



A Baker-York towable lift and disposal cardboard pallets are the cost-cutting keys to a Michigan sod producer's delivery system. The wood pallet is specially designed for use with cardboard.

*From Emerald Valley Turf Nurseries:*

# How to Cut Sod-Delivery Costs in Half

**E**MERALD VALLEY Turf Nurseries, Inc., Gregory, Mich., is operating a sod-handling system that has cut delivery handling costs in half while boosting sales through labor-cost savings offered to landscapers.

Using a thin, disposable cardboard pallet and a Baker-York towable lift truck as keys to the system, Emerald Valley feels it has stemmed the rising cost of delivering sod.

As have other sod producers, Emerald Valley watched handling costs from its Cleveland distribution point to the customer skyrocket from  $\frac{3}{4}$  of a cent a yard to 2.6 cents a yard in just a few years. Last winter, President Bob Daymon directed that an analytical look be taken at the firm's handling system with a view toward increasing speed and decreasing cost.

Procedure at the time involved field loading of trucks and hand unloading at the job site. Semi-trailers were pulled onto the field by a truck tractor with five drive including two steering axles. These were loaded by a roll conveyor. The conveyor moved freely down the tractor bed as the truck inched forward. Two men stacked the rolls of sod.

At the job site, sod was unloaded by hand. Shipments into the Cleveland area alone of from three to five trucks a day required 10 men for unloading.

Field damage caused by the heavy tractor and loaded trailer was extensive. Releveling was necessary.

It had been apparent that the soil conditions would support volunteer growth if field loading damage could be eliminated. With desirable "volunteer growth" as a frame of reference, Emerald Valley began an investigation of handling systems.

Palletization seemed the only conclusion, but there were drawbacks. With pallets, used in conjunction with high-flotation tire-lifting equipment on the farm, they could eliminate field damage and have "volunteer growth." But handling costs would still be a problem and would increase considerably because retrieving pallets would take a return to the job site with a second truck and two men.

Shipping costs would also be higher because only sixteen pallets could be placed on a trailer and, since the standard 4' x 4' pallet holds only 65-75 yards, shipments of less than the legal load limit would have to be made.

To make palletization pay off in lower costs, the company had to find solutions for:

1. increasing the load size per pallet,



A full 100 yards of sod, supported by the wax-impregnated cardboard, is lifted from the truck and moved to the site in a simple one-man operation. The wood pallets stay on the truck.

2. eliminating the return trip to pick up pallets,
3. unloading the sod off the truck without using manual labor.

To get a full load per shipment, Emerald Valley designed a 48" x 58" pallet which allows 12 rolls per tier and three on top, for a full 100 yards. An ingenious stacking arrangement uses sod as its own stabilizing tie. This is accomplished by unrolling two rolls of sod per tier, which will cover the whole pallet.

The pallet itself was created of reverse ribbed, wax coated cardboard and is inexpensive and *disposable*. A wood pallet with open fork pockets on both ends was designed. This remains on the truck and, should it be needed for ordinary use, it is simply turned over. The cardboard pallets of stacked sod are placed on them rather than the trailer bed and, because of the open fork pockets, are easily removed. This method ended the need for these expensive return-to-the-job-site trips.

To solve the problem of unloading the truck without use of manual labor, Emerald Valley turned to Otis Material Handling, Otis Elevator

Company. The Baker-York division of Otis manufactures an all-terrain, completely towable fork lift truck. Called a UT (Utility Towable), the truck is easily attached by one man to the trailer and may be towed at legal highway speeds to the job site. Articulated axles allow it to operate safely on rough or rolling terrain with full load. Loads can be spotted strategically on the job site.

Emerald Valley investigated using booms but ruled them out for a number of reasons. Booms cost \$6,500 to \$8,500 each. One would be needed on each of six trailers in the

Emerald Valley fleet. Booms would also limit delivery. Shipping space on the trailer would be lost because of the room taken up by the boom.

Four Baker-Yorks could easily service six trailers and three tractors and at a much lower cost to benefit ratio. The plus factor was unloading flexibility.

Before the final decision was made to change to what actually constituted a whole new method of growing, handling, shipping and unloading, Emerald Valley carefully considered every cost factor. When costs were determined, they were compared with anticipated benefits from the proposed new capital commitment, expressed in terms of return investment. For the size of its operation, a figure of \$129,000 would have to be committed. That figure included cost of four Baker-York lift trucks, new field equipment, cost of pallets and the new disposable pallets, and the cost of abandoning equipment that had not been fully depreciated.

Costs were projected against anticipated future business and a feasibility point, expressed in yards sold, established. In this manner, Emerald Valley could account for variables within its 33-week season and still arrive at a cost-benefit ratio that, in the light of its experience, was reliable.

The decision was made to proceed with the new system and preliminary figures indicate handling costs have been cut 50% or 1.3 cents a yard. With favorable weather-market conditions, that cost savings could reach 70%.

Barry Stumm, vice-president and manager of Emerald Valley's Cleveland office, states that, "one man, with the Baker-York, is doing the work of three in one-third the former time. The labor headache is also gone. We used to need 10 men to handle our shipments from the farm and, in order to get 10, you had to call 15 and pray that enough would

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With the lift, Emerald Valley Sod is strategically stock-piled on the job site. Installers have learned this service cuts "travel time" by two-thirds on the average front home lawn.

show up so we could operate. Our customers can now expect on-time delivery."

Add to these benefits the economies effected by "volunteer growth" production.

Another benefit to Emerald Valley is the unique selling proposition that all-terrain, lift-truck delivery has provided. Landscapers are realizing a definite labor time savings because pallets can be spotted around the job site. Emerald Valley calculates that, based on an average 400-square yard front lawn, one man carrying 14 yards of sod in a wheelbarrow travels 3,600 feet to complete handling. With strategic spot servicing with the lift truck, a man carry-

ing two rolls at a time travels only 1,200 feet, or two-thirds less time and energy in moving the material. On back lawns, the savings is far greater.

Such easily demonstrable benefits not only have gained many new customers for Emerald Valley, but also have allowed it to maintain a responsible price structure in a market prone to price cutting.

Some landscapers report that their installers insist on Emerald Valley lift truck delivery.

The wax-impregnated cardboard pallets have also found some unique uses. Landscapers offer them to customers as auto drip protectors on garage floors and installers use them

as kneelers and as portable walkways on wet ground. Many installers return them to the Emerald Valley local office. They can be used several times without losing their residual strength.

Emerald Valley is now enjoying the benefit of its creative use of management's winter time. Complete cost control data was the catalyst that started what turned out to be an important breakthrough in cutting sod handling costs. Because the firm broke out costs on each segment of turf operation, it was able to not only pinpoint areas where such costs were getting out of line, but to work toward solutions that would have multiple benefits.



The Baker-York lift is towable at highway speeds.