Automated Order Pulling

The most labor-intensive, time-consuming part of the spring season can get a lot easier with a bit of automation and a shift in thinking.

By Mike Porter

One of my first customer visits after entering the horticulture industry was to a large grower in the Midwest during the month of May. We toured the operation but waited to go to dinner until all the shipping was done for the day. Dinner started at 11:00 p.m. I received an early education in the joys of shipping spring annuals. A trip to that same grower, Dallas Johnson Greenhouses, today would be strikingly different. The operation itself has grown significantly both in square footage and in the amount of material shipped, but the prime shipping periods remain the same. What has changed is that I can now visit and have dinner at a normal hour. How is this possible?

SETTING THE STAGE

Dallas has embraced sensible automation in many areas of his operation. But the biggest reason for his improved shipping efficiency has been a conceptual change. Dallas is similar to most U.S. growers in that he ships to a large number of locations and customers. Each shipment consists of small quantities of many varieties. Many operations in this country deal with this issue by having teams of people pick individual orders in the greenhouse. This is obviously labor-intensive and time consuming. It is also prone to mistakes. What Dallas has done is apply techniques common in other industries to his operation.

The centerpiece of the change is a large staging area that is used to fill individual customer orders. Roller conveyors stocked with different varieties feed a central picking line where individual orders are processed. Orders are placed on transport carts for shipment to the customer. The staging area is restocked after the day's shipping is completed, using only a small crew.

While Dallas' staging area design is specific to his operation, the basic principle is applicable to most growers faced with seasonal shipping and many relatively small shipments. Size of the grower's operation is not the primary criterion.

A staging area does not have to be a typical warehouse that would sit idle most of the year. It can be a typical greenhouse with greenhouse coverings. This approach provides a multi-purpose building that can double as growing space. Plants can easily be held for a reasonable period of time while awaiting shipment. When a greenhouse is used as a staging area, the overhead space can also be used for hanging baskets, providing shade for the employees working below.

Goldmine or shipping nightmare?

BENEFITS GALORE

Restocking a staging area on a second or third shift provides many advantages. Pulling product from the greenhouse and shipping simultaneously oftentimes creates a chaotic situation. Separating these two operations creates a less-frantic, more orderly operation that is less prone to mistakes. But other, less obvious, benefits are more significant. The product to be restocked can be determined either by looking at the orders for the next day or by restocking to predetermined levels. When using either method, variety requirements can be consolidated, allowing product to be pulled in greater quantity. In addition, a plan for pulling can be prepared that minimizes the distance traveled during the pulling process. Perhaps the greatest potential benefit is that when pulling is done in larger quantities, there is some exciting automation equipment to greatly reduce the cost of this process. A future article will discuss these systems in detail.

Staging can be an important part of a truly efficient operation, displaying the dual benefits of any successful automation: reduced costs and improved quality. As with any automation, however, best results are only achieved when the staging area is planned as an integral part of the total operation. It must be properly sized to handle current and future requirements and designed to adapt as your crop selection undergoes its inevitable changes. GPN

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