

PRESS RELEASE

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KFAST Autonomous Sprayer: Kubota and FEDE's latest innovation in specialty crop management

KFAST (Kubota Fede Autonomous Spraying Technology) is an autonomous sprayer concept for specialty crops designed to meet the EU regulations and the objectives of the Green Deal.



Picture: KFAST Concept Autonomous Sprayer

The KFAST robot concept, jointly developed by Kubota and FEDE, autonomously applies phytosanitary treatments and offers the option of remote-control guidance. Its structural design and newly developed 4x4 traction ensure smooth movement, precise turning, and accurate positioning in the narrowest rows of specialty crop fields. This large-capacity autonomous sprayer can be equipped with various air systems to meet the specific requirements of different plantations.

Ongoing treatments are monitored and displayed on the Specialty Crops Platform (SCP), Fede's digital agronomic management tool. In addition, KFAST sends alerts in case of incident or parameter out of range, including the detection of empty spraying and diesel tank to autonomously return to the station for refilling. Once the treatment is completed, all the data is registered, providing real traceability and required information to generate the digital farm book.

KFAST will substantially increase the productivity and efficiency of work in the plantation, since a single operator can manage four robots at a time and enables to carry out nighttime tasks. With aims to be a solution to the lack of labour problem, as well and the generational renewal, in the agricultural sector. Furthermore, it improves the occupational safety and health by eliminating the risks of accidents and drastically reducing occupational exposure to pesticides.

Specialty crops high precision treatments: real time spraying adjustment

Once the work order is received, Fede's autonomous sprayer concept goes to the assigned row to start the treatment. KFAST, equipped with the AIs system, an innovative technology that performs high-precision treatments through image capture and AI processing. The robot adapts the spraying in real time with individualised control of the nozzles to adjust the application tree by tree while maintaining a constant pressure and application flow in each open nozzle with a homogeneous distribution and deposition of the treatment.

KFAST concept stands out for its remarkable reduction in pesticide use and soil degradation, both key objectives in the EU Green Deal. The system registers savings in the use of pesticides of up to 40%, according to the field tests results carried out within the LIFE-AIs project, which increase significantly when carrying out treatments based on the prescription of variable application maps (VRA). At the same time, it relieves soil compaction by moving only 4 wheels always following the same axis, reducing the number of tons supported by the soil and minimizing displacements.

Additionally, the indicators generated by KFAST image capture offer updated data on the state of the plantation, valuable information that can be used by third parties to offer their agronomic services. KFAST is distinguished for being an open system that allows the integration a wide range of service providers such as pest detection, yield prediction, farm management information systems, among others.

The KFAST concept, Kubota Fede Autonomous Spraying Technology, has been awarded as Technical Novelty at FIMA 2024, a worldwide benchmark event in the agricultural machinery sector for specialty crops.

About Kubota

Kubota has been a leading manufacturer of agricultural equipment, construction equipment, lawn mowers and Industrial Engines since 1890. With its global Headquarters in Osaka Japan, offices in more than 120 countries, and more than 55,000 employees in North America, Europe and Asia, Kubota had a turnover of \$21.4 billion in 2023. Although machinery equipment is its main products line, Kubota also produces a wide range of products such as city water purification systems, irrigation systems, piping systems, roof and home construction, and large underground valves.

Our Mission

Our Brand Statement, "For Earth, For Life," speaks to our commitment to the conservation of the environment while aiding the production of food and water supplies, which are vital to meet the needs of our society, as the world's population continues to grow. This mission is accomplished every time a Kubota tractor harvests the land to produce food or when our construction equipment excavates to transport water or provide shelter. For more information on Kubota, please visit www.kubota-eu.com or www.kubota.com.

For further information, please contact [\(please add your local contact details\)](#):

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