GROWERTALKS

Cover Story

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Keeping Your Current Greenhouse Current

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Picture this scenario: You have a 10-year-old greenhouse that's served your business well. There haven't been any major problems and during its tenure you've added some tiny upgrades here and there.

In 2020, when much of the world froze in place, it was actually a good year—a great year, in fact. Definitely good enough to pay the bills and have a decent chunk left over. You have a wish list of bigger things you'd like add to your greenhouse, but should you? Everything's been working fine … why spend the money? But the competition in your neck of the woods is tough, and you want to be able to keep up with the market and continue to make your customers happy. Where do you start?

Want vs. need

First, think about where your pain points are: Where are your weaknesses? Where can you be more efficient? What does your staff complain about the most?

Dave Holley, GM for Moss Green-houses in Jerome, Idaho, and "a numbers guy who looks at everything," says he calls this "want vs. need."

"What we do is every summer before we do our annual budget, we ask our department managers for a 'want list,'" he explained. "What is it that you want? What do we need now and what do you see needing in the next three to five years? This way we have buy-in from all the departments, and then when we go over our numbers, we can go, 'Here's what we have to spend.'"

Pictured: Updating your greenhouse doesn't have to be completely high-tech—something as simple as replacing old fans with newer, more-efficient versions can offer you more control of the environment.

If you look at your three-year plan and know you want a transplanter, Dave says you have to crunch the numbers. Say the current one you have is more than 15 years old—at some point, it's going to be obsolete, and you won't be able to get parts when it needs repairs. Does it make sense to get a new transplanter that does more?

"If you've got a machine that will only do two things, and there are machines out there that will do more all in one, it

makes more sense to get a new one," said Dave. "You have an actual cost associated with how many people the machine will alleviate."

A good example of that is at Peace Tree Farm in Kintnersville, Pennsylvania. Owner Lloyd Traven said this year they switched over to growing plugs in Growcoons, a biodegradable mesh net that you fill with substrate and can be transplanted directly into finished containers. They had a flat filler Lloyd bought in 1987 with an original serial number of 5 and the company that made it no longer exists. If it broke, there are no spare parts to be had, so Lloyd knew it was time to get something new. To go along with the Growcoons, he bought the machine that's specifically made to fill them with substrate, especially since he wasn't sure the old machine could handle it.

"I could not face heading into this season switching over to a new system and having the chance that my flat filler could break," said Lloyd. "So now you're buying a new plug filler to go along with everything else and it snowballs, of course. There are some growing pains with learning how to grow with Growcoons and filling them properly, but it's working."

"Truthfully, labor is getting so difficult to get that these pieces of equipment, even though they're extremely expensive, they definitely pay for themselves," explained Bill Swanekamp, co-owner of Kube-Pak in Allentown, New Jersey.

Bill said although it might take five to seven years to pay off a fancy piece of equipment, in most cases, it's worth the long-term investment. Kube-Pak uses a TTA CombiFix machine to fix their plug trays, which Bill figures costs about 35 cents a tray. When it's done by hand, it costs anywhere between $1.30 to $1.70 a tray.

"The cost is as much as one-third of hand-fixing," said Bill. "We figure if we put half of our plug trays through the fixing machine, we're saving about $100,000 a year. The machine costs about $400,000, so in four years, you've paid it back."

Bill said it's the same with his transplanter they bought two years ago. It can virtually do any size plug tray and can put plugs into any type of finished container.

"Yes, it's going to cost you $200,000 or $150,000, depending on the size you get. But that machine is going to eliminate 12 people," he said.

Dave said Moss has 40 people across three transplanting lines and all but one is done by hand, so he's always looking at his labor costs to see where things can be tweaked to be more efficient. Doing the math on labor will allow you to figure out if you would get a good return on investment. It's also important to think about the big picture once you do buy it—will you be putting it in an existing line? What will you do with the old one? All of these things need to be taken into account, said Dave.

Doug Cole, owner of D.S. Cole Grower in Loudon, New Hampshire, said whenever he sees a piece of equipment that can make his life and those of his staff easier, he finds a way to add it to his operation.

"Something like a bale breaker … yeah, I could live without it … but I could make money having it in the long run," said Doug. "It's not always about the cost, even if it takes five years to make that money back. If I don't have to go from having 30 people in the fall to 100 people in the spring … boy, wouldn't that be great?"

Automation as a necessity

If the price tag of a large transplanter or pot filler is a bit too much for you to stomach, you can always stick to the basics. But as markets change and there's more competition for labor and customers, having some type of automation is almost a requirement these days. And that mindset has changed during the last five to 10 years.

"We've got to be able to maximize costs as efficiently as we can," said Dave. "You have to mechanize in order to

keep prices in check. We want to be able to get our margins, but also make sure that the customer has an item that they're happy with. We want to be able to give value to what we have to our customers."

"There are growers on the small side, and even some modestly mid-sized, who don't have a lot of automation and they get by," said Lloyd. "But I really question whether they're doing the analysis of where they could be if they would make some investments in their business."

Automation doesn't have to include big transplanters and high-end energy curtains—it can be something as simple as conveyors to help your staff move plants around the greenhouse. Bill Bissell and Jack Ford, who handle sales for AgriNomix, say materials handling is the top ask for many of their clients.

"The demand for conveyors is pretty high right now," said Jack. "We're seeing a lot of applications with miles of conveyors in the greenhouse. It's starting to become feasible [for the small grower]."

"Usually [the pain point] is keeping and maintaining a good workforce," said Bill. "And then trying to make their jobs easier and more ergonomic so that they're not worn out, and they can work faster and better."

AgriNomix offers different materials handling products, including "fork systems" that attach to forklifts, making it easy to move a large amount of pots at one time. Jack said they recently had a grower challenge them to develop something that helps with production and product movement without employees having to bend over at all.

"The comment the grower made was, 'I can find people that will stand up and work. Once they know they have to keep bending over, I can't,'" said Jack.

"It's not the one bend-over, it's the 10,000 bend-overs," Bill added.

Another avenue could be in climate control or irrigation systems. Even if you can't afford a full system that controls everything, there are ways to upgrade and become more efficient.

"If you want to take it slow and ease your way into automation, you could do it on your irrigation system with a simple timeclock, which basically just says at this time you water this much," explained Rico Garay, key accounts manager for Argus. "You're trying to find ways to utilize less resources and still get similar production, so one of the things that's beneficial about having an automated system is not only the functionality of getting automation—which allows you to look at your input costs—but it's also very consistent because it's essentially an algorithm. Probably the most important piece of this is that it gives you trends that allow you to understand where you need to be more efficient."

Pictured: Most energy curtains only have a lifespan of 15 to 20 years, so replacing and upgrading to a higher-quality version will pay off in the long run. "If you pay 50% more and you get double or triple the years out of it, then that's a pretty good investment," said Bill Swanekamp.

Bill Swanekamp said investing in a climate control system has saved his bacon numerous times.

"I cannot tell you how much we've saved over the past 30 years or more since we put it in the environmental control system," said Bill. "The savings, interestingly, haven't come because we've used less fuel or electricity. It's that when we were producing plugs or rooted cuttings, the computer is telling us when the heating system is broken. So

material that was grown without the computer, you wouldn't even know for a week or two that it wasn't heating properly. And that's the bottom line—how much is that worth?"

Maintenance on the regular

Even when you know you and your staff have been keeping an eye on things, there's always something you miss. One thing Doug said they hadn't thought about in years was greasing all of the rack-and-pinions on the louvers of their energy curtains.

"It's so obvious, but we didn't have it on our list until one failed and we saw how worn some were," he said. "So now it's on the list to go through and re-grease everything."

Another tack to take besides looking at your most noticeable inefficiencies is thinking what's most likely to break first. In Lloyd's experience, it's plumbing.

"We've learned over the years we always build an isolation valve so you can figure out a way to isolate the problem without having to shut everything down. If a pipe bursts and there's water gushing everywhere, go upstream and turn the valve off," he said. "The mantra here is that any part that moves or turns eventually WILL break—all pumps WILL fail at some inconvenient time. Be ready and able to continue going while it is getting fixed. When something goes wrong, stop the bleeding first."

And if you don't already have a regular maintenance schedule, you should create one. This is the best way to keep ahead of problems and give your larger, more expensive equipment a better chance to last longer.

"The off-season is our time to run a full maintenance program, so every house, every vehicle, every cart is serviced," said Dave. "We find that if we are acting on something that is noticeable right away, it's going to save us in the long run from having to shut down for hours or days because we have to wait for parts."

If you have the resources to hire at least a part-time maintenance person, it's a good idea to have someone on-site to handle any problems immediately. It'll be less expensive and easier to have a member of your staff who's familiar with the business than having to pay an outside vendor who'll most likely need a crash course in greenhouse equipment. Dave said having an in-house maintenance person is another instance of want vs. need.

"Can you afford to pay outside costs of $50 to $80 an hour for somebody to come in and troubleshoot something that they may or may not know anything about?" he said.

Plus, every time there's a problem, the maintenance department usually acts as first responders.

"They can be on call if something goes wrong and be at the greenhouse within 30 minutes," said Dave. "They're the unsung heroes because they're the ones who are here until 8:00 or 9:00 at night or they're here at 3:00 in the morning because Argus called and said that there's a problem.

"If we're really watching what we're doing on a daily basis and trying to make sure that we're taking our time and doing the maintenance as required, we're going to have a much smoother and efficient operation and that's going to show on the bottom line."

And that bottom line allows you to give raises, buy new equipment and more to stay current.

Other upgrades

Each grower I spoke with had plans in the works to upgrade something at their operation this year. Moss Greenhouses will be building two new hoophouses (maybe four) to give Dave more space for hanging baskets, along with expanding the plug range to put in another seedling line and updating their Argus control system.

Kube-Pak has 800,000 sq. ft. of energy curtains that will be replacing ones that are 25 years old. And they're in the process of replacing all of their fans, which will be 50% more efficient than the 50-year-old, leaky ones they have now.

D.S. Cole just added 100 more shipping racks so they can just leave them with the customer, getting their drivers back on the road faster for the next delivery.

D.S. Cole and Kube-Pak will be trialing LEDs, while Peace Tree will be adding a new control system for their LEDs and contract growing young hemp plants for a third party. And all of them have realigned their crop mixes to best reflect their markets—from maintaining their own houseplant stock to increasing edibles production—and that can be considered as part of keeping your business current. You just have to figure out what's best for you.

"To say there's a blanket answer for everybody … that's not true," said Bill Swanekamp. "How are you going to spend your money? Where can you improve? Those are the kinds of things you look at as a business. There are short-term things and then there are really long-term. And if you made a lot of money, I would spend it on the long-term things."

"If it hasn't been preached enough in my 30-plus years, know your costs," said Dave. "Know if you can afford to do it, and if you are going to do it, what it's going to add to your everyday operational costs because you need to be able to factor that in." **GT**