

GROWERTALKS

Cover Story

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11 Ways

Chris Beytes

Machines can be the answer, yes ... and to more than just the “How do I reduce labor?” question. In fact, over the years, we at *GrowerTalks* have identified 11 different ways that you can justify an equipment investment, both immediately and over the long haul.

This article covers those 11 ways; in addition, we’ve talked to three greenhouse operators with plenty of automation experience—Suzie Raker of Raker-Roberta’s, Doug Cole of D.S. Cole Growers and Art VanWingerden of Metrolina Greenhouses—to glean a few tips, tricks and secrets for gaining efficiencies around the greenhouse—with and without machines.

WAY 1: Labor availability

Historically, this has always been one of the first reasons growers think about buying a piece of equipment: because it’s so hard to find good labor. For instance, if you need six people to fill all the pots and trays you need for the week, and a pot filler can do the same job with two or three people, it’s a no-brainer, which is why we rarely visit a greenhouse or nursery that doesn’t have a filling machine.

The big mistake you have to guard against is underestimating how many people it takes to run a given piece of equipment. (Also, beware of optimistic figures from manufacturers.) Your best bet is to talk to other growers using the same or a similar tool to get their real-world experiences.

That said, never let labor savings alone be your only benchmark for buying or not buying a given piece of equipment. You won’t find a single grower anywhere who regrets buying a filling machine, no matter how much labor it did or didn’t save—they’re just too valuable a tool to NOT have one because of the many other benefits they offer. Such as ...

WAY 2: Ease of labor

The right piece of equipment, such as the aforementioned pot filler, can help your employees do more work, and more consistent work, with less stress and struggle. That’s big! If you can make their job easier, they’ll be happier and more productive—and perhaps have fewer job-related injuries, too. Comfortable employees who aren’t bending, sweating and stooping are happy, productive and healthy. In fact, many businesses get their first piece of automation because the boss has to spend time on the line and the boss didn’t want to work so hard. (See Art VanWingerden’s advice in the sidebar.)

WAY 3: Increase productivity

There are plenty of ways to realize increased productivity from mechanization, but the most interesting example we've heard comes from a manufacturer of manual transplant lines, which are often used for sticking cuttings by hand into trays. These lines can be equipped with automatic counters that keep track of each employee's output on a large "scoreboard" that everyone can see. Human nature being what it is, nobody wants to be the slowest worker with the lowest counts. According to the manufacturer, growers who've installed these scoreboard-equipped sticking/planting lines say that, on average, their employees' output doubles compared to sticking the old way.

At 170-acre Metrolina and at their perennial farm, they've increased productivity with a UPC-based app called Avail that they use for taking inventory. One person can scan 50 acres of greenhouse in just three to four hours! Art's brother Michael says the system allows them to better forecast their turns, and what colors and items are hot-sellers. And it has helped cut their dump percentage (which was already very low). In fact, this tool is so useful, it might provide benefits under all 11 of the ways!

WAY 4: Getting it done on time

A human can only do so much with his or her bare hands; and while hand-filling, hand-planting and hand-moving might be adequate for a start-up, eventually you need to get more done before the sun sets than is possible by hand. Fillers, transplanters (even basic ones like the Punch 'N Gro), conveyor belts, carts and racks all help you get the job done in the given time frame.

WAY 5: Getting it done faster

As your business grows, one thing doesn't grow: the number of hours in the day. Pretty soon, getting it done on time isn't enough: you need to get 10 tasks done on time, which means each of them needs to be done faster than before. If one worker can plant 1,000 plugs an hour instead of 500, he can be done in half the time and move on to the next job. The more jobs you can get done more quickly, the more productive your business will be.

WAY 6: Getting it done sooner

We learned of this method of payback from Gerry Raker, one of the deep thinkers of our industry, who discovered it after investing in an automatic plug tray fixing machine for C. Raker & Sons (now Raker-Roberta's). Because the new machine required that the plugs be graded while still small, Raker started to fix their plugs up to two weeks sooner than when fixing by hand. That turned out to be a major benefit.

Says Susie Raker, Gerry's niece, and the CEO of Raker-Roberta's, "By fixing up the material earlier, we were able to know what we had available much sooner, and therefore, were able to sell more material more quickly." For a plug grower, a two-week difference is a major competitive advantage.

The most amazing part of the story? Gerry had never imagined this benefit of his investment.

WAY 7: Better space utilization

Because of the high cost of building and operating a greenhouse, improved space utilization comes right behind labor savings as a good reason to invest. Rolling benches, Dutch trays and flood floors can help you utilize up to 95% of your possible growing space; while automated hanging basket systems, like those by Cherry Creek Systems and FormFlex, maximize your greenhouse space, increase worker efficiency, and can improve quality and consistency, via automated irrigation. The payback math is pretty easy, too, since you're getting more output from the same facility and same overhead costs.

There are downsides, however, such as the time and labor to move rolling benches from side to side, the limited crop access with Dutch trays, and the shade cast by basket systems. You have to weigh that against the space savings.

WAY 8: Getting more turns

Empty greenhouse space is lost profits. Today, most growers know they need to refill their space immediately to maximize their facility use and overhead costs. Automation can make it easier to move product in and out of your facility and speed up the planting process when refilling benches.

Doug Cole maximized the turns from his New Hampshire facility in two ways: by using Dutch tray benches and spacing robots from Logics to most efficiently plant, space, grow and ship his crop. And he's tried to keep a consistent physical "template" for his growing operation even as they've expanded over the years.

Explains Doug, "I refer to the 'template' by meaning that all our growing space is laid out with similar house widths, with similar irrigation to be used with the same benching system."

WAY 9: Improved crop quality

Flat and pot fillers, drip and boom irrigation, automatic seeders, environmental control computers, electrostatic sprayers ... all these tools can help you grow a better, more consistent product, and do so more consistently. Thankfully, some of our least-expensive and easiest-to-use tools fall into this category, such as drip irrigation.

How do you calculate the payback on this? It's not easy to quantify quality. A better way is to ask yourself how much it costs if you don't have quality. Every cancelled order, every returned plant, every plant tossed in the Dumpster has a cost far above the actual cost of the inputs lost. Extra staff time, extra shipping costs for replacing a bad order, the lost goodwill ... these potential costs can justify virtually any investment that will improve quality.

WAY 10: Improved quality of life

Your scribe can offer a personal story to illustrate this point: In 1983, during my first fall in the nursery business, I had to be at my greenhouse twice a day, every day, to manually pull black plastic over my poinsettias. The next spring, I invested in an automatic blackcloth system that would open and close itself. I could finally stay home on Sunday!

This is a tough business, and you should make it easy on yourself and your key personnel wherever possible so that you all retain the enthusiasm to work hard on the things that will give you the most return. That means not having to spray by hand in the late evenings or opening vents in the middle of the night or turning the valves on 5 acres of outdoor irrigation on a Sunday afternoon. Dull, repetitive jobs, especially at night and on weekends, are very demotivating. Thankfully, equipment companies have gotten good at letting you check up on key systems from any place on earth using your smartphone.

WAY 11: Finding new markets

Sometimes a machine can get you into a new market, such as plant-and-ship bedding plant flats. You might know some smaller growers who'd gladly pay for such a service.

Being able to produce more could give you enough additional product to get into a new market, such as serving landscapers or fundraisers. It was the first growers to buy seeders who decided to sell their excess plugs because it was suddenly easy to do millions of them.

Note—Tools aren't always the answer:

As much as everyone loves a shiny machine, sometimes you need to take a step back and look at your processes, says Doug, who's been using "lean flow" principles, which promote less capital investment and more streamlining of processes.

"Rather than focus on machinery," says Doug, "The first focus is on simple changes that can mean fewer 'touches' by staff. We focus on those processes that truly add value to a product. We spent much of our time looking at some

of the simple procedures, such as packing and shipping, which can take a high amount of labor.”

At Raker-Roberta's, they've been simplifying processes and focusing on the core tasks involved in those processes, Susie says. For instance, they've increased efficiency in their sticking department by 15% by taking out the waste in the process, such as touching empty trays too many times and handling un-stuck cuttings too many times.

“We've changed the way we use our sticking lines, changed our approach to greenhouse layout to reduce movement of crops and changed our shipping process. We've done all of these things (and more) with limited funds and resources, and seen huge gains in efficiencies, and ultimately, reductions in labor.”

Art agrees. “It doesn't always have to be a new machine; it could be a new process that you're doing.” For instance, Metrolina used to make their planting lines 70 ft. long. “That was a good length,” he says. Today they're 220 to 240 ft. long “because we do so many combos that we've got to have room to put the plants in, get the hangers on and do all the other stuff we do.”

Not that Art and his brothers Abe, Thomas and Michael aren't looking ahead to the next cool tool: By next summer, they expect to have their first vision transplanters, which will grade plugs before planting them so only good plugs get planted. This will eliminate the need to fix plug trays and eliminate four or five people from every transplant line.

The year after that, they hope to have the first machine to automatically stick locking tags into flats. He's mum on the details of how that will work, but is excited about the technology.

“Locking tags are the thing,” Art says. “Every major retailer will require lock tags within another year.”

“Artisms”

“My job as a manager is to make the next person's job easier. What are you doing today to make that happen?’ There's your free Artism for the day.”

So said Art VanWingerden at one point during a brief-but-varied interview for this story. There was so much sound advice that I didn't want to leave it on the cutting-room floor.

For instance: “What automation does—and it sounds counterintuitive—it brings more people into your business, more qualified people. Everybody thinks it chases people away. That's not what it does. It brings people to you. I know that's a totally different way of looking at it, but that's how Art VanWingerden looks at it. Tom VanWingerden [Art's late father] taught his children the same thing: Always look at it a different way.”

On where to find new ideas:

“Travel, travel, travel. And don't always travel in your industry. Travel to different industries, see how different people do things. There's not one way to do things; there's a lot of different ways to do things. You can learn something from any business you go to. Sometimes you learn what NOT to do, sometimes you learn what to do.”

On going slower to go faster:

“We've got a new 10-in. basket line going in next year that's going to go slower to go faster. Sounds stupid! The baskets are going to come out of the machine on one belt, we're going to split it into two belts, so they're going to be going half as fast as last year, but we're going to get the same quantity out because the baskets aren't going to be flying by you at 100 miles per hour.”

Advice to the boss:

“Work on the line yourself. Can you keep up with how fast it's going? If you can't, you've got to figure out a way to make it work.” **GT**