



FIRST CIRCULAR

Fifth International Agronomy Congress

On

“Agri Innovations to Combat Food and Nutrition
Challenges”

November 23–27, 2021

at

Professor Jayashankar Telangana State Agricultural University
(PJTSAU), Hyderabad, Telangana, India



Organized by

Indian Society of Agronomy, New Delhi
Indian Council of Agricultural Research, New Delhi
PJTSAU, Hyderabad, Telangana

In collaboration with

ICAR-Indian Agricultural Research Institute, New Delhi
ICAR-National Academy of Agricultural Sciences, New Delhi



HEADS OF ORGANIZING INSTITUTIONS

Prof. Trilochan Mohapatra

Secretary DARE and DG, ICAR

Ministry of Agriculture & Farmers Welfare, Krishi Bhawan

Dr Rajendra Prasad Road, New Delhi – 110 001

Email: dg.icar@nic.in

Dr V. Praveen Rao

Vice-Chancellor (PJTSAU) and President, Indian Society of Agronomy

Professor Jayashankar Telangana State Agricultural University

Hyderabad – 500 030, Telangana

Tel. No: 0091-40-24015122 (Office) Mb0091-9849029245

Email: velchalap@gmail.com

Prof. Panjab Singh

Chancellor, RLBCAU, Jhansi, President, FAARD Foundation

Former-Secretary DARE & DG, ICAR, Former-President, ISA & NAAS

Former-Vice Chancellor, BHU

Saraswati Kunj, Narainpur-Dafi,

P.O. Naipura, Varanasi – 221 005, U.P.

Email: panjabsingh03@yahoo.com

Dr A.K. Singh

Director

ICAR-Indian Agricultural Research Institute

New Delhi – 110 012, India

Email: director@iari.res.in



Fifth International Agronomy Congress

on

“Agri Innovations to Combat Food and Nutrition Challenges”

November 23–27, 2021

at

**Professor Jayashankar Telangana State Agricultural University,
(PJ TSAU), Hyderabad, Telangana, India**

During the Fourth International Agronomy Congress held in New Delhi, India in 2016, it was resolved to hold the Fifth International Agronomy Congress to review the progress in agri-innovations and work out strategies to combat food and nutrition challenges by generating new opportunities/technologies through agronomic research. The Indian Society of Agronomy agreed with this in principle and has taken initiative to organize the Fifth International Agronomy Congress at Professor Jayashankar Telangana State Agricultural University (PJ TSAU), Rajendranagar, Hyderabad, India to maintain the continuity and provide an international platform to the agronomists world over to discuss the emerging issues.

The 20th Century witnessed an outstanding and unprecedented scientific and technological development in all fields ranging from agriculture to industry and further to information technology. This progress has virtually transformed human life in terms of prosperity and higher standard of living for a section of population of the world. Yet, the paradox before us is the stark reality that large segment of humanity is still trapped in hunger and poverty. Besides, conventional agriculture has encountered a host of problems such as degradation of natural resources, decline in factor productivity, soil health and water availability, increasing incidences of pests and diseases, energy crises, livelihood security of small holders and emerging challenges of climate change. Our natural resources will be at increasing risk from soil degradation, deforestation, contamination, biodiversity losses due to population pressure. To achieve the “Sustainable Development Goals” like alleviation of poverty, reduction of hunger, conservation of natural resources, mitigation of climate change and many more innovations in agriculture would play very important roles.

The Green Revolution based on improved varieties and improved cultural practices of rice and wheat, saved hundreds of millions of people from starvation. The cereal grain production in the world increased by a factor of 3.91, while the land area increased by only 33.9%. Green Revolution served its purpose of bringing about a rapid increase in global food production amidst few environmental consequences such as air pollution, water contamination/eutrophication, and degradation of soil. Furthermore, the benefits of the Green Revolution were not availed in most of the sub-Saharan Africa where either the inputs were not available or the resource-poor farmers were not sure of their usefulness in fragile soils and harsh environments.



FIFTH INTERNATIONAL AGRONOMY CONGRESS

The widespread problems of environmental pollution include: algal blooms, soil degradation, water depletion in regions of irrigated farm lands, and increasing emissions of greenhouse gases. Simultaneously, energy consumption and emission of carbon are also increasing rapidly. The global energy is projected to increase to 700 EJ by 2030 and 776 EJ by 2040. The cumulative carbon emission between 1750 and till now is estimated at ~600 Pg (billion metric ton) of which 410 Pg was from fossil fuel combustion and ~190 Pg from the land use change. Soil degradation is exacerbated by agricultural expansion and excessive plowing, secondary salinization by unnecessary flood-based irrigation, and air pollution by in-field and in-house burning of crop residues and other biomass generated from agriculture. While the agriculture of the future must be both food and nutrition-sensitive, the uncontrolled growth of human reproduction must be immediately curbed through universal education, especially girl's education. The severe problem of soil degradation, caused by land misuse and soil mismanagement, must be critically and urgently addressed. Thus, future agro-ecosystems must be soil-centric managed by innovative sustainable agronomic practices, which could restore soil health, recycle nutrients, conserve and purify water, strengthen biodiversity, and produce nutrient-rich food.

Almost 300 million people are prone to undernourishment in South Asia of which about 200 million are in India. In contrast, adult obesity is also worsening and increasing consistently and affecting 672 million people in the world. An inadequate access to healthy/nutritious food contributes to undernutrition and obesity. There exists a direct link between soil health (soil quality and functionality) and healthy nutritional status of the food (plants, animals) grown on it. However, effect of soil properties on human health can be both positive and negative. The widespread problem of soil degradation and desertification, affecting almost 23.5% of the Earth's land area, is widely considered to be an important cause of the problem of human malnutrition. Above all, a large proportion of the world population is also prone to hidden hunger, or more than one form of malnutrition. Human food produced through plants and animals grown on nutrient-poor soils is deficient in these essential nutrients and adversely affects human health and well-being. Therefore, bioavailability of these elements must be enhanced in soils of agro-ecosystems through judicious management of soil physical, chemical, biological and ecological properties. Eco-nutrition, another relevant strategy towards enhancing the nutritional value of food produced on soils, is based on the concept that there exists a strong link between the health of soil and human in one hand and environmental health and economic development on the other. Therefore, improving soil health through restoration of soil organic matter content by integrated soil fertility management can also enhance micronutrient, vitamins, and protein contents through bio-fortification in the soil-plant-animal food systems.

Resource conserving technologies are another area of research, which needs to be strengthened towards improving the use efficiency of the available resources and to create quality natural resource base. The per capita water availability has come down from 3100 m³ in 1975 to 1900 m³ in 2000, and is likely to be down further to 1400 m³ in 2025. This calls for special attention of the agronomists to manage the precious resource by developing techniques for efficient use of each



FIFTH INTERNATIONAL AGRONOMY CONGRESS

drop of water. The technologies developed so far need further refinement and up-gradation. An integrated farming system, irrespective of combination of crops and enterprises/ location/ management/ socio-economic conditions has resulted in higher profit in all the case studies. This approach has the potential to take care of livelihood, environment and energy security through multiple and efficient use of resources. Under the prevailing environmental and economic constraints, further increase in productivity and production can only be possible through increased resource-use efficiency and multiple use of limited resources. There is need to develop integrated soil-crop-animal-environment management system through advanced agronomic research and technology development using robotics, AI, IoT applications, sensor-based technologies, drone-assisted management, nanotechnology etc. These will sufficiently add to farmers profit and eco-friendly management of crop and soil.

Management of soil organic carbon for improving soil hydrological properties (water transmission and retention) can reduce the severity and duration of pedological/agronomic drought. In addition to the properties of soil and landscape, the incidence of pedologic drought may also be aggravated by the projected climate change. Innovative concepts like soilless medium; vertical farming; hydroponics; big data analytics; digital agriculture; expert systems; solar farming; ecosystem services etc. need to be adequately researched to address these challenges. Under these circumstances, the 'Agronomy,' which confines the knowledge and findings of other disciplines of agriculture and basic sciences and translates them into innovative technologies for the use of farmers, has to play a crucial role. In the proposed 5th International Agronomy Congress, all these issues/problems of agriculture will be discussed at lengths at the international platform to take stock of 'Technology Capital' available to address these issues. Based on the deliberations of the Congress future research strategies and recommendations based on available knowledge will be developed to address the emerging matrix of the agricultural problems in a holistic manner.

THEME

The theme of the Fifth International Agronomy Congress will be **"Agri Innovations to Combat Food and Nutrition Challenges"**. Tentatively there will be following sub-themes for the Congress. Each sub-theme will have a separate symposium

1. Climate Resilient Agriculture and Ecosystem Services
2. Integrated Farming Systems for Sustainable Peasant Economy
3. Conservation Agriculture, Smart Mechanization and Energy Use
4. Agronomic Innovations for Tapping Genetic Potential
5. Soil-Plant-Animal and Human Health Continuum
6. Big Data for Smart Agriculture
7. New Vistas in Biotic and Abiotic Stress Management
8. Perspective in Organic Agriculture
9. Advances in Soil-Microbe-Plant-Water and Environment Interactions
10. Innovative Delivery System for Agronomic Technologies
11. Agronomic Education: A Paradigm Shift in the Offing



FIFTH INTERNATIONAL AGRONOMY CONGRESS

12. Secondary Agriculture and Farmers Prosperity
13. Farmers–Scientists Interface

Presentations

There will be three categories of presentations:

- Plenary
- Invited
- Rapid fire
- Poster

In addition, the Working Groups will deliberate on the topics of current specific interests in Agronomy.

Plenary Lectures

Eminent Scientists/Administrators in agriculture will be invited to deliver special lectures on the topics related to food production and policy, farming systems research, climate change, conservation agriculture, energy, environment, biotechnology, input use efficiency, etc.

Invited Papers

Twelve Symposia have been planned on the sub–themes of the Congress as listed above. Selected speakers will be invited to make their presentations on the sub–themes of the Congress.

Poster Presentations

There will be an organized Poster Session covering the themes identified in the Symposia to encourage wider interaction and information sharing. The papers contributed for Poster Session will be screened and each Poster Session will have a Convener and Co–convener. The Conveners/Co–conveners will prepare and present Summary of the concerned Poster Session. This will permit discussion and help in formulation of meaningful recommendations.

Exhibition and Advertisement

An exhibition will be organized at the conference venue, the details of the space available and charges etc. will be made available in the second circular. Advertisement can be included in the conference publications.

Host Organizations

Following are the host organizations. For details refer to their website:

- Indian Society of Agronomy, New Delhi : www.isa-india.in
- PJTSAU, Rajendranagar, Hyderabad : www.pjtsau.edu.in
- Indian Council of Agricultural Research, New Delhi : www.icar.org.in
- Indian Agricultural Research Institute, New Delhi : www.iari.res.in
- National Academy of Agricultural Sciences, New Delhi : www.naasindia.org
- ICRISAT, Patancheru, Hyderabad : www.icrisat.org
- RLBCAU, Jhansi : www.rlbcau.ac.in



FIFTH INTERNATIONAL AGRONOMY CONGRESS

Sponsorship

Organizers need sponsorship from different organizations for achieving the objectives of the Congress in wider perspectives.

Language: English will be the official language of the Congress.

Venue: University Auditorium, PJTSAU, Rajendranagar, Hyderabad

Congress duration: November 23–27, 2021

REGISTRATION FEE

Foreign delegates:

Scientists	– US \$ 700 (After due date US\$ 800)
Industry and private organizations	– US \$ 800 (After due date US\$ 900)
Students/Research Scholars	– US \$ 350 (After due date US\$ 400)
Accompanying member	– US \$ 350

Indian delegates:

Scientific participants	
ISA Member Scientists (In–service)	– ₹ 10,000 (After due date ₹ 12,000)
ISA Member Scientists (Retired)	– ₹ 6,000 (After due date ₹ 7,000)
Non–ISA Members	– ₹ 12,000 (After due date ₹ 15,000)
Industry and private organizations	– ₹ 20,000 (After due date ₹ 25,000)
Student/Research Scholar	– ₹ 5,000 (After due date ₹ 6,000)
Accompanying member	– ₹ 5,000

CURRENCY

Rupee (₹) is the national currency of India. All major international currencies can be exchanged at the International Airports, 5–star Hotels and Banks. Major currencies are accepted at the hotels and some major shopping centres. International credit/debit cards are widely accepted.

ACCOMMODATION

The registration fee does not include accommodation charges. Limited accommodation is available in the government guest houses. Most of the delegates will have to stay in hotels.

A wide range of accommodation varying from 5–Star hotels to guest houses is available. The likely tariffs are as follows:

5–Star Hotels	US \$ 400–800 (₹ 6,000–8,000) per day diem/night
Medium range Hotels	US \$ 200–400 (₹ 2,500–5,000) per day diem/night

5–Star Hotels

Park Hyatt	₹ 6000	Taj Krishna	₹ 5750	Radisson Hotel	₹ 4500
ITC kakatiya	₹ 4500	Golkonda	₹ 3500	Ashoka	₹ 2750
Lemon tree	₹ 2500	Red Fox	₹ 2300	Tajmahal	₹ 2000

Guest houses Per person per day AC room

NAARM	₹ 1500	NIPHM	₹ 1000	WALAMTARI	₹ 1000	IIOR	₹ 500
-------	--------	-------	--------	-----------	--------	------	-------



FIFTH INTERNATIONAL AGRONOMY CONGRESS

These tariffs are based on current rates per day. Upward revision of about 10 to 15% is expected by the time of the Congress. Limited accommodation may be available for the Indian delegates in the various guest houses.

IMPORTANT DATES

Notice of Intent (First Circular)	- 31 st January, 2021
Submission of Abstract	- 30 th April, 2021
Acceptance of paper/extended summary	- 15 th June, 2021
Registration fee (without late fee)	- 31 st July, 2021
Receipt of full length invited papers	- 31 st August, 2021

Internet

The information contained in this circular and all updates are available on: www.isa-india.in

Tour

Pre-and post-conference tours to tourist spots will be organized for the registered delegates and accompanying persons in and around Hyderabad as well as other places of interest.

SECOND CIRCULAR

The second circular containing further information will be sent only to those who send the Notice of Intent.

ABOUT THE CITY

Hyderabad is the capital of the state Telangana, India. It also goes by its Sobriquet City of Pearls. It is the fourth most populous city and sixth-most populous urban agglomeration in India. Hyderabad was founded by Muhammad Quli Qutb Shah in 1591 on the banks of Musi. Today the city covers an area of approximately 650 square km. The twin cities of Hyderabad and Secunderabad come under the ambit of a single municipal unit, The Greater Hyderabad Municipal Corporation.

Hyderabad has developed into one of the major hubs for the information technology industry in India which has earned it the additional sobriquet "Cyberabad". In addition to the IT industry, various biotechnology and pharmaceuticals companies have set up their operations in Hyderabad owing to its established Public sector in Life Science Research and Genome Valley. All Residents of Hyderabad are generally called Hyderabadis. Located at the crossroads of North and South India, Hyderabad has developed a unique culture that is reflected in its language and architecture.

Hyderabad, also known as the 'City of Nawabs' is steeped in rich culture and history. The city is known for its opulent heritage, with a wide array of mosques, churches, temples, monuments, historic places, food and the arts. The city of Hyderabad is recognized for its hospitality and is the one place where you can find a perfect amalgam.

How to Reach Hyderabad

Hyderabad has an international airport which is serviced by international flights



FIFTH INTERNATIONAL AGRONOMY CONGRESS

from Europe and the Middle East. Domestic flights operate from all major hubs. Taxis and auto-rickshaws ply back and forth to the city center. Hyderabad has three railway stations: Kacheguda, Hyderabad Deccan (Nampally) and Secunderabad. All three are major junctions on the South and West Zone sectors of the Indian Railways linking Hyderabad to major destinations like Mumbai, Delhi, Kolkata, Pune, Chennai, Bangalore and Thiruvananthapuram.

There are many other places of tourist interest, which might fascinate you. Trips will be arranged on payment basis. Our travel counter will be pleased to help you in this regard.

WEATHER

Hyderabad has a tropical wet and dry climate bordering on a hot semi-arid climate. Weather during the conference period from 23-27 November, 2021 would be very pleasant mostly dry and cool with mean minimum temperature ranging from 13 to 15 degree celsius and maximum mean temperature around 28 degree celsius.

CONTACT

Dr V. Praveen Rao, Organizing Chairman
5th International Agronomy Congress and
President, Indian Society of Agronomy and Vice-Chancellor (PJTSAU)
Professor Jayashankar Telangana State Agricultural University
Hyderabad, Telangana Hyderabad, Telangana
Tel. No: 0091-40-24015122 (Office)0091-9849029245
Email: velchalap@gmail.com

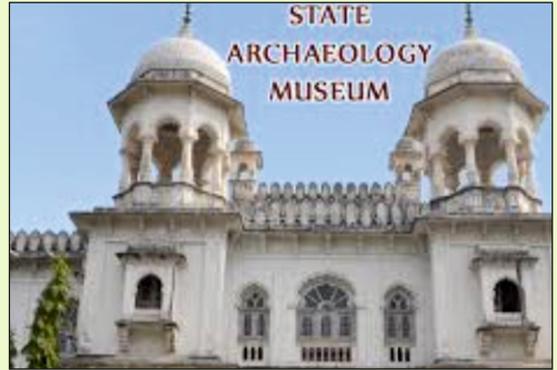
Dr V.K. Singh, Organizing Secretary
5th International Agronomy Congress and Secretary, ISA
Division of Agronomy, ICAR-Indian Agricultural Research Institute
New Delhi - 110 012, India
Tel. No: 011-25842283 (Office), Mobile: 09717078548; 9821349639
Email: secretary_isa@hotmail.com

Dr Shiva Dhar, Co-Organizing Secretary
5th International Agronomy Congress and
Treasurer, Indian Society of Agronomy
Division of Agronomy
ICAR-Indian Agricultural Research Institute
New Delhi 110 012, India
Tel. No: 011-25842283 (Office), Mobile: 09717078548
Email: drsdmisra@gmail.com

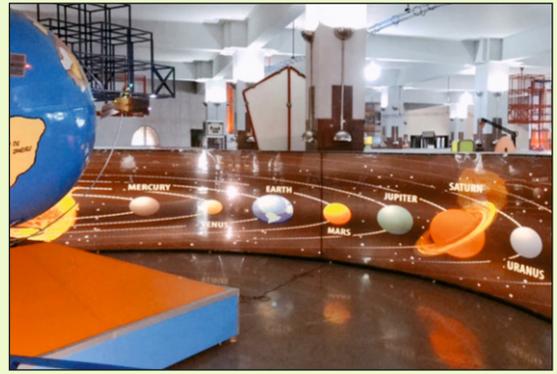
Dr R. Jagadeeshwar, Local organizing Secretary
5th International Agronomy Congress and
Director of Research
PJTSAU, Admin Office
Rajendranagar, Hyderabad - 500 030
Telangana
Email: dr.pjtsau@gmail.com
Mobile: +91 9121107203; +91 8179540261
Off: 040-2401 5078, 2401 7453



FIFTH INTERNATIONAL AGRONOMY CONGRESS



Telangana State Archaeology Museum



B.M. Birla Science Museum



Salar Jung Museum



Jalavihar Water Park



FIFTH INTERNATIONAL AGRONOMY CONGRESS

PARTICIPATION FORM

5th International Agronomy Congress “Agri Innovations to Combat Food and Nutrition Challenges”

November 23-27, 2021, Hyderabad, Telangana

(Please mail this form so as to reach the Organizing Secretary latest by 31 March, 2021)

Name: Prof./Dr/Mr./Mrs./Ms. _____
(Please underline your last name)

Country: _____

Address: _____

Tel. No. _____

Fax _____

Email: _____

Sub-theme of interest: _____

I am interested in:

- Attending the Congress
- Presenting a Invited paper on.....
- Presenting a rapid fire paper on
- Presenting a Poster on
- Post Congress Tour

Signature

Mailing Address:

Dr. V.K. Singh

Organizing Secretary

5th International Agronomy Congress and

Secretary, Indian Society of Agronomy

Division of Agronomy

ICAR-Indian Agricultural Research Institute, New Delhi 110 012, India

Tel. (O): 011-25842283

Fax: 091-11-25842283; Mobile: 09717078548; 9821349639

Email: secretary_isa@hotmail.com

FIFTH INTERNATIONAL AGRONOMY CONGRESS



Buddha Statue



Charminar

FIFTH INTERNATIONAL AGRONOMY CONGRESS



Golconda Fort



Ramoji Film City