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CultiWise autonomous crop monitoring system â??ScoutAIâ?• recognized as future-farming innovation

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CultiWise ScoutAI, an autonomous multi-sensor crop monitoring system, has been selected as finalist for the DLG Agrifuture Concept Winner Award. Developed by Czech startup Skymaps, the AI-based system automatically integrates satellite, drone, sprayer and field dataâ?? giving farmers earlier warnings of crop issues while simplifying workflows and reducing unnecessary inputs.

By integrating what were previously standalone sensor tools, ScoutAI is automating not only crop surveillance but also key field decisions. Traditional field scouting methods rely on manual observation and take time to reveal emerging issues. Whereas ScoutAI identifies problems earlier, enabling proactive, targeted interventions before they escalate.

Precise, needs-based applications deliver substantial resource efficiencies, yielding measurable benefits, including up to 50 percent reduction in fertilizer, herbicide and water use, and more than 60 percent savings in pesticide volumes. At the same time, automated detection and machine-ready prescriptions reduce scouting time and labor giving farmers virtual eyes across every hectare and the peace of mind that every field is under constant watch and control.

From stand-alone sensors to fully integrated field intelligence

ScoutAI connects tools that were never designed to work together. Unlike most digital tools â?? such as drone data, sprayer logs, and weather appsâ??which often operate in isolation and therefore lack interoperability, decision-making platforms typically rely on single data sources and are tied to specific brands. Farmers therefore contend with a mix of incompatible tools.

ScoutAI works similar to a smart security system for the farmâ??only instead of guarding buildings, it protects crops. Trained to detect suspicious changes, like bare patches and weed growth, AI models continuously scan daily satellite images of the crop. To verify initial findings, ScoutAI automatically triggers farm drones â?? stationed in smart docking hubs around the farm â?? to take off and investigate up close.

The drones capture high-resolution images, even zooming in on individual leaves, and use onboard AI to analyze the footage in real time during flight. In turn, cameras mounted on the sprayer boom provide live in-field context, with onboard processors checking crop conditions on the go. Meanwhile, in-crop sensors contribute by monitoring temperature, humidity, and pest outbreaks.

Data collected from the diverse sources is combined by the cloud-based CultiWise platform, which then recommends to the farmer corrective options, including prescription maps for variable and targeted treatments like spot spraying. The overall result is presented within minutes in a single, easy-to-read dashboard.