

RIC CENTRE IMPACT REPORT | Mary AG

# All-in-one automated vertical farm technology delivers cost-effective, sustainable, and scalable cultivation



## IMPACT

Tackling sustainable food growth problems in the world was the origination for Mary Agrotechnologies (AG) automated controlled environment agriculture technology. Historically, LED technology was limiting and not economical for homegrown food rooms. The majority of vegetables in Canada are imported or seasonally grown and not necessarily self-sustaining. Growing vegetables or leafy greens at home can be a very intimidating idea; it takes time, knowledge, and experience on top of effort, and first-time growers typically fail.

Frank Qin, a recent computer science major, spent several years working at various hardware startups. In 2017, Frank decided it was time to launch Mary AG, smart grow box technology. As CEO, Frank Qin had the vision to create sustainable agriculture for future generations. An associate worker, David Byer, was recruited to now Mary AG COO and student Roger Jiang now VP Engineering. The team began designs on automated technology for vertical farming to effectively reduce time and increase the agricultural success rate.

At the time, cannabis was becoming legalized in Canada, and the Mary AG team decided to focus on this market to launch their product. Their technology reduced agricultural management time from 2 hours per week to 10 -15 minutes per week. The increase in success rate decreased the access cost from 9-10\$ per gram to under \$1.

Mary AG's smart device comprised of hardware, software and electronics is an all-in-one agricultural solution. The deep water hydroponic cultural unit includes climate assist modules to control heating and cooling that connects to Wi-Fi. Paired with a mobile app available on the App Store and Google Play, growers can control and monitor plants in real-time.

[See how it works.](#)

## HOW WE DID IT

In Early 2019, Mary AG raised just over half a million dollars. Leveraging Frank Qin's roots and connections, Mary AG began tooling development and manufacturing in China. Frank Qin states, "We quickly realized that starting this venture up was complex and complicated. We were inexperienced with a lot of passion, but we needed guidance and reached out to the RIC Centre (RICC)."

"We met with Paul Barter, RICC advisor, and he shared his decades of experience in different industries, hardware and software manufacturing. Together with the other RICC advisors, they opened many doors for us, first mentally and secondly with network and connections," continues Frank Qin.

"Collectively, RICC helped us work through different scalability scenarios, growth, and expansion for different demographics and markets. We refined our business model to be much more efficient and ultimately productive. Our pitches and presentations became much more aligned to connect with potential investors. There is no doubt the advice network Mary AG received from Paul, and the team led us to now \$3 Million in funding, 11 employees, we are now on the brink of full-blown manufacturing expected end of 2021" asserts Frank.

Frank resumes, "Narrowing our focus to just the cannabis market was a bit scary, but we wanted to focus and refine our system before expanding too quickly. We matured in the few years we have been in existence. We were a bit lost and overwhelmed with information and options for the technology. The RICC team helped us create clarity and a particular direction."

Mary AG decided to buck the traditional retail channel by creating a "sprout route" where they placed one demo unit within a retailer showroom. The customer can then test the demo unit with the adjoining tablet and software, get answers to questions and purchase directly from Mary AG. It virtually eliminated training, upfront investment, risk, and fulfillment from a traditional retailer and increased Mary AG's profit margins.

## LOOKING AHEAD

The grow box units function as small robots and are highly scalable. It could be used for a single small home grow box – 1 square foot – to industrial grow rooms 1000s of square feet.

Frank envisions China adopting these industrial-scale vertical farms quickly because of the low labour costs, quick technology iterations, and their current license to grow industrial CBD hemp. We bring Canadian quality cannabis with low Chinese costs. It's the right combination for the Canadian and US domestic markets

The focus for 2021 is to complete construction for the manufacturing site in China and reach full production capacity by the end of the year. The initial market focus is Canada and the US. By 2022, with their marketing engine switched on, they anticipate global interest and value for cannabis farmers and across leafy green cultivators at large. Keep watch. <http://mary.ag>