

## Syngenta unveils proprietary ATLAS Robot to accelerate product innovation and tank-mix testing

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Developed and refined in-house, ATLAS represents a significant advancement in tank-mix compatibility testing, enabling Syngenta to accelerate product development, improve testing accuracy and provide more reliable application recommendations to customers. The company describes the platform as a first-of-its-kind automated system capable of conducting highly standardized evaluations while replicating real-world spray conditions.

### **Bringing Automation to Product Development**

Tank-mix compatibility remains one of the most critical aspects of crop protection product performance. Farmers and applicators routinely combine multiple products, adjuvants and fertilizers in a single spray application, making compatibility testing essential to prevent issues such as sedimentation, nozzle blockage or uneven product distribution. Traditionally, these evaluations have relied heavily on manual testing methods that can be time-consuming and subject to human variability. ATLAS seeks to address those limitations through automation.

According to Syngenta, the robotic system can process between 500 and 600 tank-mix combinations every month, a workload that would require up to six months to complete through conventional manual testing procedures. The platform manages the

entire testing workflow, from sample preparation and mixture imaging to comprehensive analysis and evaluation. By removing subjective assessments from the process, the company says ATLAS generates more consistent, repeatable and data-driven results that can support product development, stewardship programmes and technical recommendations.

### **Enhancing Confidence in Application Decisions**

"ATLAS is another example of how Syngenta is truly innovating through all parts of our R&D process, including application technology," said Stephanie Schwenke, Turf Market Manager at Syngenta. "By automating and standardizing tank-mix evaluations, we can generate meaningful insights faster, reduce subjectivity and provide greater confidence for our customers' application decisions."

The system's ability to rapidly evaluate hundreds of product combinations is expected to help researchers identify compatibility challenges earlier in the development cycle, potentially accelerating the introduction of new products while strengthening performance validation.

### **Supporting Customers Beyond Product Launch**

Beyond pre-commercialization testing, Syngenta says ATLAS is playing an increasingly important role in technical support and troubleshooting. When customers encounter tank-mix issues that prove difficult to reproduce in traditional laboratory settings, the platform can recreate field-specific conditions using customer-provided water samples, adjuvants or other application inputs. This capability allows researchers to investigate issues such as sedimentation, mixing order complications, nozzle plugging and spray-tank instability under controlled conditions.

The system also contributes to the development of a growing historical database of compatibility data, enabling faster diagnosis of recurring issues and supporting more precise technical recommendations. By combining automation with real-world application scenarios, Syngenta aims to shorten response times and improve problem-solving capabilities for growers and professional applicators.

### **Part of a Broader Innovation Strategy**

The launch of ATLAS reflects a broader trend across agriculture toward integrating robotics, automation and data science into research and product development processes. "The ATLAS system is part of the broader Syngenta innovation ecosystem focused on integrating research, technology and real-world insights to support our customers across markets," said Mark Coffelt, Ph.D., Head of Technical Services for Syngenta Professional Solutions in North America.

"It reinforces the Syngenta commitment to delivering science-backed solutions that help customers work more efficiently." As agricultural production becomes increasingly complex and precision-focused, technologies such as ATLAS could play a growing role in helping companies validate product performance, improve application reliability and reduce uncertainty for end users.

For Syngenta, the robot represents more than a laboratory automation tool—it signals the company's continuing investment in digital and robotic technologies designed to bring greater precision, speed and consistency to agricultural innovation.