ISPA Newsletter 13(3): ISO Webinar, ISPA Special Election, CR Reports, Jobs, Events and More

Mar 28, 2025

International Society of Precision Agriculture

MONTHLY NEWSLETTER



2025 Special Election Now Open

All active ISPA members are encouraged to vote in the 2025 Special Election for the interim ISPA Board Treasurer. The elected Treasurer will fulfill the remaining three years of the current Treasurer's term, ending July 2028. The individual will be elligible to run for reelection in 2028 for a full four year term.

Please note, you will need to login using your membership credentials to access the ballot. If you have any questions, please contact info@ispag.org.

Voting will be open through 14 April 2025. The election results will be announced in the April ISPA Newsletter.

VOTE TODAY

Advancing PA: Opportunities for Impact through the ISO-ISPA Relationship

Join us this morning at 10:30 a.m. EDT for the ISPA membership webinar:

Advancing PA: Opportunities for Impact through the ISO-ISPA Relationship

The ISPA and the International Standards Organization (ISO) will provide a webinar on opportunities to be involved with development of standards for data-driven agriculture. ISPA has recently been voted in as a liaison to the ISO Technical Committee on Data-Driven Agriculture (https://www.iso.org/committee/9983782.html). Liaison status allows ISPA members to become part of the data standards process. Dr. Andres Ferreyra, TC 347 Chair, and Prof. James Lowenberg-DeBoer, past president of the ISPA, will present and respond to questions.

The webinar is free to ISPA members, please register on the **Member Resources** page to access the webinar link. You will be asked to sign in using your membership credentials to access this webpage. If you have any questions, please email info@ispag.org.

The Status of Precision Agriculture in Kenya: Progress, Challenges, and the Future

By Violet Ochieng' ISPA's Kenya Country Representative
March 2025

The status of precision agriculture in Kenya is evolving rapidly, driven by advancements in technology such as drones, artificial intelligence (AI), and big data. The country has witnessed increased adoption of precision farming techniques aimed at optimizing input use, improving crop productivity, and addressing challenges such as climate change and food security. Various stakeholders, including research institutions, private sector players, and policymakers, are actively working to scale up precision agriculture solutions through research, training, and policy development.

Currently, approximately 20% of agricultural technology companies in Kenya are involved in drone-based solutions for precision agriculture, focusing on aerial imaging, crop monitoring, and precision spraying. Research organizations contribute about 15% to precision agriculture innovations, mainly through studies on AI-driven analytics, soil health assessment, and precision irrigation models. However, farmer adoption rates remain relatively low, with an estimated 10-15% of commercial and large-scale farmers utilizing precision agriculture tools, while smallholder adoption lags due to cost constraints and limited technical knowledge.

A series of conferences have provided a platform in 2024 for discussions on the role of emerging technologies in agriculture. The Drones and AI Conference held in March 2024 focused on the integration of AI-powered analytics and drone technology to enhance farm management practices. Experts shared insights on how AI-driven models improve decision-making through data analysis, while drones facilitate precision spraying, crop health monitoring, and mapping. The African Elevate Summit in June 2024 brought together innovators and policymakers to explore agricultural digital transformation, emphasizing the need for collaboration in ensuring accessibility and affordability of precision technologies. The 3rd African Conference on Precision Agriculture (AfCPA) took place from December 3-5, 2024, with a main site in Marrakech, Morocco, and regional satellite sites, including Kenya. Discussions revolved around enhancing sustainable farming through technology, soil health optimization, AI applications in yield prediction, and the role of national agricultural big data systems in driving precision farming.

Key discussions in these conferences showed the necessity of leveraging technology to address production variability and increase efficiency. Precision agriculture tools such as multispectral imaging, AI-driven yield estimation, and machine learning-based weed identification were highlighted as essential innovations. The role of national digital registries in supporting precision farming through data-driven advisories was also emphasized, showing how big data can enhance decision-making and resource allocation. Additionally, stakeholders recognized the need for improved policies to support the adoption of drone technology, data integration, and AI applications in agriculture.

Regional collaborations such as the Africa Precision Agriculture Conference (AFPAC), International society for Precision Agriculture have played a crucial role in advancing precision agriculture by fostering knowledge-sharing and best practices among different African nations. These collaborations have provided a platform for policymakers, researchers, and agribusiness leaders to discuss strategies for scaling precision agriculture across diverse agroecological zones. Participants have emphasized the importance of leveraging technology to improve food security, enhance climate resilience, and drive sustainable agricultural practices.

Despite these advancements, several challenges persist in the widespread adoption of precision agriculture in Kenya. The high cost of technology limited digital literacy among smallholder farmers, data accessibility constraints, and regulatory hurdles remain significant barriers. Efforts are being made to develop policies that streamline drone registration, data privacy regulations, and AI deployment in agriculture. Additionally, stakeholders continue to emphasize the need for capacity-building initiatives to equip farmers and agricultural professionals with the necessary skills to utilize precision agriculture tools effectively.

To improve adoption, key measures need to be taken, including providing financial incentives such as subsidies and grants for farmers adopting precision agriculture technologies, strengthening partnerships between research institutions and private sector players to develop cost-effective solutions, and enhancing digital literacy through farmer training programs. Furthermore, increased investment in infrastructure, including reliable internet access and data management systems, will be crucial in ensuring that smallholder farmers can benefit from precision agriculture advancements.

The major takeaways from these discussions that occurred in 2024 indicate that Kenya is making significant strides in adopting precision agriculture, but there is a need for increased collaboration among researchers, industry players, and policymakers to accelerate implementation. Investment in digital infrastructure, regulatory frameworks, and farmer capacity-building remains crucial. Emerging technologies such as AI and drones present transformative opportunities, and their integration into agricultural systems will be key to ensuring food security, sustainability, and economic growth. These discussions reaffirmed the commitment of stakeholders to drive precision agriculture forward, positioning Kenya as a leader in agricultural technology adoption in Africa.

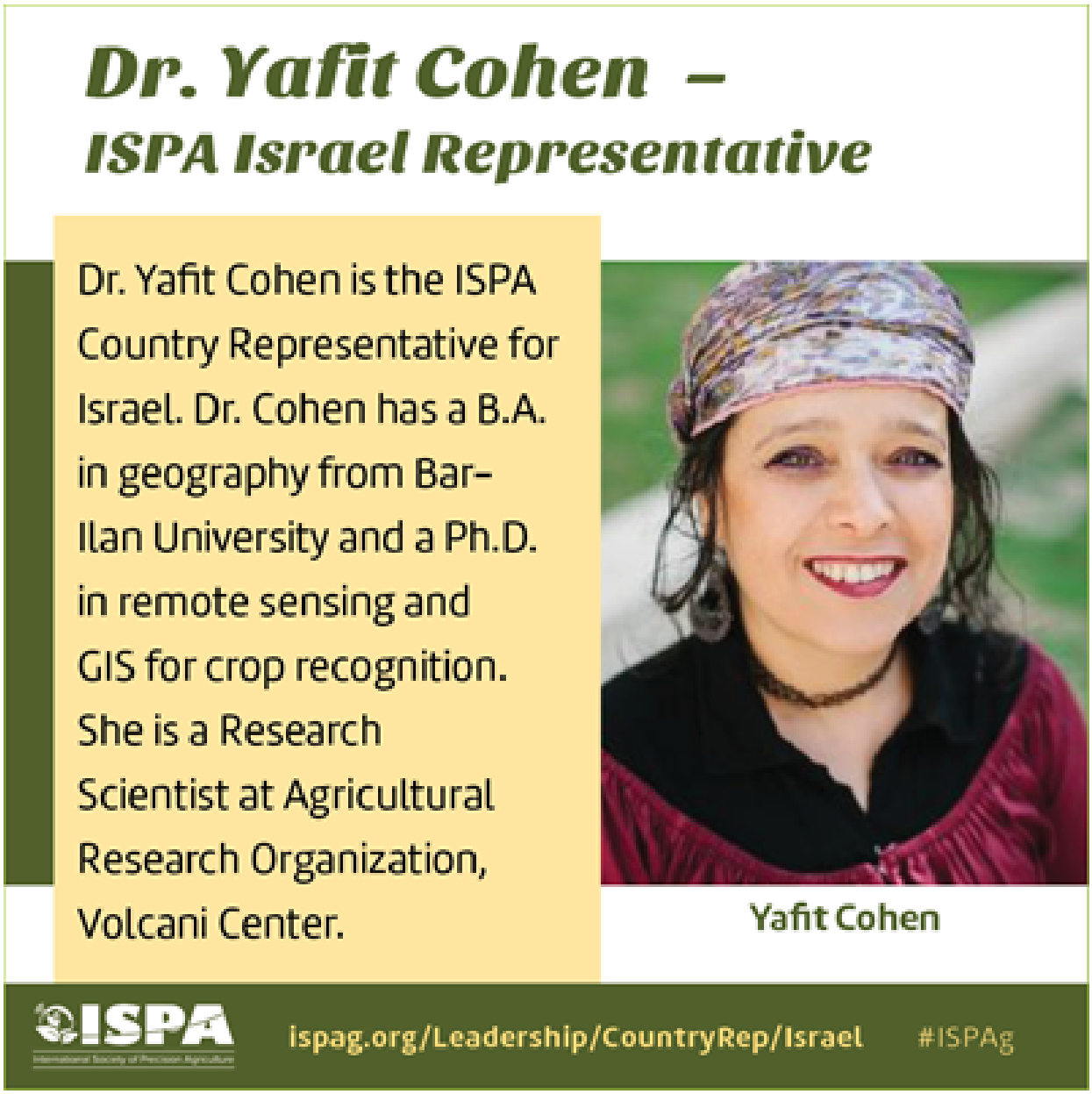
SMART-SIP+ - Innovative Approach to Downstream Energy Utilisation from Solar Irrigation Pumps in Bangladesh

By Chayan Kumer Saha, ISPA's Bangladesh Country Representative

In Bangladesh, more than 60% of the population relies on agriculture for income, yet most of the country’s 1.6 million irrigation pumps still run on diesel fuel. This makes them a big contributor to the country’s carbon emissions and air pollution. Seeking to drive a large-scale clean energy transition in rural communities, the goal is to cut emissions and utilise energy more efficiently. The project aims to develop smart energy systems that harness excess electricity generated by Solar Irrigation Pumps (SIPs) and channel it towards local agricultural needs, such as sustainable cooling, post-harvest management, and food processing. Professor Dr. Lynsey Melville, Professor of Environmental Engineering at Birmingham City University, UK is leading the project and Myself, Dr. Chayan Kumer Saha, Professor, Department of Farm Power and Machinery, Bangladesh Agricultural University is In-country lead and Co-PI of the project. The project will be implemented in collaboration with the leading Bangladeshi NGOs – Bright Green Energy Foundation (BGEF) and Water and Sanitation for Urban Poor (WSUP). We will be developing a decision support system (DSS) and digital twin for the smart management of solar energy from Solar Irrigation Pump (SIP).

To learn more, please visit: www.bcu.ac.uk/research/projects/smart-sip

ISPA Country Representative - Yafit Cohen



Country Representatives serve to help promote ISPA by championing the ISPA mission and purpose globally, in particular, in the country they represent. ISPA is growing internationally so Country Representatives remain an important position to help ISPA best serve people, groups, governments and others, globally connecting them to science and experts.

Please join us in thanking ISPA Country Representative from the Israel, Dr. Yafit Cohen.

If you are interested in becoming a Country Representative, please email info@ispag.org with your bio highlighting your experience in precision agriculture and your CV. ISPA requires that all Country Representatives are current members of the society. To become a member, please complete the membership form.

View Country Representatives

Precision Agriculture Definition

Precision Agriculture is a management strategy that gathers, processes and analyzes temporal, spatial and individual plant and animal data and combines it with other information to support management decisions according to estimated variability for improved resource use efficiency, productivity, quality, profitability and sustainability of agricultural production.

The International Society of Precision Agriculture (ISPA) is a non-profit professional scientific organization.
The mission of ISPA is to advance the science of precision agriculture globally.

Contact newsletter@ispag.org to suggest content for future newsletters or visit www.ispag.org for more about the Society