

GROWERTALKS

Features

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Greenhouses Upgrades Part II:

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A transplanter! No, Booms!

NO, A SEEDER!

Transplanters

Fifteen years ago transplanters were considered to be a luxury “toy” or just for the “big guys.” Today, transplanters are the workhorses of many greenhouse operations. Numerous models are available, with prices starting under \$20,000, up to more than \$100,000. No longer just for the big guys, even small family-run retail greenhouses are realizing the benefits of automatic transplanting.

The obvious benefit is labor savings. With small machines putting out over 200 flats per hour and large machines putting out in excess of 1,000 flats per hour, you’ll save labor dollars. It’s a proven fact: these machines are no longer a just a novel experiment. Labor makes up a major part of your costs—savings here go straight to the bottom line.

Besides speed, you’ll also get more consistency in planting depth and spacing, which often reduces time to finish and enhances the quality of the finished product.

Predictable and efficient transplanting gives you the ability to more tightly schedule your production. While return on investment depends on the specifics of your operation, it can be as little as one to two years.

While the complexities of transplanters has increased with respect to the technologies used, operating a transplanter is now easier than ever. Many models can be programmed with the

touch of a button, allowing the ultimate in versatility. Some models are more mechanical in their changes, which requires more time, but at a reduced cost. As with any machine, having the proper personnel to operate and maintain is key to its performance.

If you're in the market for your first transplanter, here are a few tips:

If you don't have a flat filler, I suggest you consider purchasing one prior to your transplanter. Put together a list of the plug tray sizes, flats, pots and baskets you use. Identify the quantities and schedule for them, too.

Decide who will run the machine, and who will maintain it.

Consider how you'll bring product to and away from the transplanter. A transplanter that puts out 1,000 flats an hour can cause a material handling nightmare if you aren't set up to handle the capacity. Any of the transplanter manufacturers should be able to assist you with planning your space to meet your needs.

Usually a grower will want a transplanter to "do it all." Sometimes it makes more sense to concentrate on running the majority of production through a transplanter and transplanting the remaining items by hand. This approach can keep your price lower.

Consider a used or refurbished machine. This can be a good option if that machine is set up for your specific needs. I recommend contacting the manufacturer prior to making a purchase to educate yourself on the specifics of the machine you're considering.

In a time when you face constant pressure on the cost side of your business, implementing a transplanter can have a real impact on the bottom line—in your favor.

—Quinn Denning | Rapid Automated Systems | www.rapidautomated.com

Irrigation booms

You need to water your crops, right? And you need to do it every day, right? That is why we think boom irrigation is a great investment for any grower, from small to large. What are a few benefits of booms?



With the cost of labor and resources on the rise, you need to look at every place that you can save on these costs. One area to save is anyplace where you're still watering by hand. The fact remains: Watering by hand is not a cost-effective way to water. Watering by hand uses more water than ridged overhead irrigation, which in turn uses more water than irrigation booms.

Overhead systems put water in areas where nothing is growing, such as aisles or areas where plants have been removed. Booms put it right where the crop is, and they can be easily programmed to skip empty areas.

"A waterer is born, not trained" is a phrase that I have heard from more than one grower. An

irrigation boom doesn't need to be trained, only told (programmed) what to do, and it will always lay down a uniform amount of water throughout the whole greenhouse, resulting in a beautiful, even crop.

Finally, boom irrigation, even in its simplest form, offers the flexibility and the efficiency to cut costs and pay for itself in almost the first year. With systems for a 30 ft. by 60 ft. greenhouse starting under \$4,000, any grower, no matter how small, can see the benefits of such a system almost immediately.

—Martin Schulz | McConkey Company | www.mcconkeyco.com

Pesticide spray equipment

Upgrading your spray equipment may be a great way to gain efficiencies in your operation, often providing better crop health, better safety for you and your employees and a quick payback on investment.

The biggest room for improvement is to switch to newer technologies. Consider low-volume equipment, which is much more efficient in its use of pesticides and labor. Low-volume sprayers create extremely small droplets that cover more surface area with less product. Additionally, they eliminate runoff. Both of these features add up to potential chemical savings.

But the biggest cost savings these devices will give you is in labor. Low-volume sprayers either greatly reduce spray labor or eliminate it altogether. Thermal foggers that propel a pesticide fog rapidly over great distances can make quick work of both small and large areas. Automatic timer-controlled foggers work at night with no one present. No labor necessary! The payback is easily calculated on this labor reduction, often paying for the new equipment in as little as half a year.

Reduced exposure is an additional benefit of using low-volume methods. Either no one is present, or the application is made away from the applicator, greatly reducing the user's contact with the spray.

Finally, low-volume sprays often are better at controlling insects and diseases, as they cover all surfaces of the plant, and also because the application gets made when it needs to be made, not when you have three hours to devote to spraying.

If you're not ready to make the move to a low-volume sprayer, you can still improve your applications and efficiency and reduce chemical use just by upgrading your current sprayer. Look for sprayers over 400psi. The higher the pressure, the greater the potential for smaller droplets and better coverage. Newer sprayers also use newer spray-gun and nozzle technology. Finer nozzles will help reduce the particle size of sprays, again, covering more surface area with less spray.

Simple spray equipment upgrades may make a huge difference to your monthly costs. Labor savings, reduced pesticide costs and fewer lost crops can all quickly add up to major improvements to your bottom line.

Flat and pot fillers

“I should have bought this machine years ago!” is a phrase we often hear when it comes to flat and pot fillers. Why? Because many growers claim that their greenhouse or nursery operation went through a steady growth phase after the purchase of a potting machine or flat filler because they could easily keep up with the growing demand for their product.

Will a potting machine pay for itself? Just look at this comparison and judge for yourself: Nine persons filling, planting, supplying, bringing into the greenhouse and placing on benches can do approximately 960 pots per hour x 8 hours/day = 7,680 pots per day.

Using a potting machine, the job can be done by seven persons (the machine does the rest) but at a daily production rate of approximately 22,400 pots per day.

At a yearly total production of 200,000 pots, this means a savings of \$10,000 (based on an hourly wage of \$8.00).

In addition to the labor savings and increased output, filling pots/flats on a potting machine or flat filler gives you better uniformity, uniform soil compaction, holes always drilled or dibbled in the center and at the same depth, and an overall cleaner operation.

For additional savings in the production area, you can use a transplanter in combination with a potting machine or flat filler.

Combining a tray de-stacker, a flat filler and a dibble station allows for an hourly production of 2,000 trays per hour; that can be adjusted down to 300-400 trays per hour if the equipment is in line with a manual or automatic transplanting operation.

For pots in shuttle trays, the same equipment line can be used with an additional pot-in-tray dispenser between the tray de-stacker and the flat filler.

For minimal additional cost, a potting machine can be equipped for double production: two pots behind each other or side-by-side (up to a certain pot diameter). This can increase the output of a potting machine to up to 6,000 pots per hour, which can be very important for seasonal crops.

What size and style of machine is best for your business? That depends. Since there are many different models of potting machines available, a reputable manufacturer will ask for information about pot sizes, production requirements and so on before advising their customers which machine is the best for them.

Overhead basket systems

If you grow lots of hanging baskets and want to do it more easily and efficiently—and produce better baskets in the process—consider overhead hanging basket mechanization, such as the ECHO system that Cherry Creek Systems pioneered more than 25 years ago. These hanging basket carriers, based on a dry-cleaners' circular clothes conveyor, can increase watering efficiency and plant production in all types and sizes of greenhouses, while significantly lowering your labor costs.

Granted, a conveyor-style basket system can run from \$5 to \$10 per basket, plus installation, depending on the options and upgrades, as opposed to the typical drip irrigation system, which can cost from \$1 to \$2 per basket. But while the upfront cost is much greater, the return on investment is substantially quicker. For instance, we have systems in use that are 25 years old. Typical drip irrigation will need to be replaced two or three times in that time. Plus there are so many additional benefits from using overhead basket mechanization.

For instance, a basket system allows for accurate measurement of water to each basket. This is good for the plants, and it saves water. Also, the basket system's watering takes place in one central location, usually over a walkway, so there are no more baskets dripping onto the plants below.

The gentle movement of the plants as they go through the watering mode allows them to experience various lighting exposures. No longer will your baskets come out one-sided. In fact, there are studies that show movement is a natural growth regulator. The plant responds to the movement, with stronger stems and shorter, tighter internodes.

When each basket comes to the end of your greenhouse you'll be able to evaluate the whole crop rather than checking an occasional basket. You also have the opportunity to trim each basket from one location. This makes your employee more efficient. And when you do your plant maintenance in one location, your trash is contained, which helps reduce disease transfer and makes cleanup quick and easy.

Pesticides can be applied accurately and completely, and your chemicals will only be applied where they are needed.

Finally, when it comes time to ship your crop, you'll enjoy the fact that each basket can be picked from one location. If you want to empty the entire line, you can move your product very quickly. Or you can easily cherry pick only the baskets you want to ship.

Bottom line: If you grow hanging baskets, an overhead basket system is the most cost effective way to increase plant quality and boost labor efficiency.

—Chris Lundgren | General Manager | Cherry Creek Systems www.cherrycreeksystems.com