

CULTIVA FARMS PURSUES HIGH TUNNEL BABY LEAF PERFECTION

By Jolene Hansen

HEN FAMILY-OWNED CULTIVA LAUNCHED FLORIDA LEAFY GREEN TRIALS IN 2015, growing under protection was a given. One of Europe's leading fresh-cut baby leaf producer organizations, the Italian company brought extensive high tunnel expertise to the state.

Federico Boscolo, president of Cultiva Farms USA, shared two factors behind the move by his family's company: his father's success growing radicchio in Georgia decades earlier, and conversations at a 2014 Atlanta produce show.







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Boscolo recalled discussions at the show about hurdles facing East Coast baby leaf production: "People were asking, 'How can we get baby leaf off the East Coast and not rely only on California?" And we said we think we can do it using what we do in Italy — where everything is protected."

Cultiva's trials started with 15 high tunnels on sandy Florida soil. "For one year, we farmed to see whether it made sense or not," Boscolo said. The next year, Cultiva had 870.

While high tunnels extended Florida's growing season, summer heat still limited production early on. Little by little, Cultiva pushed the envelope. The operation now produces arugula, red and green lettuce, and baby spinach year-round for Taylor Farms and other strategic partners.

Of the property's 400+ acres, which includes a protected wetland, 140 acres are under cover. High enough to accommodate large tractors, the tunnels are similar to those the family uses in Italy. A 20,000-square-foot





cooler on site, in this rural area near the Florida-Georgia border, ensures all harvested greens are cooled to 34 degrees Fahrenheit in less than an hour from the time they're cut.

Cultiva Farms now grows arugula, green and red lettuce, and spinach.

Photo courtesy of Cultiva Farms USA

"The quality, the cooling, the temperature. The food chain is at its best here. In our crops, it's all about the food chain at the end of the day," Boscolo explained.

LEVERAGING LOW TECH

Boscolo described the tunnels as "low tech," but added that tech is in the mindset and management of the operation. It takes just 19 people, including him, to run the highly automated farm.

"It's not a controlled environment; it's just a protected environment," he explained. "We don't manage temperatures actively. We don't have air conditioning. We don't have lights. Passively, we are able to reduce the temperature in summer with shaded plastic. It's really just an umbrella — protection against Mother Nature. If you're a good grower, it can work really well."

The operation uses technology extensively to capture information from the field, including soil moisture sensors to help manage irrigation.

Only preharvest inspections — which include errant weed control —still happen manually. (Laser weeders are being explored.)

From an agronomic standpoint, Boscolo says crop rotations are critical to growing under protection. Unlike some open-field growers, he can't just shift to a new ranch.







"These are my fields," he said. "I cannot move my stock, my houses, my high tunnels. So I have to make sure I manage my rotation properly."

Boscolo carefully nurtures the sandy high tunnel beds: "Every crop, I apply compost to the soil. ... Every time I drill spinach, arugula and lettuce, I alternate the cover crop."

Everything, including the tunnels' mist-like center irrigation systems, is designed to keep all water and nutrients in the soil's top 5 inches — in the root zone and out of the aquifer.

"I've seen the effect of a poorly managed soil, and it costs," Boscolo said. "You have to manage it constantly. Cover crops, compost — it's very expensive to do. But it's still cheaper than losing your soil or your business at the end of the day."

GUARANTEEING CONTINUITY

Boscolo noted the East Coast lacks the more stable climate and good soil enjoyed by West Coast farmers. "A lot of people try to copy and paste a West Coast model here, and the reality is that I would never be able to do it without an umbrella or any sort of protection," he said.

With high tunnels, he can guarantee continuity of his crops and reliably supply the demanding fresh-cut industry year-round. Winter brings Boscolo's highest-yielding months. When summer heat shutters other farms, Cultiva keeps producing.

"We worked a lot on shading, on plastics and light and seed varieties and irrigation. All these levers allow us to be able to farm 12 months," he said, adding that summer can be "brutal."





The farm started with the same clear, non-shaded plastic Cultiva uses in Italy. That's been switched to white plastic pre-shaded 25%. When summer heat hits, greenhouse shading paint increases shade up to 60% — reducing light transmission, lowering high tunnel temperatures, and giving crops relief.

Heat is not the only weather-related threat. "Florida is a kind of spicy environment for extreme weather events and hurricanes. Last year we had a lot of damages from a hurricane," Boscolo said. "Of course, we were aware of the risk of farming in Florida, but the location where we are is, historically and statistically speaking, the safest place in Florida."

A year later, the farm is still recovering. In the aftermath, Boscolo even tried open-field farming but saw more weather-related losses, further strengthening his belief in protected growing. Now the farm is coming back with even better performance than before.





EXPANDING THROUGH COLLABORATION

While Cultiva has plans for U.S. expansion, Boscolo hopes to establish a grower consortium similar to those common in Europe. Through his "Cultiva Club," growers could benefit from Cultiva's protected farming experience, as well as its good customer relationships, established market, sales expertise, and proven products.

Boscolo believes there's a new generation of farmers — and a generation ready to move away from their traditional crops — that could benefit from Cultiva's protected farming know-how, skip years of mistakes, and shorten their learning curve. "There are no secrets here in farming. It's a learning thing," he said.

Cultiva has begun exploring the risks and climates of different U.S. regions, including Appalachia. Boscolo hopes to mirror the Florida operation farther north, exploit cooler summers and overlap with Florida's warmer winters.

Meanwhile, he continues to seek improvements. In June, the farm began testing blue photo-selective plastic that allows photosynthetic light in while blocking heat-generating light. In Italy, he's studying retractable systems that roll up high tunnel walls — minimizing the sail effect and steel-bending damage of hurricane winds. Retrofits for 100 high tunnels are planned.

"Again, you learn with experience," Boscolo said. "I think you really need to be hungry for learning and improving — and technology is just an instrument for achieving better results."





He added, "Back in 2015, a lot of people were behind the fence, just looking to see whether we're going to make it or not. This model works. Again, there are the threats, weather events. But I think the message is really there's potential. And we really believe in this concept." •

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