

**National Conference on** 

Comprehensive Crop Management through Drone Technology in Agriculture

**CCMDA-2025** 

30-31<sup>st</sup> October, 2025

Farmers' Knowledge Centre, University of Agricultural Sciences, Dharwad, Karnataka, India



# **ABOUT THE CONFERENCE**

Crop health management is the set of agricultural practices performed to improve the growth, development and yield of crops. Plant health problems pose a constant challenge for farmers and extension workers. Pests and diseases, as well as abiotic factors such as low soil fertility, cause regular and often significant losses in crop production and quality. A variety of causes and symptoms with multiple possible origins makes diagnosis difficult. Diagnostic capability, global-scale surveillance data, risk forecasting, and rapid response and management systems for major pests and diseases remain in short supply. Smallholders and marginalized communities are ill-equipped to respond to biotic threats due to lack of knowledge and access to climate-smart control options. To protect plant health and productivity in our agricultural ecosystems, tools for detection, identification and management of plant pests and diseases are required. Choosing the best management options necessitates better tools and resources. Adoption of best crop management practices improves crop productivity and can contribute to greater yields with improved quality.

The advent of drones has brought about a revolutionary transformation in agriculture, particularly in the domain of crop spraying. Unmanned Aerial Vehicles (UAVs), commonly known as drones, equipped with advanced spraying capabilities, are playing a pivotal role in optimizing the application of fertilizers and pesticides. This comprehensive exploration delves into the opportunities and challenges associated with the use of agriculture drones for spraying in modern agriculture. An actuation drone could help control the pests at hotspots of the farm field through variable rate of application of insecticides. Novel types of drones fitted with crop dusters and/or spray equipments are currently being developed in different parts of the world. Along with precision monitoring, precision application of pesticides could reduce the total number of sprays and thus contributing to reduced pesticide use and decreased resistance development in insects, as well as increased presence of natural enemies in the field. Drones are becoming progressively adopted as part of precision insect pest management. Drones with sensors (remote sensing equipments) are deployed to monitor crop health, map out variability in crop performance, and detect outbreaks of pests, insecticide application, and release of natural enemies. The drone mediated technologies in pest management demonstrate great scope and promising alternative to conventional pest management approaches, should be positively promoted in Indian agricultural research and technology development, and encouraged widely for the effective utilization as a part of integrated pest management practices.

Drones for spraying pesticides have revolutionized modern agriculture, offering precision and efficiency in crop protection. These unmanned aerial vehicles equipped with advanced technologies enable targeted pesticide application, minimizing waste and environmental impact. The drones' intelligent navigation systems and high-resolution sensors ensure precise coverage, addressing specific areas of concern in the field. This innovative approach not only enhances crop health and yields but also contributes to sustainable farming practices by reducing the overall use of pesticides. Drones for spraying pesticides represent a transformative tool, empowering farmers with a technologically advanced and environmentally conscious approach to crop management. The use of drones for spraying represents a transformative leap forward in modern agriculture. While challenges exist, the opportunities presented by these drones in t erms of precision, efficiency and environmental sustainability are undeniable. As regulatory frameworks evolve and technology continues to advance, drones are poised to play a pivotal role in shaping the future of crop protection, contributing to increased yields, reduced environmental impact, and a more sustainable approach to agriculture.



# **ABOUT THE ORGANIZING INSTITUTE**

# **University of Agricultural Sciences, Dharwad**

The University of Agricultural Sciences, Dharwad established on 1 October, 1986 has earned reputation of being the farmers' University and has been striving to keep pace with frontiers of science to overcome the contemporary challenges of social, economic and technical relevance. The University has constituent 5 Colleges, 27 Research Stations, 6 Agriculture Extension Education Centres, 6 Krishi Vigyan Kendras and ATIC. The University has its jurisdiction over 7 districts of Northern Karnataka. Greater diversity exists in soil types, climate, topography, cropping and farming situations. The jurisdiction includes dry-farming areas to high rainfall coastal and hilly regions and irrigated command areas of Upper Krishna, Ghataprabha and Malaprabha. Important crops of the region include sorghum, cotton, rice, pulses, chilli, sugarcane, groundnut, sunflower, wheat, safflower etc. The region is also known for many horticultural crops. Considerable progress has been registered in the field of education, research and extension. The University hosts several firsts; Institute of Organic Farming, Dharwad seed model, Institute of Biotechnology, Agribusiness Knowledge Centre, RKVY, RAFTAR (ABI), World Bank funded NAHEP, IDP and Centre of Excellence in smart farming.

The University head quarter is located in Northern Transition Zone of Karnataka, known for its cool and pleasant climate and is highly rich in vegetation with different flora and fauna which creates an ideal atmosphere for academic and agricultural research activities. It is situated on the Pune-Bengaluru National Highway 48 having very good road connectivity. Hubballi- Dharwad, a Head Quarter of South Western Railway Zone, is having very good train connectivity to major cities of the country. The nearest airport is Hubballi which is 20 kms away from the University campus. Other airports are Belagavi (80 kms) and Goa (165 kms). The weather during December will be pleasant and comfortable for stay, with an high of 29°C and a low of 17°C with gentle breeze. The twin cities of Hubballi-Dharwad are known to be an education hub of Karnataka. Dharwad hosts four Universities, Forensic University, IIT, IIIT and KLE Technological University. The city is well known for its GI tagged Dharwad Pedha. It is also known for its tourist places nearby like Goa, Hampi and Badami

# **Conference Thematic Areas and Topics**

- 1. Remote sensing and GIS in agriculture
- 2. Sensor-based technologies for agricultural application
- 3. Utilization of drones for field operations
- 4. Advances in Integrated Pest Management, Integrated Disease Management, Integrated Weed Management and Integrated Nutrient Management
- 5. Organic, natural farming and integrated farming systems
- 6. Eco-friendly plant and soil health management
- 7. Nanotechnology and Biotechnology in Agriculture
- 8. Integration of breeding with precision agriculture and artificial intelligence



# **CONFERENCE REGISTRATION AND FEE**

Last date for receiving Abstract(s)	September 30, 2025
Notification of acceptance of paper to authors	October 10, 2025
Last date for Registration	October 30, 2025

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### **Conference Registration Fee**

Personnel	Early Bird Registration	Regular Registration
Scientists/Teachers	₹3000	₹ 4000
RA/SRF/Young Professionals/Students	₹1000	₹ 1500
Corporates / Industry / Private	₹ 7500	₹8000
<b>Accompanying Members</b>	₹2000	₹ 2500

Registration fees do not include payment gateway charges. Additional charges vary based on your payment method and are to be borne by the participant.

### **Accommodation**

Limited accommodation is available on campus, A range of Hotels are available nearby:

Hotel Name	Contact Numbers
Mandhar Regency	0836-2444420
Karnataka Bhavan	0836-2443172, 2442261
Hoysala	0836-2445627, 2445628
Indraprasta	0836-2446944, 2446945
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Drone projects in operation at UAS Dharwad.