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Shipping efficiency can save you money, time

By John W. Bartok Jr.

SAVING A CENT OR TWO ON EACH FLAT or pot of plants you grow adds up to many dollars over the growing season. Shipping is a time-consuming job. In shipping it's the details in each step that make the cents. Developing an efficient system can make you more competitive.

Timing is important in all stages of production, and this extends over into shipping. Getting the plants to the customer when they are needed will result in repeat orders. There are several areas to look at when you want to improve your shipping operation.

Facilities layout

Locate the shipping area central to the growing area to reduce the distance plants have to be moved. In small operations, a head house can serve both planting and shipping. In multi-acre greenhouses, more than one shipping point may be desirable. Separating the shipping area from the potting/transplanting area can also reduce plant-moving congestion.

Provide adequate space in the shipping area to assemble orders and move around. Clear-span buildings with a ceiling height of at least 12 feet are required for forklift operation. The floor of the shipping area and the greenhouse aisles should be paved for easy movement of equipment. Main aisles should be wide enough for easy cart movement, usually a minimum of 8 feet.

Good drainage in the shipping area is necessary if plants will be watered before loading. The floor surface should be coated with a nonslip coating to prevent falls.

Provide at least 30 footcandles of light where plant selection and handling take place. Fluorescent or metal-halide lamps give the best light spectrum. Avoid lamp placement that causes glare.

Order assembly

There are two basic methods of assembling the plants to fill an order: individually by going from growing area to growing area picking the needed number of flats or pots of each variety or collectively by gathering the total day's needs of each variety, moving them to the shipping area and then picking the right number to fill the order.

For orders with a large number of a few varieties, the first method generally works best. If there are only a few containers of many varieties, the second method will usually save considerable time.

The task of locating the right plants can be time-consuming. I have seen growers walking up and down the aisles trying to locate the plants to fill an order.

Some growers use wireless handheld-scanning computers to aid in tracking product location. These can also provide inventory control and billing. UPC labels are attached to each flat or pot as it is seeded and then are tracked whenever they are moved. When shipped, the containers are removed from inventory.

You can't afford to walk very far carrying a flat. Based on research that I did for the Horticultural Research Institute, the average time to pick up or set down a flat is 1.5 seconds. Walking at an average pace of 4 feet per second adds considerable additional time. Assuming a $9 per hour labor cost, a 50-foot trip in an aisle to select a flat adds more than 7 cents to its cost. Bringing two flats still adds almost 4 cents per flat. How many times have those flats been handled already?

Reducing the walking time by handling more flats at a time with carts or conveyors can produce significant savings. The payback is short.

Carts can cut costs

One of the best systems for larger growers with a local delivery area uses carts that are direct loaded in the greenhouse, pushed or pulled to the shipping area where they are shrink-wrapped and then loaded onto the delivery truck. This eliminates one or more handlings, which saves money. It also reduces potential plant damage that can occur each time the container is moved.

Carts are available in many sizes and configurations that fit both the aisle dimensions and the truck body. Purchase ones with lightweight shelves that can be easily adjusted for plant size. Larger-diameter cushion wheels keep containers from bouncing around when the cart is moved. A dock or hydraulic tailgate is needed in the loading area.

A monorail conveyor is convenient where plants are grown in individual houses connected by a head house.

Through the use of switches, plant carriers can be pushed from any greenhouse to the shipping area. Plant carriers should be fitted with adjustable shelves to accommodate different sizes of containers. A 2-by-6-foot carrier with four shelves holds 24 flats.

Increase packing area efficiency

If orders are not assembled in the growing area, then assembly is done in the packing area. Develop an efficient routine to save time and handling.

Some growers have adapted gravity-flow racks to make order picking easier. These consist of racks of sloping conveyors adjacent to a work aisle. Flats or pots in carriers are delivered by cart to the back of the racks, loaded on the conveyors and then moved by gravity to the front edge. Workers select flats from the conveyors to fill orders.

To save time during the shipping period, label or tag plants when they are planted. Also water plants before they are brought to the shipping area. This can be done by passing them through a water tunnel or a whole cart can be moved through a water station.

For growers who box their plants for shipment by common carrier or package delivery service, a workstation area is needed for packaging.

A good workstation design can increase efficiency by 20-30 percent. The workstation should include a work table and space for supplies and for packaged boxes. It should be convenient to the plant storage area.

Workers should do a minimum of walking. Work tables should be at elbow height. Locate conveyors at the back of the work tables to carry filled boxes to the shipping area.

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