

2025 Southwest Louisiana Drone Conference

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Introduction

Traditionally, crop field scouting has been performed by individuals walking acres of farmland to evaluate plant health, identify nutrient deficiencies, detect weed presence, assess disease symptoms, and monitor insect pressure. This process requires significant time and labor. Pest control applications have historically relied on ground equipment or large planes. However, when field conditions are too wet for ground equipment, growers are limited to using large aerial planes, which operate at high speeds, are affected by wind conditions, and are inefficient for small fields or areas with tight boundaries.

Drone technology is rapidly emerging as a practical solution in modern agriculture, especially in situations where ground applications are not feasible and large aerial planes prove inefficient. Both commercial businesses and growers are integrating drones into their operations. These technologies are now being used for herbicide and pesticide applications, as well as crop scouting through remote sensing. Drone applications require different protocols compared to traditional ground or aerial methods, creating a learning curve for adoption. Many growers remain uncertain about the effectiveness of drone-based applications and the accuracy of remote sensing for crop scouting.

To address community challenges, the LSU AgCenter has implemented the Advisory Leadership Council structure to ensure stakeholder involvement in developing educational programs that meet needs, remain accessible, and are regularly assessed for relevance. During a parish-wide Advisory Leadership Council meeting conducted by the Jeff Davis Parish Extension Service Staff, the agricultural community identified drone education as critical need due to the growing demand and limited resources available for agricultural drone applications.



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(A) Eyes on the future: Attendees captivated by a live demonstration at the Southwest Louisiana Drone Conference.

Program Objectives

- Provide producers and agriculture industry professionals with comprehensive training on best practices for applying pesticides using drone technology.
- Equip participants with practical knowledge on integrating drone-based sensors into farming operations to enhance efficiency and decision-making.
- Deliver clear guidance on Federal Aviation Administration (FAA) and Louisiana state regulations governing the use of agriculture spray drones.

Program Delivery

The need for an agricultural drone educational program was clearly identified, leading to the development of a program focused on practical applications and regulatory compliance through multi-parish extension agents. This insight led to the creation of a multi-parish Agricultural Drone Conference, designed to equip producers and ag industry professionals with cutting-edge knowledge and tools.

The event was strategically scheduled for Thursday, October 8, 2025, aligning with producers' seasonal workloads to maximize participation. To ensure a high-quality experience, industry sponsors were invited to support the program through donations for educational materials and a meal. Each sponsor received a formal letter outlining the conference's objectives and the critical need for their involvement.

A centrally located venue, the Jeff Davis Parish Fairgrounds in Jennings was secured through the generous support of the Parish Police Jury, which also provided staff for setup and cleanup. This collaboration ensured a professional and welcoming environment for attendees.

The conference opened at 5:00 PM with a networking meal and a trade show featuring commercial drone applications, giving participants hands-on exposure to emerging technologies. The educational program featured expert-led sessions on topics such as best practices for spray drone applications, herbicide and pest management techniques, remote sensing for crop monitoring, and FAA and Louisiana state regulations. Presenters included leading specialists in weed science, entomology, and drone technology, offering practical insights backed by research.

Interactive question and answer sessions followed each presentation, fostering dialogue and addressing real-world challenges faced by producers. The evening concluded with door prize giveaways and a post-workshop survey, ensuring valuable feedback for future programming.

Through strong collaboration among Extension Agents and community partners, this conference successfully delivered timely, relevant education to producers across Southwest Louisiana. Empowering them to adopt drone technology safely and effectively in their operations.



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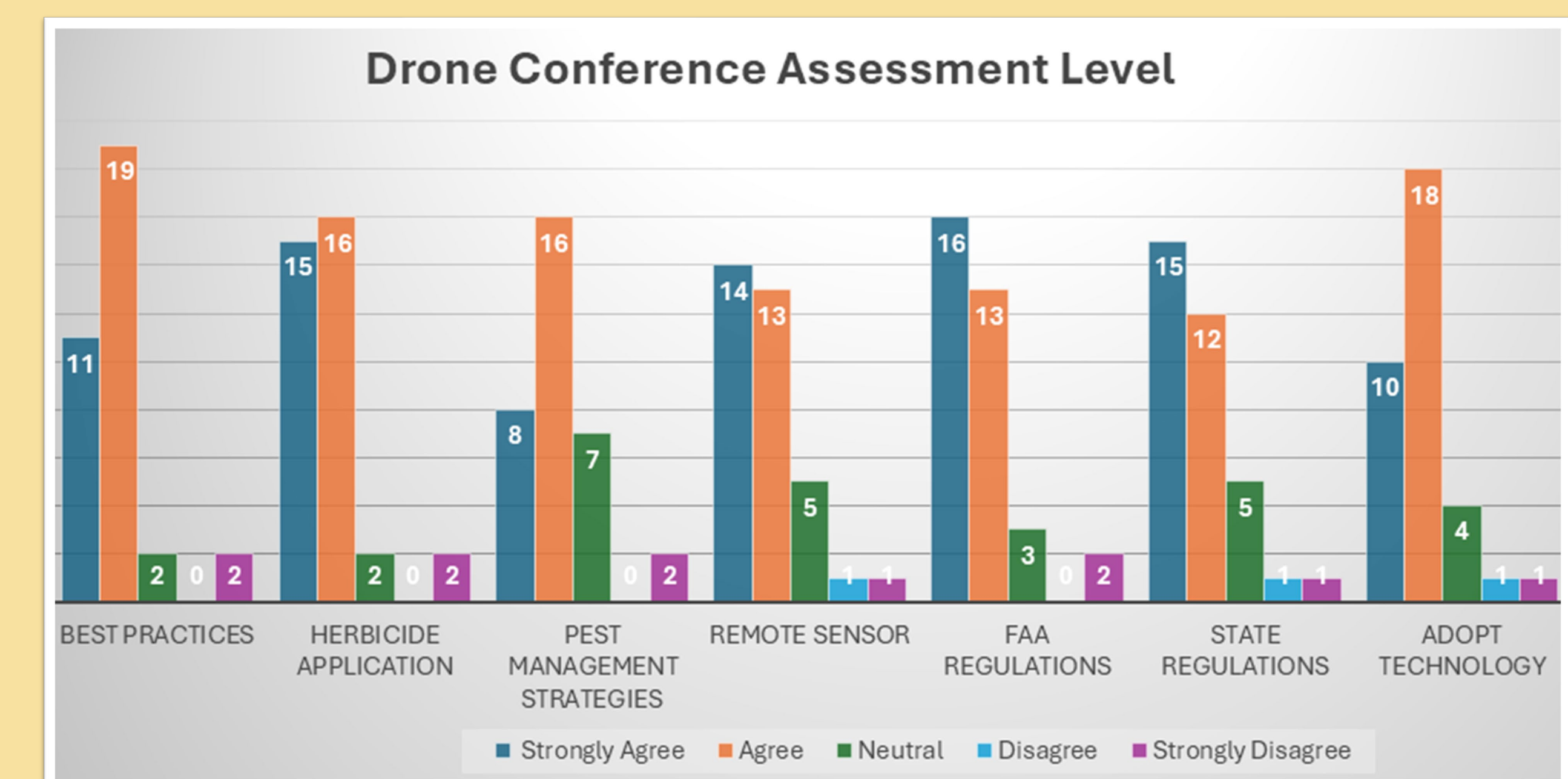
(B) and (C) Exploring innovation: Attendees learn best practices and compliance strategies from specialists.

Survey Results

A post-workshop survey was administered to 34 participants to evaluate the impact of the LSU AgCenter's Agricultural Drone Workshop. The survey assessed changes in knowledge, confidence, and interest across eight key learning outcomes related to drone use in agriculture.

Key Findings

- Confidence in Best Practices: 88% of respondents reported feeling more confident in selecting and applying best practices for spray drone operations.
- Herbicide Application Expertise: 91% indicated an improved understanding of safe and effective herbicide application using drones.
- Interest in Pest Management: 71% expressed interest in adopting drone-based strategies for insect pest control, while 21% remained neutral.
- Remote Sensing Knowledge: 79% gained valuable insights into how remote sensing supports crop scouting and field monitoring.
- FAA Regulation Awareness: 85% reported increased awareness of FAA requirements and responsibilities for agricultural drone operations.
- State-Level Regulation: 79% improved their understanding of Louisiana regulations governing drone use in agriculture.
- Land Management Benefits: 82% agreed that drones can enhance efficiency and outcomes in crop, pasture, and land management.
- Technology Adoption Interest: 74% expressed greater interest in exploring drone technology for their own farming operations.



Summary Statement

The LSU AgCenter's Agricultural Drone Workshop demonstrated a significant positive impact on participants' knowledge, confidence, and interest in drone technology applications. Attendees left with a stronger understanding of regulatory requirements, technical capabilities, and the practical benefits of integrating drones into agricultural operations. Based on these outcomes, the LSU AgCenter is committed to continuing this program and adapting its content as new technologies and best practices emerge.

Acknowledgements

2025 Southwest Louisiana Drone Conference Sponsors

- A. K. Drone Services
- FMC
- Gowan
- GreenPoint Ag
- Horizon Ag
- Jeff Davis Farm Bureau
- Jeff Davis Parish Police Jury
- SOLA Drones
- Sunshine Equipment
- Upper Deck Drone Services