

# THE FIRST INTERNATIONAL FORUM AND EXHIBITION FOR SUSTAINABLE AGRICULTURE IFESA 2023

"Development of Agriculture using Optimal utilization of Natural Resources."

Riyadh 20-22 November 2023

## Forum Agenda



## Main Objectives of the Forum



To enable sustainable agricultural development in the Kingdom by increasing the capacity of agricultural sector to produce more food while reducing its environmental footprint.



To attract the private sector for investment in applications which will support sustainable agriculture.



To enhance food security in the Kingdom by increasing the efficiency of food systems.



Providing platforms to show innovative agricultural technologies that can enable sustainable agricultural practices.



To achieve the national goals and United Nations Sustainable Development Goals (UN SDGs -2030) as related to agricultural sector.

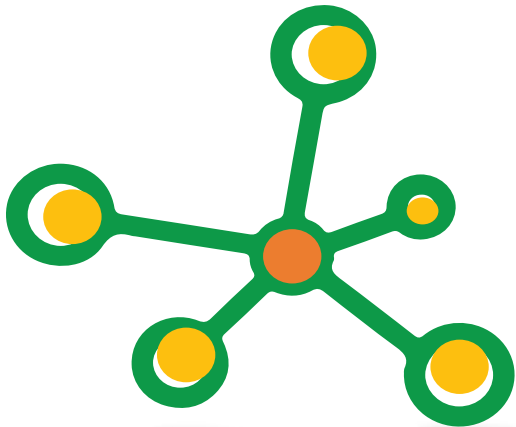


To encourage research and innovation in agricultural fields for maintaining effective agricultural production systems.



To provide opportunities for cooperation, exchange of ideas, Technology transfer and localization of modern agricultural technologies.

## Main Themes of the Forum



Maximization of Natural Resources Use in Agricultural Production



Precision Agriculture



Climate Smart Agriculture



Integrated Pest Management (IPM)



Marketing and Sustainable Food Value Chains



Investment in Sustainable Agriculture




Protected Agriculture Technologies

Monday – 20 November 2023

 Fairmont

- 8:00 am | **Registration (Lobby)**
- 9:00 am | **Opening Session and Honouring Ceremony (Hall 1)**
- 9:00 am | **Arrival of the Patron of the Forum's Ceremony, the Minister of Environment, Water and Agriculture (MEWA),  
9:10 am | His Excellency Eng. Abdulrahman Al-Fadhli**
- 9:10 am | **The Royal Anthem and Forum Opening**
- 9:15 am | **Promo Video of the Forum**
- 9:20 am | **The National Research and Development Center for Sustainable Agriculture General Manager Speech,  
9:25 am | His Excellency Prof. Abdulrahman Al-Soqeer**
- 9:25 am | **Signing Agreement and Keynote Speakers Recognition**
- 9:35 am | **The Official Opening of the Exhibition**
- 9:55 am | **Poster Session**
- 11:00 am

## Theme 1: Maximization of Natural Resources Use in Agricultural Production

- 11:00 am | **Keynote speech | The Optimum Use of Natural Resources in the Arab Region**  **Hall 1**
- 11:35 am | **Dr. Naser Eddin Al Obaid, Director-General of (ACSAD) Organization.**
- 11:35 am | **Coffee Break**
- 12:00 pm

## Session 1

 12:00 – 01:40 pm  Hall 1

### Theme 1: Maximization of Natural Resources Use in Agricultural Production (Sustainable Water Use).

**Moderator:** Dr. Abdullah bin Ibrahim Al-Khudairi, Vice President for Sustainability and Environment, KACST, Saudi Arabia.

**Speakers:**

- 12:00 pm | **1.1 Innovative Approaches to Maximize Irrigation Water Use in Saudi Arabia's Agricultural Sector**
- 12:20 pm | **Prof. Salah El-Hendawy, King Saud Univesity, Saudi Arabia.**
- 12:20 pm | **1.2 A Paradigm Shift in Irrigation Strategies Under Water Scarcity: From Efficiency to Productivity**
- 12:40 pm | **Prof. Theib Y. Oweis, ICARDA, Jordan.**
- 12:40 pm | **1.3 Agricultural Water Use from Space: From Field to National Scale Monitoring**
- 1:00 pm | **Prof. Matthew F McCabe, KAUST, Saudi Arabia.**
- 1:00 pm | **1.4 Ensuring Maximum Water Use Efficiency in Desert Agriculture, Avoiding the Use of Ground Water**
- 1:20 pm | **Dr. Pierre Broun, NEOM, Saudi Arabia.**
- 1:20 pm | **1.5 Session Discussion**
- 1:40 pm | **Coffee Break (Poster presentations are shown during Coffee Breaks)**
- 2:20 pm

## Session 2

 02:20 – 04:00 pm  Hall 1

### Theme 1: Maximization of Natural Resources Use in Agricultural Production (Enhancing Agricultural Production by Improving Soil Properties).

**Moderator:** Prof. Maha Mohammed Khayyat, Professor of Semiconductors Physics, KACST, Saudi Arabia.

**Speakers:**

- 2:20 pm | **2.1 Biofertilizers An Effective Tool Toward Sustainability in Arid and Semi-arid Regions**
- 2:40 pm | **Prof. Abdulhakim Bawadekji, Northern Border University Arar, Saudi Arabia.**

2:40 pm | 2.2 How to Increase Soil Carbon  
3:00 pm | Prof. Yakov Kuzyakov, Georg-August-University of Goettingen, Germany.

3:00 pm | 2.3 Impact of Biochar, Biopolymers, and Natural Nanoclay on Enhancing Soil Quality and Fertility  
3:20 pm | Prof. Mohammad Alwabel, King Saud University, Saudi Arabia.

3:20 pm | 2.4 Stress Mitigation by Plant Nutrition  
3:40 pm | Prof. İsmail Çakmak, Sabanci University, Turkey.

3:40 pm | 2.5 Session Discussion  
4:00 pm

## Session 3

🕒 12:00 – 01:40 pm 📍 Hall 2

**Theme 1:** Maximization of Natural Resources Use in Agricultural Production (**Promoting the Economic Value and the Use of Wild Plant Species**).

**Moderator:** Dr. Felwa A. Thagafan, Associate Professor of Parasitology, Dean of College of Science, Princess Nora bint Abdul Rahman University, Saudi Arabia.

### Speakers:

12:00 pm | 3.1 The Contribution of Orphan Crops and Wild Edible Species in Food Security  
12:20 pm | Dr. Rakesh K. Singh, ICBA, UAE.

12:20 pm | 3.2 The Utilization of Crop Wild Relatives in Modern Breeding for Stress Resistance Improvement  
12:40 pm | Dr. Alanoud Alfagham, King Saud University, Saudi Arabia.

12:40 pm | 3.3 Enhancing the Utilization of Wild Plants of Economic Value and Focus on the Sustainable Use of Wild Plants  
01:00 pm | Dr. Ali Al Lawati, Sciences Research Center, University of Nizwa, Oman.

1:00 pm | 3.4 Evaluation of the Therapeutic Efficacy of the Wild Native Plants Used in Traditional Veterinary Medicine in the Kingdom of Saudi Arabia  
1:20 pm | Prof. Ibrahim El-Ashmawy, Qassim University, Saudi Arabia.

1:20 pm | 3.5 Session Discussion  
1:40 pm

1:40 pm | Coffee Break (Poster presentations are shown during Coffee Breaks)  
2:20 pm

## Session 4

🕒 02:20 pm – 04:00 pm 📍 Hall 2

**Theme 1:** Maximization of Natural Resources Use in Agricultural Production (**Bio-stimulants Use to Improve the Agricultural production**).

**Moderator:** Prof. Zeid Alothman, Dean of College of Science, King Saud University, Saudi Arabia.

### Speakers:

2:20 pm | 4.1 Application of Bio-Stimulants to Improve Yield and Stress Resilience of Crops  
2:40 pm | Dr. Michal Slota, University of Silesia in Katowice, Poland.

2:40 pm | 4.2 PGPFs from a Halophyte Grass Rhizosphere Enhance Plant Growth, Salt Stress Tolerance, and Reduces Chemical Fertilizers Inputs  
3:00 pm | Dr. Afif AlHassiri, King Saud University, Saudi Arabia.

3:00 pm | 4.3 Desert Microbes for Enhanced Salt, Water and Heat Resilience in Agriculture  
3:20 pm | Prof. Heribert Hirt, KAUST, Saudi Arabia.

3:20 pm | 4.4 Development and Applications of Hormone-Based Stimulants  
3:40 pm | Prof. Salim Al-Babli, KAUST, Saudi Arabia.


3:40 pm | 4.5 Session Discussion (Poster presentations are shown during Coffee Breaks)  
4:00 pm

Tuesday - 21 November 2023

Fairmont

8:00 am | Registration (Lobby)  
9:00 am

## Theme2: Precision Agriculture

9:00 am | Keynote Speech | Advancing Precision Agriculture Through Scientific Breakthroughs  Hall 1  
9:35 am | Prof. David Mulla, Professor Larson Endowed Chair in Soil and Water Resources  
Director of the Precision Agriculture Center, University of Minnesota, USA.

## Session 5

 09:35 – 11:40 am  Hall 1

### Theme 2: Precision Agriculture

**Moderator:** Dr. Ahmed Alsaqfi, Dean of Agriculture and Food Sciences College at King Faisal University, Saudi Arabia.

#### Speakers:

9:35 am | 5.1 Drone and Ground Based Remote Sensing for Precision Agriculture  
9:55 am | Dr. Ce Yang, University of Minnesota, USA.

9:55 am | 5.2 The Application of Remote Sensing Technologies in Precision Crop Management  
10:15 am | Dr. Francelino Rodrigues, Lincoln Agritech, Lincoln university, New Zealand.

10:15 am | 5.3 What the Plant Researchers and Breeders Have to do in Digital Era?  
10:35 am | Prof. Yong Suk Chung, JEJU University, South Korea.

10:35 am | 5.4 Analysis of Productivity and Water Footprint of Vegetables Grown in the Riyadh Region: A Remote Sensing and GIS Approach  
10:55 am | Prof. Khalid Algaadi, King Saud University, Saudi Arabia.

10:55 am | 5.5 The Brazilian Experience of Tropical Precision Agriculture  
11:15 am | Prof. Jose Paulo Molin, University of São Paulo, Brazil.

11:15 am | 5.6 Session Discussion  
11:40 am

11:40 am | Coffee Break (Poster presentations are shown during Coffee Breaks)  
12:20 pm

## Theme 3: Climate Smart Agriculture

12:20 pm | Keynote Speech |  Hall 1  
12:55 pm | Dr. Abdulaziz Almalik, Deputy Minister of Environment, Water and Agriculture for Research & Innovation, Saudi Arabia.

## Session 6

 12.55 – 03.00 pm  Hall 1

### Theme 3: Climate Smart Agriculture

**Moderator:** Prof. Salim Al-Babili, Professor of Plant Science | Associate Dean of Faculty, Biological and Environmental Science and Engineering, KAUST, Saudi Arabia.

#### Speakers:

12:55 pm | 6.1 Adaptation and Mitigation Strategies for Climate Change in Dry Environments  
1:15 pm | Dr. Abdulaziz Niane, ICARDA, UAE.

1:15 pm | 6.2 Promoting Advancement in Agriculture to Effectively Enhance Food Productivity  
1:35 pm | Dr. Essam Jamea, Manager Research & Technology at SABIC Agri-Nutrients, Saudi Arabia.

1:35 pm | 6.3 The Impact and Behavioural Analysis of the Adoption of Climate-Smart Agricultural Practices Among Farm Households in Developing Countries  
1:55 pm | Dr. Zainab Oyetunde-Uzman, Rothamsted Research, UK.

- 1:55 pm | 6.4 Regenerative Agriculture as Low-Emission Development Pathway Combating Climate Change, Environmental Degradation in Drylands  
2:15 pm | Dr. Ashok Kumar Are, ICRISAT, India.
- 2:15 pm | 6.5 Green Technology in Agriculture: Current Status and Opportunities  
2:35 pm | Dr. Mohamad Zabawi Bin Abdul Ghani, MARDI, Malaysia.
- 2:35 pm | 6.6 Session Discussion  
3:00 pm

## Theme 4: Integrated Pest Management (IPM)

- 9:00 am | Keynote speech | 📍 Hall 2  
9:35 am | Dr. Thaer Yaseen, Regional Plant Protection Officer Food and Agriculture Organization of the United Nations (FAO) Regional Office for the Near East and North Africa Region (NENA).

## Session 7

🕒 09:35 – 11:40 am 📍 Hall 2

### Theme 4: Integrated Pest Management (IPM)

**Moderator:** Dr. Abdulaziz Eljiati, Chief of Farming Al Madinah Heritage Company An Nakheel, BIAC, Saudi Arabia.

#### Speakers:

- 9:35 am | 7.1 Integrated Weed Management: The Key to Sustainable Farming  
9:55 am | Prof. Josef Soukup, President of European Weed Research Society, Czech.
- 9:55 am | 7.2 The Use of Microorganisms for Biological Control for High Productivity in Agricultural Production  
10:15 am | Prof. Johan A. Stenberg, Swedish University of Agricultural Sciences, Sweden.
- 10:15 am | 7.3 Using Viruses for Insect Pest Management and Focussing on Baculoviruses  
10:35 am | Dr. Mudasir Gani, SKUAST-Kashmir University, India.
- 10:35 am | 7.4 The Use of Natural Enemies in Integrated Pest Management  
10:55 am | Dr. Hessel van der Heide, Wageningen University, Netherlands.
- 10:55 am | 7.5 Plant Extracts and Their Applications in Pest Control  
11:15 am | Dr. Luma Al-Banna, Jordan University, Jordan.
- 11:15 am | 7.6 Session Discussion  
11:40 am
- 11:40 am | Coffee Break (Poster presentations are shown during Coffee Breaks)  
12:20 pm

## Theme 5: Marketing and Sustainable Food Value Chains

- 12:20 pm | Keynote speech | 📍 Hall 2  
12:55 pm | Dr. AbdulHakim Elwaer, FAO Assistant Director- General and Regional Representative for the Near East and North Africa.

## Session 8

🕒 12.55 – 03.00 pm 📍 Hall 2

### Theme 5: Marketing and Sustainable Food Value Chains

**Moderator:** Mr. Woody Ang, Director – Food Ecosystems, NEOM, Saudi Arabia.

#### Speakers:

- 12:55 pm | 8.1 Supply Chain Best Practices for Maximizing Food Handling, Storage, and Marketing Efficiency  
1:15 pm | Prof. Ayman Abou Hadid, Former minister of Agriculture, Professor at Ain Shams University, Egypt.


- 1:15 pm | **8.2 8.2 Efficient Supply Chains to Reduce Food Loss and Waste**  
1:35 pm | Dr. Dinesh Chauhan, Vice-President, Dehaat, India.
- 1:35 pm | **8.3 Industry 4.0 and Circular Economy for Emerging Markets: Evidence from Small and Medium-Sized Enterprises (SMEs)**  
1:55 pm | Dr. Stella Despoudi, University of Western Macedonia, Greece.
- 1:55 pm | **8.4 The Role of Industry 4.0 Technologies in Fostering Food Sustainability in Agriculture: Technology for Fruits and Vegetable Production and Processing**  
2:15 pm | Dr. Abdo Hassoun, Sustainable Agrifoodtech Innovation & Research (Safir), France.
- 2:15 pm | **8.5 Analysis of the Current Value Chain of Vegetables and Fruits in Saudi Arabia**  
2:35 pm | Prof. Salah M. Aleid, King Faisal University, Saudi Arabia.
- 2:35 pm | **8.6 Session Discussion**  
3:00 pm

## Forum Agenda (DAY 3)

Wednesday - 22 November 2023  Fairmont

8:00 am | **Registration (Lobby)**  
9:00 am

### Theme 6: Investment in Sustainable Agriculture

9:00 am | **Keynote speech |  Hall 1**  
9:35 am | Dr. Aly Abousabaa, Regional Director, Central and West Asia and North Africa, CGIAR, as well as Director General of the International Center for Agricultural Research in the Dry Areas (ICARDA).

### Session 9 09.35 am – 11.40 am Hall 1

#### Theme 6: Investment in Sustainable Agriculture

**Moderator:** Dr. Zeyad Alzeyadi, Acting General Manager Dept. of Research & Knowledge Ministry of Environment, Water & Agriculture, Saudi Arabia.

#### Speakers:

- 9:35 am | **9.1 Addressing the Investment Gaps of Saudi Agri-food Systems**  
9:55 am | Dr. Adil El-Tayeb Abdelnour, Estidamah Center, Saudi Arabia.
- 9:55 am | **9.2 Unlocking the Potential: Exploring Investment Opportunities in Black Soldier Fly Technology for Sustainable Agriculture**  
10:15 am | Dr. Ahmed Obied Rady, EGYMAG Biotechnology - Founder ,CEO, Egypt.
- 10:15 am | **9.3 Waste into Wealth: Maximizing Economic Returns and Sustainability via Agro-Waste Valorization**  
10:35 am | Dr. Abdallah Soubhy Ali, Cairo University, Egypt.
- 10:35 am | **9.4 Waste to Energy: Technologies for Sustainable Agriculture**  
10:55 am | Dr Abed Alaswad, Director, Engineering for Sustainable Development Research Centre, Aston University, UK.
- 10:55 am | **9.5 Responsible Agriculture Waste Management for Sustainable Food Systems and Rural Development**  
11:15 am | Dr. Kakoli Ghosh, FAO, Saudi Arabia.
- 11:15 am | **9.6 Session Discussion**  
11:40 am
- 11:40 am | **Coffee Break (Poster presentations are shown during Coffee Breaks)**  
12:20 pm

## Theme 7: Protected Agriculture Technologies

9:00 am | Keynote speech | Recent Developments in Protected Agriculture |  Hall 2  
9:35 am | Prof. Yuksel Tuzel, Former President of International Society for Horticultural Science (ISHS), Professor at Ege University, Turkey.

## Session 10

 09.35 – 12.00 am  Hall 2

### Theme7: Protected Agriculture Technologies

**Moderator:** Dr. Jouke Campen, International Project Manager, Wageningen University, Netherlands.

#### Speakers:

- 9:35 am | **10.1 Modern systems and Technologies in Greenhouse Cultivation**  
9:55 am | Prof. Cecilia Stanghellini, Wageningen University, Netherlands.
- 9:55 am | **10.2 Exploring Sustainable Alternatives in Greenhouse Growing Media Selection**  
10:15 am | Prof. Nazim S. Gruda, University of Bonn, Germany.
- 10:15 am | **10.3 Balancing Crop and Energy Yield in Controlled Environment Agriculture Using Energy Producing Shading Screens**  
10:35 am | Prof. Michael F. Salvador, KAUST, Saudi Arabia.
- 10:35 am | **10.4 Vertical Farming and Its Role in Food Security**  
10:55 am | Prof. Abdullah Alsadon, King Saud University, Saudi Arabia.
- 10:55 am | **10.5 Application of Three-dimensional Technology to Vertical Farming**  
11:15 am | Prof. Jung Eek Son, Seoul National University, South Korea.
- 11:15 am | **10.6 Evaluation of Greenhouse Technologies at Estidamah Center and Their Effect on Crop Productivity, Water, and Energy Use Efficiency**  
11:35 am | Dr. Muien Qaryouti, Research and Development Dept., Estidamah Center, Saudi Arabia.
- 11:35 am | **10.7 Session Discussion**  
12:00 pm
- 12:00 pm | Coffee Break (Poster presentations are shown during Coffee Breaks)  
12:20 pm
- 12:20 pm | Plenary Session and Closing (Hall 1)  
1:00 pm