

## LET'S TALK:

Communication between package designers and automation experts is the missing link in our industry.

By Troy Sawvel

When marketers sit down to design packaging for new products, easing the manufacturing process is often the last thing on their minds. But if *they* don't want to think about it, maybe CEO's should, because automation problems caused by unsuitable packages can put a big dent in the bottom line.

Small gains in automated filling efficiency can raise profits significantly. The reverse is equally true: decreased fill-rates will cost you.

In my 20 plus years in the business, I've run across a variety of issues with regard to automation friendliness. For example, when customers are running any of our filling machines, which are designed to handle nested packaging, denesting has to be 100% efficient. After all, if you can't denest a cup, you can't fill or lid it either. A machine's speed is often determined by how quickly you can denest the cups at *100% efficiency*.

A key factor in determining the denesting speed is how tightly the cups nest together. If they are too tight, the hang time (how quickly gravity induces the nested package to drop from the bottom of the stack) is too long – thus limiting denesting speed.

Let's use a real-world example to show what I'm talking about. A number of years ago, we sold a Model 69D container denester for plastic one-gallon containers to Queensboro Farm products in Canastota NY, which they were using for their sour cream and cottage cheese line. They installed it themselves but soon realized it was not performing as expected. As a result, they pulled it from the line and called us for help.

I went out to the plant twice with improvements to this machine, spending a total of four days on their shop floor. The machine's performance got better but still could not meet their speed requirements. I was able to determine the issue was that the packages were vacuum locked because the containers nested together too tightly. So I told them that in order to succeed they would need to source a better, more automation-friendly container.

In the end, they did change suppliers and had no further issues with our denester. For my part, I learned a valuable lesson: trying to use an unsuitable package cost me, but cost them more with weeks worth of down-time – not only while I modified the machine but also all the time the folks at Queensboro Farm had to spend searching for a new cup supplier with an automation-friendly package.

Getting back to the big picture now, it's important to remember that small gains in line speed can reduce automation costs significantly. If you can raise your fill speed from 15 to 20 containers a minute, you've just saved some serious money. Conversely, slowdowns raise overhead and -- here's another little-noticed cost factor -- a poorly

running production line puts a lot of unnecessary stress on your production staff, as it did at Queensboro Farm. And don't think that's not important. Daily life on the production floor is where product storage, handling of the package, and filling all have to come together to provide a highly efficient solution. I feel we can all agree that life on the production floor is stressful enough under normal circumstances. Morale can really take a dive when your employees are asked to run an impossible package day after day. This can lead to an increase in days missed and (even worse) a higher turn over of your valuable staff.

I'll give another example of an automation problem that hit one of our customers in the Midwest. They were packaging ice cream in the ½ gallon Convocan™ round container very efficiently and with a high packaging speed. Then their marketing department came up with a new oval package with a tamper-evident lid. The company bought new equipment to run the line and happily for them sales volumes grew rapidly. But packaging efficiency dropped sharply – shrinkage (the amounts lost in the production process) rose by 6 fold, granted it was almost zero to start with. As a result, profit margins shrank, thus losing some of the financial benefit of the extra sales.

The common denominator for both of these cases is that packaging design decisions were made with little input from the makers of the machines needed to fill them or the people who would be running those machines. Marketing drives package design without regard to manufacturing efficiency.

Designers' chief interest is often in determining what the next "hot" package is. So they will pitch a design to the retailer – for a tamper-evident one-pint container for ice cream, for example – who in turn evaluates the package in terms of consumer preferences. Consumers quite naturally have no grasp of manufacturing requirements, so if a focus group rates a package highly, the package designer moves quickly to bring the new container to market.

Only *then* is the food maker likely to approach an equipment manufacturer like myself to say, "Hey, build us a machine to fill this package." Only then does my customer find out that the design is going to involve additional tooling costs.

Such as the time a customer in the Northeast, who is a large maker of salad dressings and other products, bought our 115LA-5G automatic lid-placer to integrate with a Sawvel lid-closer they were already operating. The initial price I quoted them was based on the understanding that it would be a standard type lid.

When they sent the sample lid, I realized they had switched to a less expensive lighter weight lid design that I had not previously seen. I knew that the standard lid-placer on our machine would not work with the new lid design, and I had to warn them that the lead time would be longer and the cost would be higher than I first indicated.

Ultimately we had to design a completely new lid-feeder, which forced us to raise the cost of the machine by 30% to reflect the additional design work and more complicated

tooling involved. And typical of first time machine designs and in spite of the higher price, we posted a loss on this job.

So the problem is that automation requirements are often an after-thought when compared with other factors; such as consumer-driven marketing considerations or the cost savings related to the new package. That's why I've been on something of a campaign to raise awareness about this issue. We need better communication between automation experts and the people designing new packaging.

Fortunately I have seen the dawning of greater awareness of these issues among some of my colleagues. At T.D. Sawvel we will occasionally get a call from a packaging designer or a container supplier regarding automation considerations of a new package, so I'm hopeful that people are starting to realize that packaging issues can cost them serious money if not properly handled.

Maybe the best test is this: when you are looking at new packaging, ask yourself this question: "is this new package *automation friendly*?"

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