

Laudando & Associates Granted Foundational U.S. Patent for L&Aser™ Photonic Crop Protection Platform

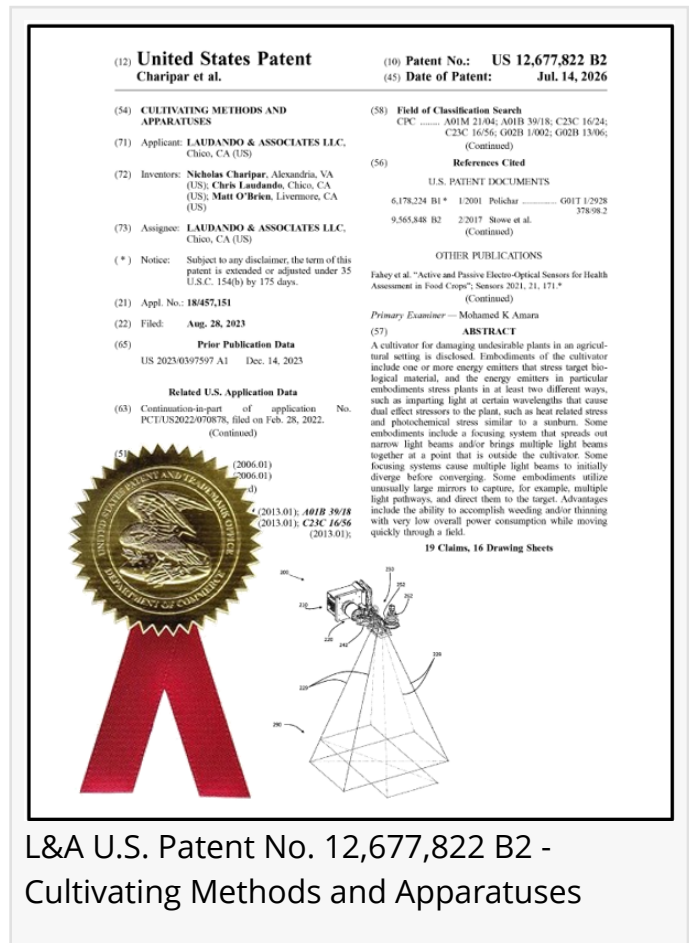
Company expands European strategy, pauses Australian commercial availability, and continues developing research-first laser crop protection ecosystem

CHICO, CA, UNITED STATES, July 14, 2026 /EINPresswire.com/ -- Laudando & Associates LLC ("L&A") today announced the issuance of U.S. Patent No. 12,677,822 B2, Cultivating Methods and Apparatuses, covering foundational technologies for the company's L&Aser™ photonic crop protection platform.

The patent describes multiple embodiments for identifying, tracking, and selectively treating plants with targeted energy to induce photochemical and thermal stress through novel beam combining, optical steering, beam shaping, and low-cost, energy-efficient architectures that dramatically reduce power requirements while increasing throughput.

The patent represents the first issued U.S. patent in L&A's broader photonic crop protection portfolio and establishes protection over numerous claims extending beyond conventional laser weeding integrations, including: multi-stressor plant treatment, targeted energy design, free-space beam combining, spatial targeting and tracking, modular cultivator designs, and energy-efficient implementations intended to enable laser weeding viability for large-scale broadacre and row-crop agriculture.

"Our objective has always been larger than replacing herbicides with lasers," said Chris Laudando, President of Laudando & Associates. "From the beginning, we viewed photonics as an entirely new category of crop protection, and our objective was not simply to kill weeds. It was to fundamentally rethink how light-matter interaction can become a broadly useful farming tool: to kill, stunt, suppress, phenotype, or selectively influence plants."



L&A U.S. Patent No. 12,677,822 B2 - Cultivating Methods and Apparatuses



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Unlike conventional laser weeding systems that rely on enormous power budgets and expensive industrial laser architectures, L&A's patent describes multiple embodiments using low-cost blue laser diodes, optical beam combining, large-aperture steering systems, beam shaping, and multiple stress modalities that cumulatively reduce overall system power, increase throughput, and

create a path to lower-cost photonic crop protection for farmers big & small.

Patent Grant and Litigation Continue on Separate Tracks: The issuance of U.S. Patent No. 12,677,822 does not conclude the ongoing patent litigation between Laudando & Associates LLC and Carbon Autonomous Robotic Systems Inc. (known as Carbon Robotics).

“The patent process and our unresolved litigation involve different legal questions,” Laudando said. “The United States Patent and Trademark Office has completed examination and determined that the claimed inventions satisfy the statutory requirements for patentability. The ongoing litigation concerns separate issues that will continue through the federal court process, and court adjudication on the merits is still forthcoming.”

L&A confirmed it is continuing to work with counsel to develop a long-term intellectual property strategy surrounding both protection and commercialization of the company's expanding patent portfolio within the United States and abroad.

Research Platform Strategy: Coinciding with the patent grant, L&A announced an expansion of its research-first strategy.

The company expects future development to extend well beyond laser weed control into broader closed-loop biosystems involving crop phenotyping, spatial dose optimization, selective plant response, plant trait development, integrated sensing, and combination treatment modalities that further reduce farmer reliance on traditional chemical inputs.

“L&Aser is becoming a platform upon which researchers, growers, universities, OEMs, and future commercial partners can explore entirely new approaches to crop management,” Laudando said. “Today's patent grant is the beginning of a broader multinational research effort that will transform crop protection and plant breeding for low-input cropping systems that are designed to achieve specific biological outcomes on an individual plant basis.”

Commercial Focus Shifts Toward Europe: L&A also announced it has elected to pause new commercial availability of L&Aser in Australia while it continues to support lawful research collaborations in jurisdictions that actively encourage agricultural innovation and competitive technology development.

The decision follows extensive discussions with growers and industry stakeholders regarding the uncertainty created by the current intellectual property environment in Australia.

"We have tremendous respect for Australian growers," Laudando said. "Rather than asking individual farming businesses to navigate that uncertainty, we have chosen to concentrate our near-term commercial efforts in Europe."

The company will now establish the Netherlands as its primary commercial and research hub for the next phase of L&Aser expansion as it continues to secure collaborations with domestic & international researchers.

"The issuance of U.S. Patent No. 12,677,822 is just the beginning of L&A's IP strategy", Laudando said. "We believe the future of crop protection will be determined by better physics, better systems, and better economics - not by limiting farmer access to innovation."

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