and the utilization of nano-micronutrients. By adopting these innovative approaches, the oilseed sector can improve productivity and contribute to meeting the growing demand for edible oils sustainably.

2.Climate Smart Interventions for Sustainable Tobacco Production

-Dr. M. Seshu Madav

Dr. Seshu Madav, Director of ICAR-Central Tobacco Research Institute (CTRI), presented on the current scenario of tobacco production, with a focus on the cultivation of FCV (Flue-Cured Virginia) type tobacco in Guntur, covering an extensive area of 1.4 lakh hectares in India.

Dr. Madav emphasized the importance of specific soil conditions, such as sandy loam, and well-distributed rainfall for successful tobacco cultivation. He also discussed the impact of high temperatures on the quality and production of tobacco.

To address the challenges posed by climate change, Dr. Madav outlined various climate-resistant interventions, including the use of climate-tolerant tobacco varieties, improved agronomic practices, rainwater harvesting, dense planting, and moisture conservation techniques. He also highlighted the adjustment of fertilizer doses and the incorporation of labor-saving technologies.

Notably, these interventions have led to significant achievements, including increased production and a doubling of farmer income.

Furthermore, Dr. Madav shared CTRI's initiatives for climate-Smart villages, demonstrating their commitment for promoting sustainable agricultural practices. Additionally, the institute plans to expand its mandate to include the cultivation of additional crops like chilli, turmeric, and castor, further contributing to the region's agricultural diversification and climate resilience efforts.

3. Millets Processing and Value Addition: An Alternative Way to Meet Climate Smart Agriculture for Transforming Food Security to Nutritional Security

-Dr. P.S. Rao

Dr. P.S. Rao, Professor and Head of Agri-Food at IIT Kharagpur, focused on millet processing and value addition, shedding light on the nutritional benefits of these grains and the challenges posed by low market prices.

Dr. Rao highlighted the numerous health benefits of millets, which are rich in proteins, antioxidants, and vitamins, and their suitability as gluten-free food options. Despite these advantages, he addressed the lack of farmer interest in millet cultivation and identified challenges in millet processing, including anti-nutritional factors, short shelf life, and inadequate processing techniques.

To address these challenges, Dr. Rao discussed machinery-based processing methods and their potential in improving millet storage stability, utilization, and the production of various millet-based products, such as snacks, bakery items, and beverages.

In conclusion, Dr. Rao emphasized the necessity for technological advancements and solutions to promote millet production. He encouraged the inclusion of millet meals in daily diets to not only improve nutrition but also to create a market demand that benefits farmers and promotes the sustainable cultivation of these highly nutritious grains.

In the session, the chairman highlighted the importance of millets in the context of climate change. He emphasized how millets can serve as climate-resilient crops, well-suited to withstand the challenges posed by changing climatic conditions.

Furthermore, the chairman mentioned the concerning trend of decreased crop yields in different oilseed crops attributed to the impact of climate change. This underscores the urgent need for developing and adopting climate-resilient varieties to ensure sustainable oilseed production.

- Increasing variety seed replacement rates: It is crucial to enhance variety seed replacement rates each year to establish better linkages between farmers and research stations. This would lead to the adoption of improved and climate-resilient crop varieties.
- Impact of reduced oilseed cultivation: The increased import of oil is a consequence of the shrinking land area dedicated to oilseed cultivation, influenced by climate change, and the adoption of dryland farming practices for oilseeds.
- Adjusting fertilizer doses: To mitigate fertilizer losses caused by leaching, adjustments in fertilizer doses are essential to ensure effective nutrient utilization and reduce environmental impact.
- Need for climate-resilient FCV tobacco varieties: In the face of changing climate conditions, there is a demand for Flue-Cured Virginia (FCV) tobacco varieties with

traits like shorter duration and uniform maturity. Ensuring a consistent supply of such seeds to farmers is crucial.

- Climate-Smart villages: CTRI has taken the initiative to adapt five villages under the Prime Minister Kaushal Vikas Yojana (PMKVY) to make them climate-Smart, demonstrating efforts to promote sustainable practices and resilience in agriculture.
- Concentrating on millet processing: To encourage millet cultivation among farmers, there is a need to concentrate on millet processing. This would create value addition and promote the adoption of these climate-resilient crops.

Technical session VII

Chairman : Dr. Alapati Satyanarayana, Former Director of Extension, ANGRAU
Executive Director, Sangam Seeds

Co-Chairman : Dr. Y. Ashoka Rani, Former Professor & Head,
Dept. of Crop Physiology, Agricultural College, Bapatla, ANGRAU

Rapporteurs: Dr. S. Ayyanna, Assistant Professor, AE, VFSTR.
Mrs. K. Himabindu, Assistant Professor, AHS, VFSTR.

During this session, six oral presentations were delivered, and the key points that emerged from these presentations were as follows:

- Formulation and Development of efficient technologies for better resource conservation.
- Assessment and quantification of major cropping systems for green gas emission and to contain potential emitting forces (E.g., Methane, NO and CO_2).
- Exploring the potential of biochar in rice cropping systems to enhance the soil physico-chemical properties and better crop productivity.
- To establish the prominent rice-wheat system as carbon negative to reduce the environment footprint of agriculture.

Technical session VIII

Chairman : Dr. S.R. Niranjana, Former Vice Chancellor of Gulbarga University

Co-Chairman : Dr. B. Sarath Babu, Former Principal Scientist and Head,
ICAR-NBPGR, Regional Station, Hyderabad, President, PPAI

Rapporteurs : Ms. N. Venkata Vyshnavi, Assistant Professor, AHS, VFSTR
Ms. Ananya, Assistant Professor, FT, VFSTR

Six oral presentations were presented in this session. The points emerged from their presentations were.

- There is a need for development of more eco-friendly cost-effective sprayers and make them available for farmers.
- Robotics application in the field of agriculture to fulfill different on farm practices reduce the efforts of farmers making agriculture more efficient.
- Screening of varieties tolerant to different biotic and abiotic stresses to develop varieties tolerant to changing climate is needed.

Day 3: 29th March 2023

Technical session IX

Chairman : Dr. M. K. Naik, Director of Extension, UAS, Raichur
Former Vice Chancellor, UAHS, Shivmogga

Co-Chairman : Dr.T.V. Satyanarayana, Former Dean (Agril. Engineering) and Registrar, ANGRAU. Registrar, MNR Educational Trust

Rapporteurs : Dr. T. Prabhakar Rao, Assistant Professor, AE, VFSTR
Ms. P. Amrutha Varshini, Assistant Professor, AHS, VFSTR

During this session, three keynote and invited papers were delivered.

1. Aflatoxin Contamination of Food Commodities and its Sustainable Management: A Global Concern

- Dr. M. K. Naik

Dr. M. K. Naik, Director of Extension, UAS, Raichur Former Vice Chancellor, UAHS, Shivamogga, presented on several key topics. He discussed the 5-yearprojections for the Agricultural GDP growth rate taking into account the changing agricultural landscape. Additionally, he emphasized the importance of food security, focusing on the aspects of healthy, safe, high-quality and sufficient food.

Moreover, Dr. Naik shed light on the impact of mycotoxins on both humans and animals, and he explored cost-effective techniques for detecting these mycotoxins in maize, chilli and groundnut. In closing remarks, he stressed that while complete eradication of plant diseases might not be feasible, they can be effectively managed through the adoption of Good Agricultural Management Practices.

2. Systems Approach and Investment Planning to Mainstream Climate Smart Agriculture under Drylands

- Dr. Shalander Kumar

Dr. Shalander Kumar, Deputy Global Research Program Director for Enabling Systems Transformation at ICRISAT, emphasized the significance of institutional interventions at the village level, necessitating the adoption of cutting-edge technologies. He discussed the importance of whole farm modeling, which assesses sustainability from the farm to the landscape and value chain, enabling precise identification of requirements, action planning, and development strategies.

Dr. Kumar also shed light on the concept of contingent crop planning, utilizing weather-Smart technology to optimize agricultural practices based on weather conditions. Furthermore, he underscored the vital role of district-level day-to-day action plans in promoting climate-Smart agriculture among farmers, ensuring effective climate change adaptation and mitigation strategies.

3. Agricultural Drainage for Improving Soil Health

-Dr. T. V. Satyanarayana

Dr. T. V. Satyanarayana, Former Dean (Agril. Engineering) and Registrar, ANGRAU, Present: Registrar i/c, MNR Educational Trust presented statistical data on twin challenges of water logging and salinity in India and specifically in Andhra Pradesh. He highlighted the

significance of proper drainage systems in farmlands to address these issues and maximize water productivity.

Furthermore, Dr. Satyanarayana discussed the classification of saline soils based on their electrical conductivity (EC), pH, and exchangeable sodium percentage (ESP) values, providing insights into their characteristics and management strategies.
In conclusion, he emphasized the need for technological interventions to identify lands affected by drainage problems and transform them into cultivable farmlands, ensuring sustainable agriculture practices and effective land utilization.

The session chairman expressed the opinion that food security can only be achieved through the implementation of sustainable and effective management practices. The papers presented in this session primarily focused on:

- Aflatoxins present in grains and fruits lead to seed decay and cause damage to both human and livestock health.
- The application of whole farm modeling using a systems approach promotes sustainability and integrated agro-system strategies for developing climate-Smart action plans at the village level.
- The adoption of climate-Smart agriculture technologies over traditional farming methods has reduced the yield risk in drought-affected regions of Telangana
- Unfortunately, drainage has not received as much attention as irrigation from both individuals and governmental agencies.
- Surface drainage, subsurface drainage, or a combination of both have been proven to be the most effective and viable solution to the twin problems of waterlogging and salinity.

Panel Discussion I

Strategic Approaches towards Developing Climate Smart Landscapes and Food Systems

Chairman : Dr. Shalander Kumar, Deputy Global Research Program Director,Enabling Systems Transformation, ICRISAT

Moderator : Dr. T. Ramesh Babu, Dean, SAFT, VFSTR

Panelists : 1) Dr. Alapati Satyanarayana, Executive Director, Sangam Seeds
2) Sri Kakamunu Sambasiva Rao, Vice President, NRI Seeds, Guntur
3) Sri A. Venkata Ram, General Manager, NRI Seeds, Guntur
4) Sri N.V. Krishna, Executive Director, Dasarad Prasad Fertilizers Pvt. Ltd.
5) Dr. KPC Rao,
6) Dr. Y. Vara Prasad

Rapporteurs: 1) Dr. A. Aruna Kumari, Assistant Professor, AHS, VFSTR
2) Ms. Madhuri, Assistant Professor, FT, VFSTR

The panel discussion ChairmanDr. Shalander Kumar shared insights on climate-Smart landscapes and food systems, emphasizing three crucial aspects: enhanced food safety, climate-resilient agriculture with reduced emissions, and the promotion of agribusiness to support climate-Smart food systems. He highlighted the importance of aligning crop and farming systems with natural resources. Socio-economic conditions and market demands.

The discussion commenced with the chairman's valuable remarks, encouraging active participation from all panelists, including farmers, industrialists, and scientists. Throughout the discussion, various recommendations were made, and the following were agreed upon:

- The once successful genotypes of the 90s are now facing new diseases due to the deterioration of soil health and changing climate. Consequently, there is a pressing need to develop climate-resilient crop varieties and implement sustainable agricultural practices.
- By focusing on reduced emissions and promoting social forestry, the agriculture sector can play a significant role in mitigating global warming.
- It is essential to distinguish between increased productivity and optimized productivity, encouraging farmers to adopt resource-efficient practices for better outcomes.
- An evaluation of current land use practices is imperative to identify areas for improvement, fostering the development of a climate-Smart landscape.

To achieve a climate-Smart landscape, it is crucial to adopt practices that enhance soil health, conserve water, reduce greenhouse gas emissions, and protect biodiversity.

- Building such a landscape necessitates collaboration among various stakeholders, including farmers, local governments, and civil society.
- Engaging stakeholders actively can help identify local priorities, devise effective strategies, and garner support for implementation.

- Increased awareness and availability of customized fertilizers can promote both intensification and sustainability in agriculture.
- Developing location-specific customized fertilizers based on soil testing is essential to meet the unique needs of different regions.
- Encouraging optimized fertilizer usage, alongside post-emergent herbicide application, enhances fertilizer use efficiency.
- Bridging the gap between stakeholders and agricultural experts can be achieved through efforts to improve farmers' literacy rates and facilitating regular farmer-expert meetings.

During the closing statements, the panelists emphasized the importance of identifying key climate-related challenges specific to the local context. They highlighted that climate change can present itself in various ways, such as temperature variations, alterations in rainfall patterns, and occurrences of extreme weather events, all of which can vary from region to region.

Assess current land use practices: The task involves assessing and evaluating current land use practices, aiming to identify areas that require improvement. This evaluation process will play a pivotal role in developing a climate-Smart landscape that fosters sustainable and environmentally conscious practices.

Engage stakeholders: Effective engagement with stakeholders is crucial for constructing a climate-Smart landscape and food system. This collaboration should involve farmers, local governments, and civil society, ensuring collective support and commitment towards sustainable and climate-resilient practices.

Incorporate agro ecological principles: By incorporating agro ecological principles, food systems can be transformed into sustainable and resilient systems that effectively combat climate change, foster biodiversity, and provide equitable livelihoods.

Adopt innovative technologies: Embracing innovative technologies is essential for constructing climate-Smart landscapes and food systems. These technological advancements hold significant potential in addressing environmental challenges and promoting sustainable agricultural practices.

Promote policies that support climate-Smart practices: Encouraging policies that endorse climate-Smart practices can play a pivotal role in incentivizing and supporting their widespread adoption. Government initiatives and regulations can create a conducive environment for sustainable agriculture and contribute to climate change mitigation efforts.

This entails promoting policies that advocate for sustainable agriculture, renewable energy utilization, and effective management of natural resources. Such policies are vital in fostering environmentally conscious practices and enhancing resilience to climate change impacts.

Monitor and evaluate progress: Regular monitoring and evaluation are essential for gauging the progress of implemented strategies and ensuring their efficacy in adapting to evolving conditions. This iterative process enables timely adjustments and improvements to enhance the overall effectiveness of climate-Smart initiatives.


Dr. P.M. V. Rao


27th – 29th March 2023
VIGNAN
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Panel Discussion II

Farmers level Strategies for promoting Climate Smart Agriculture

Chairman : Dr. Y. Venkateswara Rao, Chairman Rythu Nestham

Co-Chairman: 1) Mr. N. Parthasaradhi, Tech turned Farmer, Ananthapur
2) Dr. M. Mohan Reddy, Progressive Farmer, Chittoor

Panelists : 1) Sri M.C.V. Prasad, Tirupati
2) Sri Sri Hari, Narakoduru
3) Sri Sai Poornachand, Tenali
4) Sri O. Raghavaiah, Vejandla
5) Sri Jonna Sambasiva Rao, Sekuru
6) Sri Mattupalli Pothuraju, Suddapalli
7) Sri Umamaheshswara Rao, Vadlamudi
8) Sri Ankamma Reddy, Penumaka
9) Sri Devarapalli Satish babu, Selapadu

Rapporteurs: Ms. K. Sravya, Assistant Professor, AHS, VFSTR
Dr. Y. Varaprasad, Assistant Director, AHS, VFSTR

The panel discussion Chairman addressed the concerning state of the balance of nature. citing the escalating global climate warming, increased earth temperatures, and decreased rainfall as a result, suffering from the adverse impacts of droughts, floods, and crop losses, leaving farmers despondent and discouraged from continuing agriculture. The Chairman expressed concern about the implications of such circumstances on the country's future and progress.

The panel discussion commenced with the Chairman's insightful remarks, which spurred active participation from all panelists, including farmers, industrialists and scientists and arrived at the following recommendations:

- Farmers continuously face yield losses in crops due to natural calamities like cyclones, floods, and climate aberrations such as uneven rainfall patterns and temperature fluctuations. Additionally, pest and disease epidemics further exacerbate the challenges.
- Climate change has a detrimental impact on the economic growth of farmers, leading to a loss of interest in farming and a rise in suicides and suicidal attempts due to the exponential risk factor associated with climate vagaries.
- The increase in temperature has led to a reduction of 12.8 percent in crop production. While decreasing rainfall has resulted in a decline in groundwater resources. Storage facilities need improvement to ensure better crop preservation.
- The current crop insurance provided by the government to farmers under natural calamities is inadequate. It is crucial to enhance the scale of compensation to alleviate the financial losses incurred by farmers.
- To achieve sustainable agriculture and economic well-being for farmers, the extension systems under ICAR, KVKs, State Agricultural Universities, and NGOs should actively guide farmers towards organic and integrated farming approaches.

- The Minimum Support Price (MSP) for location-specific crops should be increased. Considering the variations in climate from one location to another.
- Incorporating millet crops into existing cropping patterns can improve the quality of food systems and reduce farmers' risks, as millet crops require low inputs and have a short duration.
- Emphasizing organic farming with a focus on livestock can enhance soil and crop health, ensuring sustainable agricultural practices
- Farmers should plan for value addition through their crops to attain higher incomes and increase the overall progress of villages.
- The wages of agriculture workers in farming are affected by MSP prices in the market highlighting the need for fair pricing policies
- Management practices in crops should consider climate variations and be planned accordingly to mitigate climate risks.
- Mechanization in agriculture should be prioritized to address labor scarcity and improve efficiency.
- Human resources should be actively involved in agriculture to ensure sustainability and prosperity.
- Farm ponds should be developed on each farmer's field or through community approaches to enhance water management and irrigation.
- Research should focus on minor millets to encourage farmers to grow them with confidence.
- Farmers should carefully consider all aspects, from seed cost to market demand, when selecting crops for cultivation.

Valedictory session

Chairman: Dr. M.K. Naik, Director of Extension, UAS, Raichur and Former Vice Chancellor, UAHS, Shivamogga

Distinguished guest: Prof. P. Nagabhushan, Hon'ble Vice Chancellor, VFSTR

Co-Chairman: Dr. T. Ramesh Babu, Former Dean of Agriculture, ANGRAU & Dean School of Agriculture and Food Technology, VFSTR
Dr. N. Narayan Rao, Associate Professor and Head Applied Engineering, VFSTR

Dr. M. K. Naik, the Chairman of the Valedictory Session, commenced the proceedings by inviting the rapporteurs of the 11 technical sessions to present the highlights of the discussions held during the three days of the GCCSA from March 27th to 29th. He congratulated all the rapporteurs for their excellent compilation of the technical sessions. Dr. Naik then requested Dr. Y. Ashoka Rani, a member of the Board of Studies at AHS, VFSTR, to provide her feedback on the program.

In her feedback, Dr. Ashoka Rani praised Dr. T. Ramesh Babu, the Conference chair, for his outstanding organization of the conference. She acknowledged his dedication over the year in bringing together delegates from esteemed organizations worldwide on one platform. Dr. Ashoka Rani emphasized the importance of providing farmers with reliable rainfall information to aid them in planning their crops effectively. She suggested that farmers would be more receptive to innovative systems created by institutions if they were demonstrated successfully through implementation in specific adopted villages by the institute. Additionally, she highlighted the potential of submitting strategies and ideas derived from GCCSA to government institutes as recommendations for the benefit of farmers.

Dr. N. Narayan Rao, Associate Professor, and Head of Applied Engineering at VFSTR stressed the need to enhance mechanization systems in agricultural lands, particularly focusing on pre and post-harvest technologies for further improvement. He emphasized the significance of utilizing the knowledge gained from the three-day conference to bridge the gap between farmers' income generation and climate protection, considering it a collective responsibility.

Dr. T. Ramesh Babu, the former Dean of Agriculture at ANGRAU and currently the of the School of Agriculture and Food Technology at VFSTR, shared his perspective on farmers, describing them as SMART individuals. Each letter in the word "SMART" represented specific qualities: S for Simple, M for Morals and ethics, A for Accountable, R for Responsible, and T for Transparent. Dr. T. Ramesh Babu stressed the significance of integrating Smart technologies to address the unpredictable climate challenges faced by farmers.

He further mentioned that the Global Conference on Climate Smart Agriculture generated valuable recommendations by inviting distinguished speakers from around the world and international organizations, with the support of the Hon'ble Vice Chancellor and university

management. These recommendations would be forwarded to the government for consideration.

Dr. T. Ramesh Babu expressed his gratitude to the Department of Agricultural and Horticultural Sciences and the faculties of Applied Engineering and Food Technology for their active participation in the conference.

Dr. Syed Irshan, Coordinator of Food Technology at VFSTR appreciated Dr. T. Ramesh Babu's efforts in fostering collaborative work between Agriculture and Food Technology. He expressed his privilege in being a part of this conference and highlighted the value of knowledge transfer and policy updates provided by experts from various institutions and universities, which were thought-provoking. Dr. Irshan also commended the team efforts of the Department of AHS and the School of SAFT in organizing the program. Moreover, he extended his gratitude to the Honorable Vice Chancellor for providing a platform for growth and learning.

Prof. P. Nagabhushan, the Vice Chancellor of VFSTR, extended his heartfelt congratulations to Dr. T. Ramesh Babu and his team for the successful organization of "The Global Conference on Climate Smart Agriculture." He commended the fruitful execution of the academic event, as well as the inclusion of cultural activities at the end of day one and two, adding a touch of diversity and enrichment to the conference.

Prof. P. Nagabhushan emphasized the crucial need for implementing an insurance mechanism for all farmers, drawing inspiration from the wisdom of Chanakya. He also highlighted the significance of adopting cooperative farming practices, similar to those followed in the United States, as a viable solution by our government.

To ignite the imagination and inspire students, Prof. Nagabhushan presented a technological concept involving drones designed to be similar in size to bees. These drones could release pheromones to guide other bees, thus modulating pollination in a desired direction. This innovative idea exemplified the potential of technology in addressing agricultural challenges.

The Vice Chancellor also emphasized how this conference played a significant role in nurturing the imagination and problem-solving abilities of the young participants, symbolizing the hope for a better future.

Dr. M.K. Naik, the Chairman, expressed his deep appreciation for Prof. Nagabhushan's enthusiastic remarks, which sparked great interest and inspiration among the young scientists and attendees.

Dr. M.K. Naik commenced the valedictory session by announcing and distributing awards to the winners of the poster presentation and oral presentation. He congratulated and appreciated the Honorable Vice Chancellor of Vignan University and the Conference Chair, Dr. T. Ramesh Babu, for their exceptional leadership in successfully organizing the Global Conference on Climate Smart Agriculture, all within a short period since the establishment of the B.Sc. (Hons.) Agriculture degree program.

Dr. M. K. Naik expressed his heartfelt gratitude for the warm hospitality extended to the delegates and dignitaries throughout the conference. He applauded the enthusiastic involvement of all the faculty members in organizing the program and acknowledged the availability of resources, the academic ambiance, and the courage and confidence displayed during the event.

Reflecting on India's remarkable achievements over the past seven decades, Dr. M.K. Naik acknowledged the country's transformation from a nation reliant on food imports to be coming a wheat exporter to the same countries it once borrowed from. He emphasized the pivotal role played by "farmers' will, political will, and scientific skill," as highlighted by Dr. M. S. Swaminathan, in the success of the Green Revolution. Dr. M. K. Naik also underscored the significance of the Food Security Act enacted by India, aiming to provide food to a population of 80 crores through the Public Distribution System. The agriculture sector's importance, especially during the challenging times of the COVID-19 pandemic, was also emphasized.

Dr. M. K. Naik shed light on the impact of climate change on crop production, citing examples of wheat, chickpea, and mango, as well as the sudden outbreak of black thrips in chilli. He stressed the timeliness and necessity of conducting the Global Conference on Climate Change in Agriculture to address these pressing issues. He commended the gathering of stakeholders, farmers, researchers, and representatives from various departments, unified in a technical session to develop actionable plans.

Praising Dr. Lavu Rathaiah, the Founder of Vignan University, for the innovative concept of a multidisciplinary university, Dr. M.K Naik highlighted that the New Educational Policy also advocates for such institutions to encourage cross-fertilization of ideas among different sectors. He emphasized the importance of agriculture by advocating for a shift from STEM to STEAM (Science, Technology, Engineering, Agriculture, and Mathematics).

Dr. M. K. Naik also stressed the need to address nutritional security to combat issues related to malnutrition, hidden hunger, and increasing germ diseases. He urged young agriculturists and scientists to contemplate the urgent needs that must be addressed in the future through sustainable farming methods. This, he believed, would pave the way for a brighter and more resilient future for agriculture in India.

On behalf of the organizing committee and the Department of Agricultural and Horticultural Sciences, Dr. T. Naresh, Coordinator of AHS Department, extended his heartfelt gratitude to all the distinguished guests, esteemed speakers, researchers, farmers, students, and delegates who graced "The Global Conference on Climate Smart Agriculture" with their presence and active participation.

Dr. Naresh, expressed his special thanks to Honorable Vice-Chancellor, Professor P. Nagabhushan, for his unwavering support and encouragement throughout the conference and for his visionary leadership that has been instrumental in making this event a resounding Success.

Dr. Naresh, extend his sincere thanks to Dr. T. Ramesh Babu, the Conference Chair, for his exceptional dedication and meticulous planning that ensured the smooth execution of his exceptional every aspect of this conference.

Furthermore, he acknowledged the efforts and hard work put in by all the faculty members, researchers and volunteers, whose tireless endeavors played a crucial role in makingthis conference a grand success.

Three-day int'l conference kicks off at Vignan varsity

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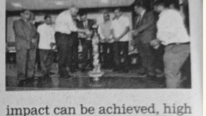

ALL farmers should usher in the fourth industrial revolution with smart farming, said Dr Arvind Kumar, Deputy Director General of ICRISAT Research from Hyderabad.

The Department of Agricultural & Horticultural Sciences of the School of Agriculture & Food Technology, Vignan's University conducted a three-day international conference on 'Climate Smart Agriculture' on Monday. For this conference, special lectures are organized with 25 experts in the fields of agriculture and food technology.

Apart from this, 2 panel discussions were initiated exclusively for farmers and agriculture industry leaders in this conference. Dr Arvind Kumar attended as the chief guest and said that maximum utilisation of resources and reduction of environmental impact can be achieved, high yields and quality can be increased through smart agriculture by using new technology that has emerged in the fields of agriculture and livestock production.

He said that climate change will be one of the main reasons for the reduction of agricultural yields in countries around the world by 2050. About 2.1 billion people in 55 countries depend on dry land agriculture for their livelihoods. In the coming time, he vowed to make an effort to collaborate with Vignan University. Besides, science students will be cordially invited for an internship at ICRISAT. Many other officials were present.

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యాంత్రీకరణ సహాయంతో డిజిటల్ పరిష్కారాలను వినియోగించాలి

సావనీర్‌ను ఆవిష్కరిస్తున్న డాక్టర్ అరవింద్ కుమార్, డాక్టర్ లావు రత్తయ్య

పొన్నూరు, న్యూస్‌టుడే: రైతులందరూ యాంత్రీకరణ సహాయంతో డిజిటల్ పరిష్కారాలను వినియోగించాలని హైదరాబాద్‌లోని ఇక్రిశాట్ డిప్యూటీ డైరెక్టర్ డాక్టర్ అరవింద్ కుమార్ పేర్కొన్నారు. సోమవారం చేబ్రోలు మండల పరిధిలోని వడ్లమూడి విజ్ఞాన్ యూనివర్సిటీలో 'క్లైమేట్ స్మార్ట్ అగ్రికల్చర్' అనే అంశంపై నిర్వహించిన అంతర్జాతీయ సదస్సుకు ఆయన ముఖ్యఅతిథిగా హాజరయ్యారు. రానున్న కాలంలో విజ్ఞాన్ యూనివర్సిటీతో కలిసి పనిచేయడానికి కృషి చేస్తామని, ఇక్రిశాట్‌లో ఇంటర్న్‌షిప్‌కు విజ్ఞాన్ విద్యార్థులకు అవకాశం కల్పిస్తామన్నారు. అనంతరం సదస్సు సావనీర్‌ను విజ్ఞాన్ విద్యాసంస్థల అధ్యక్షుడు డాక్టర్ లావు రత్తయ్య, ముఖ్య అతిథుల చేతుల మీదుగా ఆవిష్కరించారు.

విశాలాంధ్ర

యంలో రాజ్యాంగ నిబంధనలను పూర్తిగా ఉల్లంఘిస్తున్నా యల్ పాలసీ ద్వారా ఇచ్చి దళితులను పారిశ్రామికరిం అవకాశం ఉంటుందని వెల్లడించారు.

నాలుగో పారిశ్రామిక విప్లవమే స్మార్ట్ ఫార్మింగ్

విశాలాంధ్ర-గుంటూరు : స్మార్ట్ ఫార్మింగ్‌తో రైతులందరూ నాలుగో పారిశ్రామిక విప్లవానికి తెరలేపాలని హైదరాబాద్‌లోని ఇక్రిసాట్ రీసెర్చ్ డెప్యూటీ డైరక్టర్ జనరల్ డాక్టర్ అరవింద్ కుమార్ అన్నారు. విజ్ఞాన్స్ యూనివర్సిటీలోని స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలోని అగ్రికల్చరల్ అండ్ హార్టికల్చరల్ సైన్సెస్ డిపార్ట్‌మెంట్ ఆధ్వర్యంలో 'క్లైమేట్ స్మార్ట్ అగ్రికల్చర్' అనే అంశంపై మూడు రోజుల పాటు నిర్వహించనున్న అంతర్జాతీయస్థాయి కాన్ఫరెన్స్‌ను సోమవారం ఘనంగా ప్రారంభించారు. ఈ కాన్ఫరెన్స్‌లో అగ్రికల్చర్, ఫుడ్ టెక్నాలజీ రంగాలలో నిష్ణాతులైన 25 మందితో ప్రత్యేక ఉపన్యాస కార్యక్రమాలు నిర్వహిస్తున్నారు. రైతులు, అగ్రికల్చర్ ఇండస్ట్రీ ప్రముఖుల కోసం ప్రత్యేకమైన 2 ప్యానల్ డిస్కషన్స్‌ను ప్రారంభించారు. ముఖ్యఅతిథిగా హాజరైన డాక్టర్ అరవింద్ కుమార్ మాట్లాడుతూ స్మార్ట్ అగ్రికల్చర్ ద్వారా వ్యవసాయం, పశువుల ఉత్పత్తి రంగాలలో ఉద్భవించిన కొత్త సాంకేతిక పరిజ్ఞానాన్ని ఉపయోగించి వనరులను గరిష్ఠంగా వినియోగించడంతో పాటు పర్యావరణ ప్రభావాన్ని తగ్గించి అధిక దిగుబడులు, నాణ్యతను పెంచవచ్చని అన్నారు. రానున్న కాలంలో విజ్ఞాన్స్ యూనివర్సిటీతో అనుసంధానమై పనిచేయడానికి కృషి చేస్తామన్నారు. అంతేకాకుండా ఇక్రిసాట్‌లో ఇంటర్న్‌షిప్‌కు విజ్ఞాన్స్ విద్యార్థులను సాదరంగా ఆహ్వానిస్తామన్నారు. ఐసీఏఆర్ మాజీ డిప్యూటీ డైరక్టర్ జనరల్ ఎడ్యుకేషన్, ఉదయపూర్‌లోని ఎమ్‌పీయూఏటీ మాజీ వైస్ చాన్సలర్ డాక్టర్ ఎస్ఎస్ రాథోర్ మాట్లాడుతూ పోస్ట్ హార్వెస్ట్ టెక్నాలజీ సహాయంతో పంట దిగుబడి తర్వాత దాని రక్షణ, పరిరక్షణ, ప్రాసెసింగ్, ప్యాకేజింగ్, పంపిణీ, మార్కెటింగ్ ఎలా చేయాలో విద్యార్థులకు వివరించా ఎన్ఐఎఫ్‌టీఈఎమ్ వైస్ చాన్సలర్ డా సి.వాసుదేవప్ప మాట్లాడుతూ గతంతో పోలిస్తే ఫుడ్ చైన్ సిస్టమ్‌లో ప్రస్తుతం భారీగా సమోదవుతుందన్నారు. అనంతరం అంతర్జా కాన్ఫరెన్స్‌కు సంబంధించిన పుస్తకాన్ని ఆవిష్కరించా ఈ కార్యక్రమంలో హైదరాబాద్‌లోని ప్లాంట్ ప్రొటె అసోసియేషన్ ఆఫ్ ఇండియా ప్రెసిడెంట్ డా బి.శరత్‌బాబు, సీఐఎఫ్‌టీఆర్ - ఐసీఏఆర్‌ఏఎఫ్ డెపు చీఫ్ డాక్టర్ మనోజ్ దబాస్, ఐసీఏఆర్ - ఐఐటీ మాజీ డైరక్టర్ డాక్టర్ కేవీస్ వరప్రసాద్, కర్ణాటక గుల్బర్గా యూనివర్సిటీ మాజీ వైస్ చాన్సలర్ డా ఎస్ఆర్ నిరంజన, ఐసీఏఆర్-సీఆర్ఐడీఏ డైరక్టర్, వీఎన్ఎమ్‌కేవీ మాజీ ఉపకులపతి డా బి.వెంకటేశ్వర్లు, పీపీవీఎఫ్ఆర్ మాజీ చైర్మన్ డా ఆర్ఆర్ హంచినాల్, ఏపీ మాజీ డీజీపీ, విజ్ఞ అడ్వైజర్ డాక్టర్ ఎం.మాలకొండయ్య, విజ్ఞ విద్యాసంస్థల చైర్మన్ డాక్టర్ లావు రత్తయ్య, చాన్సలర్ ప్రొఫెసర్ పి.నాగభూషణ్, రిజిస్ట్రార్ డా ఎంఎస్ రఘునాథన్ తదితరులు పాల్గొన్నారు.

Date: 28/03/2023, Edition: 100(Guntur), Page: 1
Source : https://epaper.visalaandhra.com/

సాక్షి

జిల్లా వార్తలు

స్మార్ట్ ఫార్మింగ్‌తో మంచి దిగుబడులు

ఇక్రిశాట్ రీసెర్చ్ డెప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవింద్ కుమార్

కాన్ఫరెన్సులో మాట్లాడుతున్న ఇక్రిశాట్ రీసెర్చ్ డెప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవింద్ కుమార్

చేబ్రోలు: స్మార్ట్ ఫార్మింగ్‌తో రైతులందరూ నాలుగో పారిశ్రామిక విప్లవానికి తెరలేపాలని హైదరాబాద్‌లోని ఇక్రిశాట్ రీసెర్చ్ డెప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవింద్ కుమార్ చెప్పారు. చేబ్రోలు మండలం వడ్లమూడి విజ్ఞాన్ యూనివర్సిటీలో 'క్లైమేట్ స్మార్ట్ అగ్రికల్చర్' అనే అంశంపై మూడు రోజుల పాటు జరుగనున్న అంతర్జాతీయస్థాయి కాన్ఫరెన్స్ సోమవారం ప్రారంభమైంది. ఈ కాన్ఫరెన్స్‌లో అగ్రికల్చర్, ఫుడ్ టెక్నాలజీ రంగాలలో నిష్ణాతులైన 25 మందితో ప్రత్యేక ఉపన్యాస కార్యక్రమాలు నిర్వహిస్తున్నారు. ఈ సందర్భంగా డాక్టర్ అరవింద్ కుమార్ మాట్లాడుతూ స్మార్ట్ అగ్రికల్చర్ ద్వారా వ్యవసాయం, పశువుల ఉత్పత్తి రంగాలలో కొత్త సాంకేతిక పరిజ్ఞానాన్ని ఉపయోగించి అధిక దిగుబడులు, నాణ్యతను పెంచవచ్చని పేర్కొన్నారు. ప్రపంచ దేశాలలో 2050 నాటికి వ్యవసాయ దిగుబడులు తగ్గటానికి వాతావరణ మార్పు అనేది ప్రధాన కారణాలలో ఒకటిగా నిలుస్తుందన్నారు. రానున్న కాలంలో విజ్ఞాన్ యూనివర్సిటీతో అనుసంధానమై పనిచేయడానికి కృషి చేస్తామన్నారు. ఉదయపూర్‌లోని ఎమ్‌పీయూఏటీ మాజీ వీసీ ఎస్.ఎస్.రాథోర్ మాట్లాడుతూ పోస్ట్ హార్వెస్ట్ టెక్నాలజీ సహాయంతో పంట దిగుబడి తర్వాత దాని రక్షణ, పరిరక్షణ, ప్రాసెసింగ్, ప్యాకేజింగ్, పంపిణీ, మార్కెటింగ్ ఎలా చేయాలో విద్యార్థులకు వివరించారు. ఎన్ఐఎఫ్‌టీఈఎమ్ వైస్ చాన్సలర్ సి.వాసుదేవప్ప మాట్లాడుతూ గతంతో పోలిస్తే ఫుడ్ సప్లయి చైన్ సిస్టమ్‌లో ప్రస్తుతం భారీగా వృద్ధి నమోదవుతుందన్నారు. ఫుడ్ సప్లయి సిస్టమ్‌లోని ప్రొడక్షన్, హ్యాండ్లింగ్ అండ్ స్టోరేజ్, ప్రాసెసింగ్ అండ్ ప్యాకేజింగ్, డిస్ట్రిబ్యూషన్, రీటెయిలింగ్, వినియోగం వంటి పద్ధతులను విద్యార్థులకు కూలంకషంగా వివరించారు. కార్యక్రమంలో విజ్ఞాన్ విద్యాసంస్థల చైర్మన్ లావు రత్తయ్య, ఏపీ మాజీ డీజీపీ డాక్టర్ ఎం.మాలకొండయ్య, డాక్టర్ బి.శరత్‌బాబు, డాక్టర్ మనోజ్ దబాస్, డాక్టర్ కేవీస్ వరప్రసాద్, డాక్టర్ ఎస్ఆర్ నిరంజన, డాక్టర్ బి.వెంకటేశ్వర్లు, డాక్టర్ ఆర్ఆర్ హంచినాల్, ఆయా విభాగాల డీన్లు, అగ్రికల్చరల్ విద్యార్థులు పాల్గొన్నారు.

ABN
ఆంధ్రజ్యోతి

మాట్లాడుతున్న డాక్టర్ అరవిందకుమార్

స్మార్ట్ ఫార్మింగ్‌తో 4వ పారిశ్రామిక విప్లవం

● ఇక్రిశాట్ రీసెర్చి డీడీజీ డాక్టర్ అరవింద్‌కుమార్

గుంటూరు(విద్య),మార్చి27: స్మార్ట్ ఫార్మింగ్‌తో 4వ పారిశ్రామిక విప్లవానికి రైతులు సిద్ధ కావాలని ఇక్రిశాట్ డిప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవింద్ కుమార్ పిలుపునిచ్చారు. వడ్లమూడి విజ్ఞాన్ విశ్వవిద్యాలయంలో స్కూల్ ఆఫ్ అగ్రికల్చరల్, హార్టికల్చరల్ సైన్సెస్ ఆధ్వర్యంలో క్లైమేట్ స్మార్ట్ అగ్రికల్చరల్ ' అనే అంశంపై నిర్వహించిన సదస్సులో ఆయన మాటాడుతూ.. వ్యవసాయం, పశువులు ఉత్పత్తి రంగాల్లో ఉద్భవించిన కొత్త సాంకేతిక పరిజ్ఞానాన్ని రైతులు సద్వినియోగం చేసుకోవాలన్నారు. పర్యావరణానికి హానిలేని వ్యవసాయంతో అధిక దిగుబడులు సాధించాలన్నారు. రైతులు యాంత్రీకరణ, డివిజనల్ విధానంవైపు అడుగులువేయాలన్నారు. కార్యక్రమంలో ఉదయపూర్‌లోని ఎంపీయూఏటీ మాజీ వీసీ డాక్టర్ ఎస్ఎస్ రాథోర్, ఎన్ఐఎఫ్‌టీఈఎం వీసీ డాక్టర్ పీ వాసుదేవప్ప, వ్యవసాయ రంగ ప్రముఖులు తోపాటు విజ్ఞాన్ విద్యాసంస్థల చైర్మన్ డాక్టర్ లావురత్తయ్య, వీసీ ఆచార్య పీ.నాగభూషణ్, రిజిస్ట్రార్ ఎంఎస్ రఘునాథన్ తదితరులు పాల్గొన్నారు.

గుండెపోటుతో హోంగార్డు మృతి

Date: 28/03/2023, Edition: Guntur, Page: 6
Source : https://epaper.andhrajyothy.com

నాలుగో పారిశ్రామిక విప్లవమే స్మార్ట్ ఫార్మింగ్

ప్రజాశక్తి-గుంటూరు

స్మార్ట్ ఫార్మింగ్‌తో రైతులందరూ నాలుగో పారిశ్రామిక విప్లవానికి నాంది పలకాలని హైదరాబాద్‌లోని ఇక్రిశాట్ రీసెర్చ్ డెప్యూటీ డైరక్టర్ జనరల్ డాక్టర్ అరవింద్ కుమార్ అన్నారు. వడ్లమూడి విజ్ఞాన్ యూనివర్సిటీలో ' క్లైమేట్ స్మార్ట్ అగ్రికల్చర్' అనే అంశంపై మూడు రోజుల పాటు నిర్వహించనున్న అంతర్జాతీయస్థాయి సదస్సు సోమవారం ప్రారంభం అయ్యింది. సదస్సులో డాక్టర్ అరవింద్ కుమార్ మాట్లాడుతూ స్మార్ట్ అగ్రికల్చర్ ద్వారా వ్యవసాయం, పశువుల ఉత్పత్తి రంగాలలో ఉద్భవించిన కొత్త సాంకేతిక పరిజ్ఞానాన్ని ఉపయోగించి వనరులను గరిష్ఠంగా వినియోగించడంతో పాటు పర్యావరణ ప్రభావాన్ని తగ్గించి అధిక దిగుబడులు, నాణ్యతను పెంచవచ్చని పేర్కొన్నారు. రైతులు యాంత్రీకరణ సహాయంతో డిజిటల్ పరిష్కారాలను వినియోగించాలన్నారు. ఐసీఏఆర్ మాజీ డిప్యూటీ డైరెక్టర్ జనరల్ ఎడ్యుకేషన్, ఉదయపూర్‌లోని ఎమ్‌పియుఏటీ మాజీ వీసీ డాక్టర్ ఎస్.ఎస్.రాథోర్ మాట్లాడుతూ పోస్ట్ హార్వెస్ట్ టెక్నాలజీ సహాయంతో పంట దిగుబడి తర్వాత దాని రక్షణ, పరిరక్షణ, ప్రాసెసింగ్, ప్యాకేజింగ్, పంపిణీ, మార్కెటింగ్ ఎలా చేయాలో విద్యార్ధులకు వివరించారు. సదస్సులో ఎన్ఐఎఫ్‌టిఈఎమ్ వీసీ డాక్టర్ సీ.వాసుదేవప్ప, హైదరాబాద్‌లోని ప్లాంట్ ప్రొటెక్షన్ అసోసియేషన్ ఆఫ్ ఇండియా ప్రెసిడెంట్ డాక్టర్ బి.శరత్‌బాబు, సీఐఎఫ్‌టిఆర్- ఐసీఆర్ఏఎఫ్ డెప్యూటీ చీఫ్ డాక్టర్ మనోజ్ దబాస్, ఐసీఏఆర్ - ఐఐఓఆర్ మాజీ డైరెక్టర్ డాక్టర్ కేవీస్ వరప్రసాద్ తదితరులు ప్రసంగించారు. కార్యక్రమం లో ఏపీ మాజీ డీజీపీ, విజ్ఞాన్ అడ్వైజర్ డాక్టర్ ఎం.మాలకొండయ్య, విజ్ఞాన్స్ చైర్మన్ డాక్టర్ లావు రత్తయ్య, వీసీ ప్రొఫెసర్ పి.నాగభూషణ్ పాల్గొన్నారు.

ఆంధ్రప్రభ

నాలుగో పారిశ్రామిక విప్లవమే స్మార్ట్ ఫార్మింగ్

హైదరాబాద్‌లోని ఇక్రిశాట్ రీసెర్చ్ డిప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవింద్‌కుమార్ విజ్ఞాన్స్‌లో ఘనంగా ప్రారంభమైన అంతర్జాతీయ స్థాయి కాన్ఫరెన్స్

చేబ్రోలు, మార్చి 27 (ప్రభన్యూస్): స్మార్ట్ ఫార్మింగ్‌తో రైతులందరూ నాలుగో పారిశ్రామిక విప్లవానికి తెరలేపాలని హైదరాబాద్‌లోని ఇక్రిసాట్ రీసెర్చ్ డెప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవింద్ కుమార్ అన్నారు. చేబ్రోలు మండలం వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలోని స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలోని అగ్రికల్చరల్ అండ్ హార్టికల్చరల్ సైన్సెస్ డిపార్ట్‌మెంట్ ఆధ్వర్యంలో క్లైమేట్ స్మార్ట్ అగ్రికల్చర్ అనే అంశంపై మూడురోజులపాటు నిర్వహించనున్న అంతర్జాతీయస్థాయి కాన్ఫరెన్స్‌ను సోమవారం ఘనంగా ప్రారంభించారు. ఈ అంతర్జాతీయ కాన్ఫరెన్స్‌లో అగ్రికల్చర్, ఫుడ్ టెక్నాలజీ రంగాలలో నిష్ణాతులైన 25 మందితో ప్రత్యేక ఉపన్యాస కార్యక్రమాలు నిర్వహిస్తున్నారు. అంతేకాకుండా ఈ కాన్ఫరెన్స్‌లో రైతులు, అగ్రికల్చర్ ఇండస్ట్రీల ప్రముఖుల కోసం ప్రత్యేకమైన 2 ప్యానల్ డిస్కషన్స్‌ను ప్రారంభించారు. కార్యక్రమానికి ముఖ్య అతిథిగా హాజరైన హైదరాబాద్‌లోని ఇక్రిసాట్ రీసెర్చ్ డెప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవింద్‌కుమార్ మాట్లాడుతూ స్మార్ట్ అగ్రికల్చర్ ద్వారా వ్యవసాయం,

కార్యక్రమంలో మాట్లాడుతున్న అరవింద్ కుమార్

పశువుల ఉత్పత్తి రంగాలలో ఉద్భవించిన కొత్త సాంకేతిక పరిజ్ఞానాన్ని ఉపయోగించి వనరులను గరిష్ఠంగా వినియోగించడంతో పాటు పర్యావరణ ప్రభావాన్ని తగ్గించి అధిక దిగుబడులు, నాణ్యతను పెంచవచ్చని పేర్కొన్నారు. రైతులందరూ యాంత్రీకరణ సహాయంతో డిజిటల్ పరిష్కారాలను వినియోగించాలన్నారు. రానున్న కాలంలో విజ్ఞాన్స్ యూనివర్సిటీతో అనుసంధానమయ్యి పనిచేయడానికి కృషి చేస్తామన్నారు. అంతేకాకుండా ఇక్రిసాట్‌లో ఇంటర్న్‌షిప్‌కు విజ్ఞాన్స్ విద్యార్థులను సాదరంగా ఆహ్వానిస్తామన్నారు. కార్యక్రమానికి మరో ముఖ్య అతిథిగా హాజరైన ఐసీఏఆర్ మాజీ డెప్యూటీ డైరెక్టర్ జనరల్ ఎడ్యుకేషన్, ఉదయపూర్‌లోని ఎమ్‌పీయూఏటీ మాజీ వైస్ చాన్స్‌లర్ డాక్టర్ ఎన్.ఎస్.రాథోర్ మాట్లాడుతూ పోస్ట్ హార్వెస్ట్ టెక్నాలజీ సహాయంతో పంట దిగుబడి తర్వాత దాని రక్షణ, పరిరక్షణ, ప్రాసెసింగ్, ప్యాకేజింగ్, పంపిణీ, మార్కెటింగ్ ఎలా చేయాలో విద్యార్థులకు వివరించారు. కార్యక్రమంలో మరో ముఖ్య అతిథిగా హాజరైన ఎన్ఐఎఫ్‌టీఈఎమ్ వైస్ చాన్స్‌లర్ డాక్టర్ సీ.వాసుదేవప్ప మాట్లాడుతూ గతంతో పోలిస్తే ఫుడ్ సప్లై చైన్ సిస్టమ్‌లో ప్రస్తుతం భారీగా వృద్ధి నమోదవుతుందన్నారు. ఫుడ్ సప్లై సిస్టమ్‌లోని ప్రొడక్షన్, హ్యాండ్లింగ్ అండ్ స్టోరేజ్, ప్రాసెసింగ్ అండ్ ప్యాకేజింగ్, డిస్ట్రిబ్యూషన్, రీటైలింగ్, వినియోగం వంటి పద్ధతులను విద్యార్థులకు కూలంకషంగా వివరించారు. అనంతరం అంతర్జాతీయ కాన్ఫరెన్స్‌కు సంబంధించిన పుస్తకాన్ని ఆవిష్కరించారు.

కార్యక్రమంలో హైదరాబాద్‌లోని ప్లాంట్ ప్రొటెక్షన్ అసోసియేషన్ ఆఫ్ ఇండియా ప్రెసిడెంట్ డాక్టర్ బీ.శరత్‌బాబు, సీఐఎఫ్ఓఆర్ - ఐసీఆర్ఏఎఫ్ డెప్యూటీ చీఫ్ డాక్టర్ మనోజ్ దబాస్, ఐసీఏఆర్ - ఐఐఓఆర్ మాజీ డైరెక్టర్ డాక్టర్ కేఎస్ వరప్రసాద్, , కర్ణాటకలోని గుల్బర్గా యూనివర్సిటీ మాజీ వైస్ చాన్స్‌లర్ డాక్టర్ ఎస్ఆర్ నిరంజన, ఐసీఏఆర్-సీఆర్ఐపీ మాజీ డైరెక్టర్, వీఐఎమ్‌కేపీ మాజీ ఉపకులపతి డాక్టర్ బీ.వెంకటేశ్వర్లు, పీపీవీఎఫ్ఆర్ మాజీ రైరెక్టర్ డాక్టర్ ఆర్ఆర్ హంచినాల్, ఏపీ మాజీ డీజీపీ, విజ్ఞాన్స్ అడ్వైజర్ డాక్టర్ ఎం.మాలకొండయ్య, విజ్ఞాన్స్ విద్యాసంస్థల చైర్మన్ డాక్టర్ లావు రత్తయ్య, వైస్ చాన్స్‌లర్ ప్రొఫెసర్ పీ.నాగభూషణ్, రిజిస్ట్రార్ డాక్టర్ ఎంఎస్ రఘునాథన్, డీన్ ఎస్ఏఎఫ్‌టీ, ఆయా విభాగాల డీన్లు, అధిపతులు, అగ్రికల్చరల్ విద్యార్థులు పాల్గొన్నారు.

గుంటూరు జిల్లా

నాలుగో పారిశ్రామిక విప్లవమే స్మార్ట్ ఫార్మింగ్ డా. అరవింద్ కుమార్

Govathoti paul 05:57 PM, 27 మార్చి 253 వీక్షించారు

చేబ్రోలు మండలం వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలోని స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలోని అగ్రికల్చరల్ అండ్ హార్టికల్చరల్ సైన్సెస్ డిపార్ట్‌మెంట్ ఆధ్వర్యంలో '' క్లైమేట్ స్మార్ట్ అగ్రికల్చర్'' అనే అంశంపై మూడు రోజుల పాటు నిర్వహించనున్న అంతర్జాతీయస్థాయి కాన్ఫరెన్స్‌ను సోమవారం ఘనంగా ప్రారంభించారు. ఈ అంతర్జాతీయ కాన్ఫరెన్స్‌లో అగ్రికల్చర్, ఫుడ్ టెక్నాలజీ రంగాలలో ...

మరింత చదవడానికి లోకల్ యాప్ ని డౌన్ లోడ్ చేసుకోండి

Date: 28/03/2023, Edition: Guntur, Page: 11
Source : https://epaper.prabhanews.com/

వార్త

నాలుగో పారిశ్రామిక విప్లవమే స్మార్ట్ ఫార్మింగ్

- డిప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవిందకుమార్

పొన్నూరు, మార్చి 27,ప్రభాతవార్త: స్మార్ట్ ఫార్మింగ్‌తో రైతులందరూ నాలుగో పారిశ్రామిక విప్లవానికి తెరలేపాలని ఇక్రిశాట్ రీసెర్చ్ డిప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవిందకుమార్ అన్నారు. చేబ్రోలు మండలం, వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలోని స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలోని అగ్రికల్చరల్ అండ్ హార్టికల్చరల్ సైన్సెస్ డిపార్ట్‌మెంట్ ఆధ్వర్యంలో క్లైమేట్ స్మార్ట్ అగ్రికల్చర్ అనే అంశంపై మూడు రోజుల పాటు నిర్వహించనున్న అంతర్జాతీయ కాన్ఫరెన్స్‌లో అగ్రికల్చర్, ఫుడ్ టెక్నాలజీ రంగాలలో నిష్ణాతులైన 25మందితో ప్రత్యేక ఉపన్యాస కార్యక్రమాలు నిర్వహిస్తున్నారు. అంతేకాకుండా ఈ కాన్ఫరెన్స్‌లో రైతులు, అగ్రికల్చర్ ఇండస్ట్రీ ప్రముఖుల కోసం ప్రత్యేకమైన 2 ప్యానల్ డిస్కషన్స్‌ను ప్రారంభించారు. ముఖ్య అతిథిగా పాల్గొన్న డాక్టర్ అరవింద్ కుమార్ మాట్లాడుతూ స్మార్ట్ అగ్రికల్చర్ ద్వారా వ్యవసాయం, పశువుల ఉత్పత్తి రంగాలలో ఉద్భవించిన కొత్త సాంకేతిక పరిజ్ఞానాన్ని ఉపయోగించి వనరులను గరిష్ఠంగా వినియోగించడంతో పాటు పర్యావరణ ప్రభావాన్ని తగ్గించి అధిక దిగుబడులు, నాణ్యతను పెంచవచ్చని పేర్కొన్నారు. ప్రపంచ దేశాలలో 2050నాటికి వ్యవసాయ దిగుబడులు తగ్గటానికి క్లైమేట్ ఛేంజ్ అనేది ప్రధాన కారణాలలో ఒకటిగా నిలుస్తుందన్నారు. దాదాపు 55దేశాలలోని 2.1బిలియన్ మంది ప్రజలు డ్రై లాండ్ అగ్రికల్చర్ మీదనే ఆధారపడి జీవనం సాగిస్తున్నారని తెలిపారు. రానున్న కాలంలో విజ్ఞాన్స్ యూనివర్సిటీతో అనుసంధానమయ్యి పనిచేయడానికి కృషి చేస్తామన్నారు. మరో అతిథి ఐసీఏఆర్ మాజీ డిప్యూటీ డైరెక్టర్ జనరల్ ఎడ్యుకేషన్, ఉదయపూర్‌లోని మాజీ వీసీ డాక్టర్ ఎన్ఎస్.రాథోర్ మాట్లాడుతూ పోస్ట్ హార్వెస్ట్ టెక్నాలజీ సహాయంతో పంట దిగుబడి తర్వాత దాని రక్షణ, పరిరక్షణ, ప్రాసెసింగ్, ప్యాకేజింగ్, పంపిణీ మార్కెటింగ్ ఎలా చేయాలో విద్యార్థులకు వివరించారు. డాక్టర్ సీ.వాసుదేవప్ప మాట్లాడుతూ గతంతో పోలిస్తే ఫుడ్ సప్లై చైన్ సిస్టమ్‌లోని ప్రొడక్షన్, హ్యాండ్లింగ్ అండ్ స్టోరేజ్, ప్రాసెసింగ్ అండ్ ప్యాకేజింగ్, డిస్ట్రిబ్యూషన్, రీటైలింగ్, వినియోగం వంటి పద్ధతులను విద్యార్థులకు కూలంకషంగా వివరించారు. అనంతరం అంతర్జాతీయ కాన్ఫరెన్స్‌కు సంబంధించిన పుస్తకాన్ని ఆవిష్కరించారు. కార్యక్రమంలో హైదరాబాద్‌లోని ప్లాంట్ ప్రొటెక్షన్ అసోసియేషన్ ఆఫ్ ఇండియా ప్రెసిడెంట్ డాక్టర్ బీ.శరత్‌బాబు, సీఐఎఫ్ఓఆర్-ఐసీఆర్ఏఎఫ్ డెప్యూటీ చీఫ్ డాక్టర్ మనోజ్ దబాస్, ఐసీఏఆర్-ఐఐఓఆర్ మాజీ డైరెక్టర్ డాక్టర్ కేఎస్ వరప్రసాద్, కర్ణాటకలోని గుల్బర్గా యూనివర్సిటీ మాజీ వైస్ చాన్స్‌లర్ డాక్టర్ ఎస్ఆర్ నిరంజన, ఐసీఏఆర్-సీఆర్ఐపీ మాజీ డైరెక్టర్, వీఐఎమ్‌కేపీ మాజీ ఉపకులపతి డాక్టర్ బీ.వెంకటేశ్వర్లు, పీపీవీఎఫ్ఆర్ మాజీ రైరెక్టర్ డాక్టర్ ఆర్ఆర్ హంచినాల్, ఏపీ మాజీ డీజీపీ, విజ్ఞాన్స్ అడ్వైజర్ డాక్టర్ ఎం.మాలకొండయ్య, విజ్ఞాన్స్ విద్యాసంస్థల చైర్మన్ డాక్టర్ లావు రత్తయ్య, వైస్ చాన్స్‌లర్ ప్రొఫెసర్ పీ.నాగభూషణ్, రిజిస్ట్రార్ డాక్టర్ ఎంఎస్ రఘునాథన్, డీన్ ఎస్ఏఎఫ్‌టీ, ఆయా విభాగాల డీన్లు, అధిపతులు, అగ్రికల్చరల్ విద్యార్థులు పాల్గొన్నారు.

మంగళవారం 28 మార్చి 2023 — నేటి దిన పత్రిక సూర్య

నాలుగో పారిశ్రామిక విప్లవమే స్మార్ట్ ఫార్మింగ్

హైదరాబాద్‌లోని ఇక్రిసాట్ రీసెర్చ్ డెప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవిందకుమార్.. విజ్ఞాన్స్‌లో ఘనంగా ప్రారంభమైన అంతర్జాతీయ స్థాయి కాన్ఫరెన్స్

గుంటూరు, మేజర్ న్యూస్: స్మార్ట్ ఫార్మింగ్‌తో రైతులందరూ నాలుగో పారిశ్రామిక విప్లవానికి తెరలేపాలని హైదరాబాద్‌లోని ఇక్రిసాట్ రీసెర్చ్ డెప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవింద్ కుమార్ అన్నారు. చేబ్రోలు మండలం వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలోని స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలోని అగ్రికల్చరల్ అండ్ హార్టికల్చరల్ సైన్సెస్ డిపార్ట్‌మెంట్ ఆధ్వర్యంలో "క్లైమేట్ స్మార్ట్ అగ్రికల్చర్" అనే అంశంపై మూడు రోజుల పాటు నిర్వహించనున్న అంతర్జాతీయ స్థాయి కాన్ఫరెన్స్‌ను సోమవారం ఘనంగా ప్రారంభించారు. ఈ అంతర్జాతీయ కాన్ఫరెన్స్‌లో అగ్రికల్చర్, ఫుడ్ టెక్నాలజీ రంగాలలో నిష్ణాతులైన 25 మందితో ప్రత్యేక ఉపన్యాస కార్యక్రమాలు నిర్వహిస్తున్నారు. ఈ కాన్ఫరెన్స్‌లో రైతులు, అగ్రికల్చర్ ఇండస్ట్రీల ప్రముఖుల కోసం ప్రత్యేకమైన 2 ప్యానల్ డిస్కషన్స్‌ను ప్రారంభించారు. ఇక్రిసాట్ రీసెర్చ్ డెప్యూటీ డైరెక్టర్ జనరల్ డాక్టర్ అరవింద్ కుమార్ మాట్లాడుతూ గతంతో పోలిస్తే ఫుడ్ సప్లై చైన్ సిస్టమ్‌లో ప్రస్తుతం భారీగా వృద్ధి నమోదవుతుందన్నారు. ఫుడ్ సప్లై సిస్టమ్‌లోని ప్రొడక్షన్, హ్యాండ్లింగ్ అండ్ స్టోరేజ్, ప్రాసెసింగ్ అండ్ ప్యాకేజింగ్, డిస్ట్రిబ్యూషన్, రీటైలింగ్, వినియోగం వంటి పద్ధతులను వివరించారు. అనంతరం అంతర్జాతీయ కాన్ఫరెన్స్‌కు సంబంధించిన పుస్తకాన్ని ఆవిష్కరించారు. కార్యక్రమంలో హైదరాబాద్‌లోని ప్లాంట్ ప్రొటెక్షన్ అసోసియేషన్ ఆఫ్ ఇండియా ప్రెసిడెంట్ డాక్టర్ బీ.శరత్‌బాబు, సీఐఎఫ్ఓఆర్-ఐసీఆర్ఏఎఫ్ డెప్యూటీ చీఫ్ డాక్టర్ మనోజ్ దబాస్, ఐసీఏఆర్-ఐఐఓఆర్ మాజీ డైరెక్టర్ డాక్టర్ కేఎస్ వరప్రసాద్, కర్ణాటకలోని గుల్బర్గా యూనివర్సిటీ మాజీ వైస్ చాన్స్‌లర్ డాక్టర్ ఎస్ఆర్ నిరంజన, ఐసీఏఆర్-సీఆర్ఐపీ మాజీ డైరెక్టర్, వీఐఎమ్‌కేపీ మాజీ ఉపకులపతి డాక్టర్ బీ.వెంకటేశ్వర్లు, పీపీవీఎఫ్ఆర్ మాజీ రైరెక్టర్ డాక్టర్ ఆర్ఆర్ హంచినాల్, ఏపీ మాజీ డీజీపీ, విజ్ఞాన్స్ అడ్వైజర్ డాక్టర్ ఎం.మాలకొండయ్య, విజ్ఞాన్స్ విద్యాసంస్థల చైర్మన్ డాక్టర్ లావు రత్తయ్య, వైస్ చాన్స్‌లర్ ప్రొఫెసర్ పీ.నాగభూషణ్, రిజిస్ట్రార్ డాక్టర్ ఎంఎస్ రఘునాథన్, డీన్ ఎస్ఏఎఫ్‌టీ, ఆయా విభాగాల డీన్లు, అధిపతులు, అగ్రికల్చరల్ విద్యార్థులు పాల్గొన్నారు.

సుస్థిర వ్యవసాయంతోనే అధికోత్పత్తి సాధ్యం

సంగం సీడ్స్ ఎగ్జిక్యూటీవ్ డైరెక్టర్ ఆలపాటి సత్యన్నారాయణ

ప్రజాశక్తి-గుంటూరు

ప్రపంచంలో రోజు రోజుకు పెరుగుతున్న వాతావరణ మార్పులు, పర్యావరణ సమస్యలు, పెరుగుతున్న జనాభాకు తగ్గ స్థిరమైన ఉత్పత్తిని సాధించాలంటే సుస్థిర వ్యవసాయంతోనే సాధ్యమని సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ పేర్కొన్నారు. వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలో 'క్లైమేట్ స్మార్ట్ అగ్రికల్చర్' అనే అంశంపై మూడు రోజుల పాటు నిర్వహిస్తున్న అంతర్జాతీయ స్థాయి కాన్ఫరెన్స్ మంగళవారం ముగిసింది. సదస్సులో ఆలపాటి సత్యనారాయణ మాట్లాడుతూ సుస్థిర వ్యవసాయాన్ని సామాజిక, పర్యావరణ, ఆర్థిక రంగాలుగా విభజించవచ్చని, సుస్థిర వ్యవసాయ పద్ధతులను వినియోగిస్తున్నప్పుడు ఎదురయ్యే అడ్డంకులను గుర్తించడంతోపాటు వాటిని అధిగమించడానికి విద్యార్థులు కృషి చేయాలన్నారు. సుస్థిర వ్యవసాయ పద్ధతుల ద్వారా రైతులు పునరుత్పాదక శక్తిపై ఆధారపడటం, రసాయన ఎరువుల వినియోగం, వనరుల కొరత తగ్గించుకోవచ్చన్నారు. ధార్వాడలోని యూనివర్సిటీ ఆఫ్ అగ్రికల్చర్ సైన్స్ మాజీ వైస్ చాన్సలర్ డాక్టర్ ఆర్ఆర్ హంచినల్ మాట్లాడుతూ సీడ్ ఇండస్ట్రీలో ఉన్న అవకాశాలను విద్యార్థులు అందిపుచ్చుకోవడానికి సిద్ధంగా ఉండాలన్నారు. హైదరాబాద్‌లోని ఐసీఏఆర్- ఐఐఓఆర్ డైరక్టర్ డాక్టర్ ఆర్.కే. మాథూర్ పెరుగుతున్న దేశ జనాభాకు అవసరమైన వంట నూనెల్లో ఎక్కువ శాతం విదేశాల నుండి దిగుమతి చేసుకుంటున్నామని, కావున నూనె గింజల ఉత్పత్తిలో దేశ ప్రజల అవసరాలు తీర్చడానికి పెద్ద ఎత్తున వివిధ వ్యవసాయ బౌగోళిక మండలాలో అక్కడి వాతావరణ పరిస్థితులకు అనువైన పంటల సాగు చేపట్టడం ఎంతో అవసరమన్నారు. కార్యక్రమంలో రాజమహేంద్రవరంలోని ఐసీఏఆర్, సీటీఆర్ఐ డైరక్టర్ డాక్టర్ ఎం.శేషుమాధవ్ విజ్ఞాన్ యూనివర్సిటీ వీసీ ప్రొఫెసర్ పి.నాగభూషణం, రిజిస్ట్రార్ డాక్టర్ ఎంఎస్ రఘునాధన్ తదితరులు పాల్గొన్నారు.

ఈనాడు

epaper.eenadu.net

...లు పాల్గొన్నారు.

సుస్థిర వ్యవసాయంతోనే అధిక ఉత్పత్తులు

మాట్లాడుతున్న ఎగ్జిక్యూటివ్ డైరెక్టర్ సత్యనారాయణ

పొన్నూరు, న్యూస్‌టుడే: పెరుగుతున్న జనాభాకు తగ్గ ఉత్పత్తిని సుస్థిర వ్యవసాయంతోనే సాధ్యమని సంగం డెయిరీ సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ పేర్కొన్నారు. చేబ్రోలు మండల పరిధిలోని వడ్లమూడి విజ్ఞాన్ యూనివర్సిటీలో క్లైమెట్ స్మార్ట్ అగ్రికల్చర్ అనే అంశంపై నిర్వహించిన అంతర్జాతీయ సదస్సులో ఆయన మాట్లాడారు. సుస్థిర వ్యవసాయ పద్ధతులతో రసాయన ఎరువుల వినియోగం తగ్గించుకోవచ్చన్నారు.

గుంటూరు జిల్లా

సుస్థిర వ్యవసాయంతోనే ఉత్పత్తి సాధ్యం

Govathoti paul 05:19 PM, 28 మార్చి 147 వీక్షించారు

చేబ్రోలు మండలం వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలోని స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలోని అగ్రికల్చరల్ అండ్ హార్టికల్చరల్ సైన్సెస్ డిపార్ట్‌మెంట్ ఆధ్వర్యంలో '' క్లైమేట్ స్మార్ట్ అగ్రికల్చర్'' అనే అంశంపై మూడు రోజుల పాటు నిర్వహిస్తున్న అంతర్జాతీయస్థాయి కాన్ఫరెన్స్ రెండో రోజైన మంగళవారం ఘనంగా ముగిసింది. కార్యక్రమానికి ముఖ్య అతిథిగా హాజరైన సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ మాట్లాడుతూ ...

సాక్షి

దిని వివరించారు. కళాశాల ఐటి విభాగంలో పైన ... కులు అభినందించారు.

సుస్థిర సేద్యంతో మేలైన ఫలితాలు

సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ

చేబ్రోలు: వాతావరణ మార్పులు, పర్యావరణ సమస్యలు, పెరుగుతున్న జనాభాకు తగ్గ స్థిరమైన ఉత్పత్తిని సాధించాలంటే సుస్థిర వ్యవసాయంతోనే సాధ్యమని సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ పేర్కొన్నారు. చేబ్రోలు మండలం వడ్లమూడి విజ్ఞాన్ యూనివర్సిటీలో క్లైయిమేట్ స్మార్ట్ అగ్రికల్చర్ అనే అంశంపై నిర్వహిస్తున్న అంతర్జాతీయస్థాయి కాన్ఫరెన్స్ రెండో రోజైన మంగళవారం ముగిసింది. ఈ సందర్భంగా ఆలపాటి సత్యనారాయణ మాట్లాడుతూ సుస్థిర వ్యవసాయం ద్వారా మెరుగైన ఫలితాలు ఉంటాయన్నారు. ధార్వాడలోని యూనివర్సిటీ ఆఫ్ అగ్రికల్చర్ సైన్స్ మాజీ వీసీ ఆర్ఆర్ హంచినల్ మాట్లాడుతూ సీడ్ ఇండస్ట్రీలో ఉన్న అవకాశాలను విద్యార్థులు అందిపుచ్చుకోవడానికి సిద్ధంగా ఉండాలన్నారు. సీడ్ ప్రొడక్షన్‌లో ఆధునిక మెలకువలను

మాట్లాడుతున్న ఆలపాటి సత్యనారాయణ

వినియోగించి విస్తృత పరిశోధనలు చేయాలన్నారు. హైదరాబాద్‌లోని ఐసీఏఆర్– ఐఐఓఆర్ డైరెక్టర్ డాక్టర్ ఆర్.కె.మాథూర్ మాట్లాడుతూ పెరుగుతున్న దేశ జనాభాకు అవసరమైన వంట నూనెల్లో ఎక్కువ శాతం విదేశాల నుంచి దిగుమతి చేసుకుంటున్నామన్నారు. గోధుమ, వరి, ఆహార పంటల సాగు విస్తీర్ణంతో పోలిస్తే నూనె గింజల పంటల సాగు పెరుగుదల తక్కువేనని పేర్కొన్నారు. అందువల్ల నూనె గింజల ఉత్పత్తిలో దేశ ప్రజల అవసరాలు తీర్చడానికి అనువైన పంటల సాగు చేపట్టడం, ఉత్పాదకత పెంచడం ఎంతో అవసరమన్నారు. కార్యక్రమంలో విజ్ఞాన్ వీసీ పి.నాగభూషణ్, ఎంఎస్ రఘునాథన్, ఎం.శేషు మాధవ్ తదితరులు పాల్గొన్నారు.

Date: 29/03/2023, Edition: Guntur(Prathipadu), Page: 9
Source : https://epaper.sakshi.com/

సుస్థిర వ్యవసాయంతోనే ఉత్పత్తి సాధ్యం

- సంగం సీడ్స్ ఎగ్జిక్యూటీవ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ

పొన్నూరు, మార్చి 28,ప్రభాతవార్త: ప్రపంచంలో రోజు రోజుకు పెరుగుతున్న వాతావరణ మార్పులు, పర్యావరణ సమస్యలు, పెరుగుతున్న జనాభాకు తగ్గ స్థిరమైన ఉత్పత్తిని సాధించాలంటే సుస్థిర వ్యవసాయంతోనే సాధ్యమని సంగం సీడ్స్ ఎగ్జిక్యూటీవ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ పేర్కొన్నారు. చేబ్రోలు మండలం, వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలో స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలో క్లైమేట్ స్మార్ట్ అగ్రికల్చర్ అనే అంశంపై మూడు రోజులపాటు నిర్వహిస్తున్న అంతర్జాతీయస్థాయి కాన్ఫరెన్స్ రెండో రోజైన మంగళవారం ఘనంగా ముగిసింది. సదస్సులో డాక్టర్ ఆలపాటి సత్యనారాయణ మాట్లాడుతూ సుస్థిర వ్యవసాయమును సామాజిక, పర్యావరణ, ఆర్థిక రంగాలుగా విభజించవచ్చునన్నారు. సుస్థిర వ్యవసాయ పద్ధతులను వినియోగిస్తున్నప్పుడు ఎదురయ్యే అడ్డంకులను గుర్తించడంతో పాటు వాటిని అధిగమించడానికి విద్యార్థులు కృషి చేయాలన్నారు. సుస్థిర వ్యవసాయ పద్ధతులను అవలంభించడం ద్వారా రైతులు పునరుత్పాదకశక్తిపై ఆధారపడడం, రసాయన ఎరువుల వినియోగం, వనరుల కొరత తగ్గించుకోవచ్చన్నారు. మరో ముఖ్య అతిథిగా పాల్గొన్న యూనివర్సిటీ ఆఫ్ అగ్రికల్చర్ సైన్స్ మాజీ వైస్ ఛాన్సలర్ డాక్టర్ ఆర్ఆర్ హించినల్ మాట్లాడుతూ సీడ్ ఇండస్ట్రీలో ఉన్న అవకాశాలను విద్యార్థులు అందిపుచ్చుకోవడానికి సిద్ధంగా ఉండాలన్నారు. సీడ్ ప్రొడక్షన్‌లో ఆధునిక మెలుకవలను వినియోగించి విస్తృత పరిశోధనలు చేయాలన్నారు మరో ముఖ్య అతిథి ఐసీఏఆర్ ఐఐఓఆర్ డైరెక్టర్ డాక్టర్ ఆర్‌కె మాథూర్ మాట్లాడుతూ పెరుగుతున్న దేశ జనాభాకు అవసరమైన వంట నూనెల్లో ఎక్కువ శాతం విదేశాల నుండి దిగుమతి చేసుకొంటున్నామన్నారు. గోధుమ, వరి, ఆహార పంటలు సాగు విస్తీర్ణంతో పోలిస్తే నూనె గింజల పంటల సాగు పెరుగుదల తక్కువేనని పేర్కొన్నారు. అందువల్ల నూనె గింజల ఉత్పత్తిలో దేశ ప్రజల అవసరాలను తీర్చడానికి పెద్ద ఎత్తున వివిధ వ్యవసాయ భౌగోళిక మండలాల్లో అక్కడి వాతావరణ పరిస్థితులకు అనువైన పంటల సాగు చేపట్టడం, ఉత్పాదకత పెంచడం ఎంతో అవసరమని తెలియజేశారు. కార్యక్రమంలో రాజమహేంద్రవరంలోని ఐసీఏఆర్ సీటీఆర్ఐ డైరెక్టర్ డాక్టర్ ఎం.శేషు మాధవ్, విజ్ఞాన్స్ వీసి ప్రొఫెసర్ పి.నాగభూషణ్, రిజిస్ట్రార్ డాక్టర్ ఎంఎస్ రఘునాథన్, డీన్ ఎస్ఏఎఫ్‌టి, ఆయా విభాగాల డీన్లు, అధిపతులు, అగ్రికల్చరల్ విద్యార్థులు పాల్గొన్నారు.

ABN ఆంధ్రజ్యోతి

సీతారామయ్య, సిరిపురం జడ్పీ హైస్కూల్ హెచ్ఎం శ్రీనివాసు పాల్గొన్నారు.

సుస్థిర వ్యవసాయంతోనే ఉత్పత్తి సాధ్యం

● సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ ఆలపాటి సత్యనారాయణ

గుంటూరు(విద్య), మార్చి 28: పెరుగుతున్న జనాభాకు తగ్గ స్థిరమైన ఉత్పత్తిని సాధించాలంటే సుస్థిర వ్యవసాయంతోనే సాధ్యమని సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ ఆలపాటి సత్యనారాయణ తెలిపారు. వడ్లమూడిలోని విజ్ఞాన్ విశ్వవిద్యాలయంలో స్కూల్ ఆఫ్ అగ్రికల్చరల్ అండ్ ఫుడ్ టెక్నాలజీ ఆధ్వర్యంలో నిర్వహిస్తున్న సదస్సు మంగళవారం ముగిసింది. ఈ సందర్భంగా ఏర్పాటుచేసిన సదస్సులో ఆలపాటి మాట్లాడుతూ సుస్థిర వ్యవసాయం చేసే సమయంలో ఎదురయ్యే సమస్యల్ని అధిగమించాలన్నారు. కార్యక్రమంలో ధార్వాడా వర్సిటీ విశ్రాంత వీసీ ఆర్ఆర్ హంచినల్, ఐసీఏఆర్ ఐఐవోఆర్ డైరెక్టర్(హైదరాబాదు) ఆర్‌కే మాథూర్, రాజమండ్రిలోని ఐసీఏఆర్ సీటీఆర్ఐ డైరెక్టర్ ఎం శేషు, విజ్ఞాన్ వర్సిటీ వీసీ ఆచార్య పీ నాగభూషణ్, రిజిస్ట్రార్ ఎంఎస్ రఘునాథన్ తదితరులు పాల్గొన్నారు.

మాట్లాడుతున్న ఆలపాటి సత్యనారాయణ

సూర్య

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సుస్థిర వ్యవసాయంతోనే ఉత్పత్తి సాధ్యం

-సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ

గుంటూరు, మేజర్ న్యూస్: ప్రపంచంలో రోజు రోజుకు పెరుగుతున్న వాతావరణ మార్పులు, పర్యావరణ సమస్యలు, పెరుగుతున్న జనాభాకు తగ్గ స్థిరమైన ఉత్పత్తిని సాధించాలంటే సుస్థిర వ్యవసాయంతోనే సాధ్యమని సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ పేర్కొన్నారు. చేబ్రోలు మండలం వడ్లమూడి విజ్ఞాన్స్ యూనివర్సిటీలోని స్కూల్ ఆఫ్ అగ్రికల్చర్ అండ్ ఫుడ్ టెక్నాలజీ విభాగంలోని అగ్రికల్చరల్ అండ్ హార్టికల్చరల్ సైన్సెస్ డిపార్ట్‌మెంట్ ఆధ్వర్యంలో " క్లైమేట్ స్మార్ట్ అగ్రికల్చర్" అనే అంశంపై మూడు రోజుల పాటు నిర్వహిస్తున్న అంతర్జాతీయస్థాయి కాన్ఫరెన్స్ రెండో రోజైన మంగళవారం ఘనంగా ముగిసింది. కార్యక్రమానికి ముఖ్య అతిథిగా హాజరైన సంగం సీడ్స్ ఎగ్జిక్యూటివ్ డైరెక్టర్ డాక్టర్ ఆలపాటి సత్యనారాయణ మాట్లాడుతూ సుస్థిర వ్యవసాయమును సామాజిక, పర్యావరణ, ఆర్థిక రంగాలుగా విభజించవచ్చునన్నారు. సుస్థిర వ్యవసాయ పద్దుతులను వినియోగిస్తున్నప్పుడు ఎదురయ్యే అడ్డంకులను గుర్తించడంతో పాటు వాటిని అధిగమించడానికి విద్యార్థులు కృషి చేయాలన్నారు. ధార్వాడలోని యూనివర్సిటీ ఆఫ్ అగ్రికల్చర్ సైన్స్ మాజీ వైస్ చాన్సలర్ డాక్టర్ ఆర్ఆర్ హంచినల్ మాట్లాడుతూ సీడ్ ఇండస్ట్రీలో ఉన్న అవకాశాలను విద్యార్థులు అందిపుచ్చుకోవడానికి సిద్ధంగా ఉండాలన్నారు. సీడ్ ప్రొడక్షన్‌లో ఆధునిక మెలుకవలను వినియోగించి విస్తృత పరిశోధనలు చేయాలన్నారు. హైదరాబాద్‌లోని ఐసీఏఆర్–ఐఐఓఆర్ డైరక్టర్ డాక్టర్ ఆర్.కే. మాథూర్ పెరుగుతున్న దేశ జనాభాకు అవసరమైన వంట నూనెల్లో ఎక్కువ శాతం విదేశాల నుండి దిగుమతి చేసుకుంటున్నామన్నారు. గోధుమ, వరి, ఆహారపంటలు సాగు విస్తీర్ణంతో పోలిస్తే నూనె గింజల పంటల సాగు పెరుగుదల తక్కువేనన్నారు. నూనె గింజల ఉత్పత్తిలో దేశ ప్రజల అవసరాలు తీర్చడానికి పెద్ద ఎత్తున వివిధ వ్యవసాయ బౌగోళిక మండలాల్లో అక్కడి వాతావరణ పరిస్థితులకు అనువైన పంటల సాగు అవసరమని తెలిపారు. కార్యక్రమంలో రాజమహేంద్రవరంలోని ఐసీఏఆర్–సీటీఆర్ఐ డైరక్టర్ డాక్టర్ ఎం. శేషు మాధవ్ విజ్ఞాన్స్ యూనివర్సిటీ వైస్ చాన్సలర్ ప్రొఫెసర్ పీ.నాగభూషణ్, రిజిస్ట్రార్ డాక్టర్ ఎంఎస్ రఘునాథన్, డీన్ ఎస్ఏఎఫ్‌టీ, ఆయా విభాగాల డీన్లు, అధిపతులు, అగ్రికల్చరల్ విద్యార్థులు పాల్గొన్నారు.