

GROWERTALKS

Features

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Big Controls for the Small Grower

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While wandering the trade show floor, the small- to medium-sized grower looks enviously at the huge greenhouse climate control booths.

“I can’t possibly afford that,” they think. “And even if I could, I don’t have the space!” They may wonder, can a small- to medium-sized grower somehow take advantage of the newest climate control automation? That’s what we wanted to find out, so we talked to two climate control experts and learned that growers of any size can have access to the benefits that climate control automation offers.



Pictured: The Seed climate control program from Wadsworth utilizes a touchscreen and allows for remote access from a computer, phone or tablet.

Climate controls can be as basic as low-voltage controls (on/off switches and sensors) all the way through large relay and lighting panels. Argus Control Systems and Wadsworth Controls are two companies offering these systems to growers.

Small, Medium, Large

We talked to Yuriy Duda, GM at Argus Control Systems, and he gave us the lowdown on what Argus offers. He says that although the majority of their customers are small to medium, size doesn’t matter.

“There’s no difference between smallest customer and largest customer, except scale.” He explains that on the software side, they provide all of the tools that the grower would need to operate their facility. It really comes down to the complexity of the controls and what they want to do with those controllers.

“We have some small, half-acre facilities that run Argus and have been able to leverage the hardware and the software to optimize their operation,” he said.

Basically, a grower is limited by the complexity, rather than by size or cost. He explained that the really big growers usually run a full environmental system, managing irrigation, fertigation, humidity—all aspects of their

climate control. He says that the more that they want to do, the better off they are using a comprehensive system.

Julie Dean, VP at Wadsworth Controls, explained that their systems offer the ability to control all aspects of the growing environment, including heating, cooling, irrigation, light, CO2, shade, and blackout or light deprivation. Their controls can manage a single zone or multiple zones.

When asked what a typical customer looks like, Julie replied, "You'll find Wadsworth Control Systems' products in every size and application of growing environment. Our climate controls manage commercial, private homes, research, small schools, large universities, government facilities, aquaponic, hydroponic and cannabis greenhouses or grow rooms. It's rare that we can't meet our growers' needs, whether large or small."

Their most advanced control system is Seed, which utilizes a touchscreen and allows for remote access from a computer, phone or tablet. It also offers custom "Quick Graphs," which are simple to design and save, so that a grower can easily track the management of their crops. For a smaller grower, the system can easily be sized down. The Seed control system is available as a single zone and this non-expandable version is priced competitively for a smaller application.

Another option for the smaller grower is Wadsworth's STEP Up, a staged control system that manages heating, cooling, venting and curtains. Its companion software, Compass, offers remote access to a single or multiple STEP Up controls. Compass displays saved data in 15-minute increments.

Julie notes, "For the grower who doesn't require light, irrigation or CO2 management, this is a great option."

We asked if growers are sometimes hesitant to embrace automation; Yuriy says, yes, definitely, and that the perceived complexity of climate control systems can be a little bit daunting sometimes. But in reality, many systems are easy to learn and are intuitive, and it's well-worth the learning curve.

"Some companies strip out functionality from their hardware to make it seem like it is simpler, but really it's just a dumbed-down version," Yuriy explained. "We don't really want to do that because we know that growers are always advancing; they're always learning, they're always trying to get more production out of their facilities."

Julie said that the Seed control nearly eliminates the learning curve for most small growers. "They can start at the home screen and intuitively begin to understand the workings of their growing environment. Wadsworth pre-programs the geographic setting and standard growing settings before shipping. That means that the smaller or less-knowledgeable grower can adjust settings rather than start from scratch."

Also, the initial cost can be scary for small growers, but there's a very good case for implementing a control system. Julie notes that Wadsworth's system is competitively priced, loaded with functions and easy to use; it has an interface that's similar to a smartphone.

She says, "The zone equipment screen shows the current conditions, status and a 'Why Message' that

explains when and what the equipment will do next. By touching the equipment name, the screen will move to the settings for that specific equipment, such as lights or irrigation.”

Is it worth the \$\$?

So does it pay off?

Yurij explained, “Both sides of an operation can be improved by automating, adding complex automation specifically.”

He spoke about the quick return on investment that growers can see, noting that payback can be very quick by saving money on energy and fertilizer, and increasing production volume. A grower can water their plants and minimize water use to a fine degree, if they’re on the West Coast, for example. In other regions, energy cost might be most important for a grower to manage; heaters and fans running only when needed can save lots of money. Yurij notes that easily 20% to 30% of a grower’s energy costs can be saved just by putting in some automation.

“The climate control system can immediately provide benefits, which are compounded as a grower finetunes their system,” he said. “For example, a grower that was using \$1.2 million of fertilizer a year, went down to \$40,000 a year, by putting in a fertigation delivery system. It pays for itself very quickly.”

As Yurij and Julie explained, after dealing with the fear factor of new technology, there’s a great deal of money and time to be saved by installing a climate control system. Smaller operations can easily implement a scaled-down version of a system that can provide them with the functionality they need, while keeping the cost within their reach. **GT**