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Cautious Optimism at Indoor Ag-Con

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You can pack a lot into two-and-a-half days if you really work at it, and that's just what happened at this year's Indoor Ag-Con conference and trade show at Caesar's Forum in Las Vegas.

From a pre-show workshop on auditing for food safety that came with CEU credits to a full two-day schedule of panels, a robust trade show floor and networking, this event turned it up a notch this year. I would call the mood surrounding indoor food production "cautiously optimistic," a term I heard at least a couple of times during the event.

According to Event Director Suzanne Pruitt, the show attracted more than 1,500 attendees from 49 states and U.S. territories, along with 31 other countries. On top of that, nearly 150 visitors came from the co-located National Grocers Association event. On the show floor, there was an increase in exhibitors to 207 companies in 287 booths this year. All told, it's the largest Indoor Ag-Con to date, which prompted a move to a different facility next year to accommodate the growth: March 11-12, 2025 at the Westgate Las Vegas.

"Every year our speakers, exhibitors and attendees from across the country and globe look forward to Indoor Ag-Con, as it brings together our industry as a community to hold important discussions on timely topics and show off what's new in indoor agriculture," said Brian Sullivan, CEO of Indoor Ag-Con. "This year we experienced record exhibitor growth, and attracted companies and attendees from 35 countries to our global event. Next year, we are moving to a new location providing more expo and meeting space as we continue to grow with this ever-evolving industry."

Focusing on unit economics

Little Leaf Farms Founder and CEO Paul Sellew kicked off the event with his keynote, where he addressed a couple of key factors that are driving the success of his leafy greens greenhouse business. For one, he started small at the original Devens, Massachusetts, greenhouse, with 1 hectare (2.47 acres) to learn "what we didn't know" about growing leafy greens local to the market. From there he built a team to begin the process of scaling up, as well as began building a customer base.



Pictured clockwise from top left: CE-Line ■ BioTherm ■ Camille Hanna, business development director at Skytree, stands next to a mock-up of stacked Cumulus units. ■ Keynote speaker Paul Sellew, founder and CEO of Little Leaf Farms, speaks to a standing-room crowd at this year's Indoor Ag-Con.

"I'm going to reference this topic about the product because I just don't think we hear enough about that in shows like this," he said, adding they get emails daily from end consumers.

He focused on the unit economics and growing a consistent, quality product that would delight customers at retail.

"We've been able to demonstrate CEA viability," he said, citing more than \$100 million in sales with 47%

of the market share of CEA-grown leafy greens (and additions on to the Devens location and a new, multi-phase location in McAdoo, Pennsylvania, that will total 30 acres). "We don't consider ourselves really a CEA company anymore. We're a pre-packaged salad company. We're driving category growth at our retailers."

What can others take from his message? It's time to focus on the cost of production.

"The only way we're going to be successful is through an intense focus on day-to-day execution," he said.

The narrative needs to change, too, he added. The West Coast field-grown model isn't broken, contrary to what many on the CEA side say, so indoor growers must focus on providing better quality, longer-lasting products and focus on unit economics to provide crop-level profitability to be able to secure funding from cheaper, more reliable sources like commercial banking institutions.

"I'm a wild optimist this is going to happen," he added about the growth of the indoor segment. "Let's do it the right way."

1. CE-Line (partnering with Damm in the U.S.): How beneficial would it be to measure nutrient uptake in your crops in real-time? That's what CE-Line offers, automated nutrient measurements for macro and micronutrients that's able to integrate into any growing system and result in a nutrient analysis within 45 minutes, said Simon Meijer, CEO of CE-Line.

The company has been trialing the technology in the Netherlands for years, and currently has installations in the Netherlands, Norway and Germany. They'd been looking for additional partners and found a U.S. partner in Damm, in whose booth they were showing the technology. Simon noted that the technology reduces the risk of dosing mistakes, which can be caught early, and better addresses the needs of the crop to reduce plant stress. It can be vital to know what nutrients are in the water, too, if the operation is recycling water, and in cases where growers are optimizing lighting and nutrition, they may need very specific dosing to achieve their goals.

The system is adaptable and can be integrated into any environmental control system, Simon said.

2. BioTherm: This company highlighted several products in their booth that focused on adding dissolved oxygen to irrigation water to improve root health and nutrient uptake in plants. The Oxygen Generation System (OGS) works by capturing oxygen out of the air and sending it through a dissolved gas system to increase the measurable dissolved oxygen in irrigation water. The unit is a plug-n-play and connects to BioTherm's DOS-X Dissolved Oxygen System with flow rates up to 60 gpm (with larger flow available through customization) or to the DGS-m Dissolved Gas System with flow rates up to 50 gpm. Both the DOS-X and DGS systems can be controlled by the DO STAT Dissolved Oxygen Automation Controller with touchscreen interface.

CEO Jim Rearden told us an organic living lettuce grower using one of the dissolved oxygen systems trialed it and improved the weight of the lettuce from 5.5 oz. to 9 oz. with just the one change to production.

The company also showcased its CO2 enrichment machine that can make CO2 on-site, eliminating the need for tanks. The system pulls CO2 from the boiler's exhaust gases and redistributes throughout the growing facility.

3. Skytree: I wrote about Skytree when they first came on the U.S. scene last year, introducing the proof-of-concept version of their direct air carbon capture technology initially developed by the European Space Agency. They launched their Cumulus product in January, which is ideal for small-scale growing operations, producing up to 44 lbs. of CO2 daily. The systems are stackable, too, so one control unit can support up to three Cumulus units and there's an optional storage tank, as well.

At Indoor Ag-Con, they introduced the brand new Stratus series, which is made for larger indoor production facilities (both vertical farm and greenhouse). Here's the breakdown:

- Stratus Hybrid 10—Produces up to 1,100 lbs. of CO2 per day via the most energy-efficient system, using available thermal heat and electricity
- Stratus Electric 10—Produces up to 1,650 lbs. of CO2 per day, ideal for areas with access to cost-effective green electricity
- Stratus Electric 20—Produces 2,750 lbs. of CO2 per day as the highest capacity system designed to maximize CO2 capture capacity

Talking to Camille Hanna, business development director, we asked about return on investment, which she said can depend on the comparative cost of CO2 in the grower's location, but typically is between two and seven years. The company has tools to help interested growers calculate the total cost of ownership, and there are subsidy and incentive programs available to offset costs. Skytree is also looking at additional business models that would be available first on the Cumulus products. Stratus units will be available likely later this year.

New product highlights

There were a multitude of new products, concepts and services introduced at the show. [Click here to see the rest.](#)