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Carbon Robotics launches the worldâ??s first-ever large plant model

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Carbon Robotics, a worldwide leader in agriculture AI and robotics, announced a major breakthrough for global agriculture with the launch of the worldâ??s first Large Plant Model (LPM) - the most advanced AI model for plant detection and identification. Trained on the largest, most diverse, and fastest growing agricultural dataset ever built with 150 million labeled plants, the LPM enables farmers to start laser weeding any field or crop in minutes. New capabilities make it simple and fast to personalize the LPM for each farmerâ??s unique field and crop conditions and update model behavior in real-time. With this latest development, itâ??s never been easier for farmers to bring cutting-edge AI to their fields and farming operations.

Trained on diverse crops, weeds, soil types, climates, and growth stages worldwide, the LPM creates an unprecedented foundation for plant recognition and decision making. As Carbon Roboticsâ?? global LaserWeederâ?¢ fleet operates in fields daily, the system continuously ingests real-world data in a compounding data flywheel effect, strengthening the model exponentially and improving the performance for all LaserWeeders worldwide.

â??When our robots can understand any plant in any field immediately and adapt behavior in real-time, farmers immediately get maximum value from the machines,â?• said Paul Mikesell, Founder and CEO of Carbon Robotics. â??The Large Plant Model provides farmers with the most advanced AI technology to maximize the weeding quality of LaserWeeder in their unique environments."

The LPM serves as the foundation for Carbon AI, the decision-making brain operating across all of Carbon Robotics products. Carbon AI processes this vast amount of plant and field data to make real-time decisions, like identifying and eliminating plants, navigating field conditions and adapting to crop variations. Today, Carbon AI powers all LaserWeeders and Carbon ATK (Autonomous Tractor Kit for Existing Tractors), enabling smarter and more precise weed control and dependable tractor autonomy for farmers.

Plant Profiles, a new feature launching for all LaserWeeders, demonstrates how this AI translates into practical value for farmers. The feature enables farmers to quickly and easily tailor the foundational LPM to their unique crops, weeds, and field conditions. To make real-time performance changes, the operator can select just two to three images in the iPad Operator App to add to their Plant Profile and the system immediately adapts, optimizing LaserWeeder behavior for their unique fields. Unlike other AI-based systems that require substantial farmer input and take weeks or months to create new models, Plant Profiles enables the model to adapt in minutes.

â??We use plant profiles in our Vidalia Onion seed beds, transplants, and direct seeded onions,â? said David Faircloth, Farm Manager at Bland Farms. â??This has been a game changer for us and the simple, user-friendly platform allows our operators to maximize LaserWeeder performance in real-time in the field.â?

The announcement comes as Carbon Robotics demonstrates its latest technology in early February at Fruit Logistica in Berlin, Germany and World Ag Expo in Tulare, California. This comes at a pivotal moment when farmers are actively seeking new solutions that reduce their spending and dependency on labor and herbicides, while increasing crop yield, quality, and consistency.