

GROWERTALKS

Features

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Eclectic Companies

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You use Skype or FaceTime to have a face-to-screen chat with faraway relatives and friends, and the Cloud to store your iTunes library on your phone and iPad. So why couldn't you use similar technology in your greenhouse?

Well, you can.

Companies like AgriNomix, Wadsworth Control Systems, Harvest Automation and McConkey are leading the pack in creating innovative methods of making automation and technology work better for growers. Harvest's plant-spacing HV-100 robots and McConkey's 3-D pot printer had the aisles buzzing at last year's Cultivate'14, and AgriNomix and Wadsworth are continually developing new products and services that take advantage of new technological advances.

Pictured: "Seed" from Wadsworth Control Systems is the first full touch-screen environmental control unit on the market with iPad-style sliding screens. Amanda Debevc shows it off at last year's Cultivate'14.

"Our customers are plant factories in ways that they never were before and they need industrial-level automation," said Rob Lando, owner and president of AgriNomix. "It's all 3-D, solid-modeled, laser-cut—everything is all engineered now, where it used to just be, 'Well, I think a three-horsepower motor should be enough. Let's put a five on and be sure.' We don't do it like that anymore. We're a little more industrial in our approach."

"I think it's come down to every person being exposed to sophisticated technology, no matter what their age," said Julie Dean, VP of Wadsworth. "Where do you go where you don't see someone pull out their phone? That's just our society and I think the good side of that is every industry is looking to see how they can benefit and raise people's expectations."

Now you can have a flat filler with a web cam, store your production data on the Cloud and have someone fix your equipment without even being there. What was unbelievable before has become a reality for many

growing operations. Who would've thought 10 or even five years ago that you could have a robot space your plants for you?

Adapting to the times—and the customer

Packaging, varieties and volume aren't the only things that have changed as our industry has evolved. The structure of the businesses themselves is different, as well. When AgriNomix started 20 years ago, the owner was the one making the purchasing decisions and calling when the machine needed maintenance or repairs. Now, many owners don't even walk through the greenhouses every day, relying on their staff to handle the day-to-day responsibilities.

"Now there are marketing people and plant purchasing people and logistics people and they're growing 10 times the number of varieties or SKUs because of all the different package sizes. So the business has become so complex," said Rob. "Now, when the machine's broken down, the owner might not even know about it."

Julie's grandfather George Dean, Sr. founded Wadsworth in the 1950s. Her father George, Jr. moved the business' focus to the horticulture industry after a grower friend asked for help in controlling the environment in his greenhouse. For years, the company catered primarily to the floriculture industry, but now there are more segments that Wadsworth has been serving, like research, universities and the cannabis market. The number of end users is a lot more diverse than it used to be, said Julie.

"The recession never caused a significant slowdown in our business because we serve multiple industries. Also, there were a lot of grants in progress and that kept us busy," she explained.

Domo arigato, Mr. Roboto

According to speaker and trendwatcher Richard van Hooijdonk, robots will become more intelligent than people and they'll be given a more human appearance within the next 15 years. Richard is one of the keynote speakers at the GreenTech Summit that will be held in Amsterdam in June to present "Horticulture 2030: Are you ready for the future?" based on his "Trendz! on to 2030" lecture.

Richard has spoken to hundreds in other industries, from healthcare to construction, to talk about technological advances that include robots, drones and what he calls the "Internet of Things"—which means physical objects, human systems and natural objects linking to work together. He gives the example of when your alarm clock rings, the bath is filled automatically and the coffeemaker in the kitchen starts brewing.

That's actually already happening in the greenhouse, when control systems like the ones from Wadsworth manage a multitude of functions all at once—like rolling the shade curtains back, opening the greenhouse roof and starting the irrigation system when a timer goes off. Julie said that when she explains what Wadsworth does to non-industry people, she uses a similar analogy like the alarm clock one above to illustrate how a grower can control a whole bunch of aspects through one system.

We've already seen how modern robotics can be incorporated in our business with the HV-100 robots that help space plants in the greenhouse. The makers of "Harvey," as it's affectionately called, are known for their work on the Roomba robot vacuum cleaner and a \$300 million particle detector for CERN. Harvest Automation's goal wasn't focused on nursery and greenhouse, but more about self-sufficient robots doing repetitive, difficult work.

Harvey was introduced two years ago and already there are more than 150 of them at 27 different nurseries and greenhouses across the U.S.

“Customers’ first reactions when they see the HV-100 robots tend to be amazement that this technology exists and that it works so well in rugged outdoor conditions, such as gravel and groundcloth,” said Matt Aprea, director of product management for Harvest Automation.

He went on to say that, although some growers are skeptical at first, they discover after using the robots for a while that, not only are the robots efficient and productive, but they can put 5% to 15% more plants on a given section using the robots’ hex spacing pattern.

Embracing a more tech-advanced future

As tech giants like Apple and Microsoft continue to leapfrog each other to introduce “the next big thing,” companies that service the growing industry will continue to use their breakthroughs as inspiration.

Julie said that smartphone technology was definitely Wadsworth’s “muse” for their new control system called “Seed” that was introduced at last year’s Cultivate’14. Seed is a full touch-screen environmental control unit with iPad-style sliding screens that includes enhanced curtain, light and CO2 settings. And, perhaps most importantly, it’s really easy to operate because most people know how to work a smartphone and iPad.

“No one’s said, ‘I’ve never seen anything like this before.’ Everyone says, ‘We want one,’” explained Julie. “We did spend a lot of time and were really thoughtful about the whole look of the user interface and I think that’s the other bar that’s been raised by Apple. It has to be really, truly thought out and aesthetically well done. There’s was a time when people didn’t care, but now everyone notices that more than they ever did in the past.”

At this year’s Cultivate’15, AgriNomix is rolling out a new Internet-based ticketing system to help their customers even more with servicing their equipment. Once you register your AgriNomix machine on their website, you can send information about a service issue anytime day or night and track the solution’s progress. You can also request parts, too. Think of it like tracking a FedEx package or when you’re having a problem with your cable.

“It makes a huge difference to be able to service more rapidly and get better results because we also track how we solved each problem so that other people can pull from the same library,” said Rob.

Just like growers have to constantly look for new ways to service their customers, companies that produce equipment and control systems have to keep improving on their foundation products in order to compete in this market—especially since there’s such a long time before you need a replacement.

“It’s not unusual for our machines to last 15 or 20 years, so we sell replacements about every generation or so,” said Rob. “So what we’re doing is continuing to develop new automation tools that allow growers to be low-cost producers and improved their quality. As long as we hit that mark, there are always growers who are interested in those goals. It sets us apart from all the others.”

“We’ve always been a problem-solving company. Those are our roots,” Julie said. “So we’ve always been driven by needs. And the more the growers demand, the more the technology accommodates and the more we’re going to rise to the occasion and say, ‘You want this? Okay, here you go.’” **GT**