

NEBULLAM AIMS TO REVOLUTIONIZE INDOOR FARMING



"We needed to be proactive in developing talent. We saw Iowa State as a perfect partner to build a relationship with. We are pleasantly surprised at the way it has grown in the first year."

—Iowa State University Research Park

Founded in a region of the United States with, arguably, the richest soil on the planet, a young Ames-based startup is aiming to revolutionize farming – without any of that soil. Employing a combination of high pressure aeroponics and artificial intelligence (AI), Nebullam is making waves in an increasingly competitive indoor farming industry.

The company was founded in 2016 when two former community college classmates reconnected. Today, Nebullam is operating two model farms – simultaneously generating income to keep the lights on and providing proof of concept for their innovative approach to agriculture – and seeking investment from engaged venture capitalists across the country.

"It took me about six years to get a few

system up and running," co-founder Danen Pool says, looking back. "I did all of the initial work in my home and it was promising. I could get the system up and going, leave it for a couple weeks and come back to it running just fine. I could grow produce very quickly and that was the major thing. Just with this first very rudimentary system, I could shorten growth cycles considerably."

With the technology, even in a very early stage, developed and tested, Pool knew that he needed some help with the business aspects of bringing his system to market. Among those at the top of Pool's list was Clayton Mooney, a former classmate at Indian Hills Community College who had spent time as a professional poker player among other things.

"We had kept in touch, and I had been following what he was up to on social

media," Pool says of Mooney. "I knew he had returned to Ames and was in the startup space. I contacted him and let him know what I was thinking, hoping we could figure out a way to move forward together."

Among the newly formed team's first actions was to reach out to experts at Iowa State University for feedback on the concept. The initial business model called for them to be producers – "indoor farmers" – providing their product from a warehouse. The longer term play was to put production units right into grocery stores and sell consumers produce they could pick themselves in the aisles of Hy-Vee or Fareway.

"We heard from a lot of people that they loved our technology but weren't sold on our business model," Mooney says. "The cost of labor just didn't pencil out.

We could grow indoors, but we were still going to need space to do it and workers to plant, manage and harvest the crops. That was all going to eat into our margins. We needed to figure out a way to automate as much as we possibly could."

In the search for help in solving the automation challenge, Pool and Mooney met Mahmoud Parto, who would eventually become the Chief Software Architect and final member of the founding team.

With a full founding team established, the trio began looking for opportunities to get bigger and better. In December of 2016, they were accepted into the second cohort of the ISU Startup Factory.

Now "graduates" of the Startup Factory and a series of other accelerators and business development programs, the team at Nebullam has swelled to 10. They have settled on a hardware + software model that will enable indoor growers to leverage AI to fully automate the growing and harvesting process. This is a major differentiating factor for Nebullam when compared to others in the marketplace.

We eliminate that. If you are powering your grow with Nebullam, we've eliminated any compatibility issues or learning curves."



"There are a lot of startups on the hardware side, and a lot of others on the software side," Pool says. "But running those varied systems together, there is a huge learning curve for the producer.



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