

A misconception about Lean is that a lot of money has to be spent to get results.

# Lean Flow doesn't cost a lot to implement

IN THE MANY YEARS of talking about Lean Flow, I've encountered many people who say "we can't implement Lean, it costs too much money." Your company doesn't have to be large or spend a lot of money to implement Lean.

Lean's major focus is to reduce or eliminate waste. If you look within your company you'll find waste in many areas and processes. Eliminating this waste can save your company a lot of money without having to spend a lot. It also won't involve purchasing a lot of new equipment. Use what you have as long as it works.

## Lean in the office

Consider some of your office processes such as invoicing. Does it take days or hours to process an invoice? How much "touch time" does it actually take? This would consist of the actual time a person spends working on the computer, printing, emailing and mailing an invoice. Why does it take so much time to process it? The answer lies in all the wasted (nonvalue-added time) associated with the process.

Imagine you could reduce the invoice processing time by 88 percent and increase cash flow by seven days without having to spend any money on capital equipment, software or hiring really fast people. You'd probably ask, "When do we start?"

## Eliminate invoicing waste

To find out what it takes to generate an invoice, follow its steps. Use a process flow chart, which identifies the processes the invoice has to go through and the time it takes at each process. The

## Lean Line Design

Use these steps to successfully implement Lean in office and production processes.

1. Create process flow charts.
2. Develop standard operation worksheets.
3. Define product/process matrices.
4. Calculate takt. Takt time is the rhythm or tempo needed to produce a product on average. It is calculated by dividing the work time by a customer's requirements.
5. Determine resource requirements, such as the number of people and machines.
6. Review actual requirements vs. design.
7. Create a block design, such as a conceptual design, on paper.
8. Develop standard operations. Define standard work at each work station/operation.
9. Create the facility layout.
10. In-Process Kanban (IPK) sizing. IPK is used to balance the work line and also as a kanban (communication signal) to tell operators when they have to work.
11. Define cells. Cells are groupings of dissimilar resources linked together to allow a product to flow from beginning to end. An example would be a flat filler linked to a watering tunnel linked to a cutting sticking line. The final product is a tray of stuck cuttings.

process flow chart helps you visualize the flow of the invoice and where the waste is coming from.

After establishing the process flow chart and agreeing that it is correct, the next step is to create a standard operation worksheet. This document details the work tasks within each process on the flow chart, the amount of time each task takes, tasks that are waste and any quality information (to confirm the task was done correctly) that needs to be included. The purpose of the standard operation worksheet is to create standard

work for consistency, which is a critical Lean concept.

## Pulls and pick-ups

Do you feel compelled at times to invest in a new shipping facility or in more delivery carts because you're running out of dock space and carts? During the busiest shipping times of the year, are you and the other employees working unmanageable amounts of overtime? Does the quality of the product suffer because after a long 10-hour shift, employees just can't think straight?



By implementing a Lean Flow shipping design, Kraft Gardens in Fort Pierce, Fla., eliminated the need for a \$150,000 expansion project and was able to increase volume with the same amount of space.

To help solve these concerns that many growers encounter, consider using Lean planning. The November **GMPRO** Lean article (Page 20) discussed a dock supermarket and utilizing a kanban (Japanese word for communication signal) technique to help reduce shrink and replenish only what customers are buying. Another aspect of shipping that requires attention is how orders are pulled from the greenhouse or

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field and how company-owned or hired trucks pick up products for delivery.

Recently, we worked with Kraft Gardens, an indoor plant grower in Fort Pierce, Fla. Company officials were looking at expanding their shipping dock because they thought they had run out of space in the shipping area. By working with the management team, the planning process was redefined by changing when orders are pulled and when delivery trucks pick up orders.

Some of the changes were as simple as contacting the trucking company and indicating when drivers should pick up orders. No money was spent to buy equipment and the grower's payback was in weeks. Just as with the office processes described previously, the grower followed Lean line design steps.

### Lean in the greenhouse

Plant production is another area where growers can achieve Lean Flow benefits. Maybe you've been considering upgrading the company's sticking or transplanting lines.



**The sticking line for ornamental grass divisions at Hoffman Nursery in Rougemont, N.C., is simple and without a lot of automation. Clumps of grasses are divided on the wooden benches across from the sticking line.**

You've seen a piece of equipment you think might help resolve some of the problems. But you don't want to spend too much money.

One of the big questions is how

to justify the capital expenditure on the equipment when it may sit idle for seven to nine months. The equipment would not be used year-round and the payback period would be at least three years.

An alternative scenario to solving your production problems might be:

1. Use the current flat filler/potting machine.
2. Link the flat filler to a roller conveyor that feeds flats/pots to the employees doing the sticking and/or transplanting.
3. Purchase a few benches and maybe a short belt conveyor to move the flats/pots to a person who unloads them onto a cart or bench.

This alternative solution may cost a few thousand dollars. You may be asking yourself, can a hodge-podge of equipment really perform as well as a new piece of machinery? The old equipment may not look as good, but as long as it works, you can always give it a new coat of paint.

## Determining “real” equipment needs

The most important question that needs to be answered is whether the old equipment and your Lean Flow workforce can outperform a new machine.



**This cutting sticking line at Smith Gardens in Bellingham, Wash., is setup in a progressive fashion where each person sticks one-third or one-fourth of the tray depending on tray size. The sticking is done off the belt. Progressive sticking lines yield on average a 20 percent improvement in productivity.**

Look at the picture above of the sticking line. There is no new or automated equipment, just the basics. Also notice the flats are being planted progressively and off

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the belt. The belt is only used for empty and completed flats. The transplanters are manually moving each flat from person to person.

Although this may initially seem to be inefficient, the transplanters work as a team with all the peer-pressure benefits of a team. Each employee works at their best comfort speed. Monotony is reduced, especially on high cell-count flats or multiple plants per cell. People, not belts, are pacing the work. It's not intuitive, but it works.

The picture also shows the employees doing what they do best — transplanting. The Lean Flow line ensures they always have filled, labeled flats, plenty of the right plant material and the right rooting hormone. Changeovers are transparent. The employees just transplant all day long. They don't need to plant faster.

These utilitarian lines have yielded some impressive results — productivity improvements have averaged about 20 percent with some as high as 40 percent. The payback has been in months, not years.

Lean Flow doesn't mean no new equipment. If you need it and can justify the cost, then buy it. The question that needs to be answered — do you really need it?

## Don't forget your employees

Implementing Lean Flow doesn't require spending a lot of money to achieve real benefits. Paybacks can be measured in weeks and months, which are usually achieved during the first season of running a new Lean process.

One area in which you should not skimp is employee training. Lean Flow is a culture that needs to be embraced by both the management team and employees. Employees will embrace Lean Flow through constant training and retraining.

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