

# Fully automated packaging solution extends production flexibility for Nutraceutical Protein Bar Manufacturer





Presto Top Loader and 7520 former



Bars in the lugchain on their way to the wrapper

Jay Littmann, owner of Chef Jay's Food Products, recently moved from his muffin shop to a modern 50,000 square foot facility to manufacture Tri-O-Plex™ super protein bars, a variation of his original health bar. High in protein and fiber, the bars are made with whole grains for health-conscious consumers and international suppliers.

#### **Demand for healthy protein bar leads to efficient packaging line**

Growing production demands led the company to implement more efficient packaging machinery to replace its current manual processes. Littmann chose to partner with Doboy Inc.: "The company's quality of equipment and commitment to service were the reasons for my investment. Doboy could address all of my packaging concerns. They had everything I need including horizontal wrappers, carton formers, carton closers, robotic placement of the soft pliable bar into wrappers and the loading of the wrapped bar into the carton."

#### **Efficiency in the making**

The extruded bars are then conveyed to Doboy's Robotic Delfi Feed Placer equipped with three robot arms and advance vision tracking for continuous production flow to pick and place the bars

efficiently. Currently, 200 bars per minute can be placed, although the Delfi offers speeds of up to 400 bars per minute. This allows for Littman's planned growth potential. The bars in the Delfi Feed Placer come in a dense, random order and orientation, thus eliminating the need to space rows of products as with traditional product distribution, which requires much more floor space.

Utilizing the advanced tracking system, Delfi's vacuum cup end-effectors consistently pick and place the protein bars directly into the wrapper's moving lug chain.

#### **Simplified equipment changeover furthers flexibility**

The bars are fed to a Doboy Linium 301 horizontal flow wrapper from the Delfi



from left:

Jay Littmann, owner of Chef Jay's Food Products and Jeffrey L. Jackson, Product Manager Pharmaceutical Operations



Delfi Feed Placer places bars into the wrapper



Carton in 840e closer



Delfi Feed Placer and Presto Top Loader

robot. “The flexibility of the Linium 301 wrapper and Delfi Feed Placer provides the type of automation we need,” stated Littman. Dobby’s Linium 301 wrapper is a rotary-head horizontal wrapper with the options of manual, semi-automatic or fully automatic feeding. The Linium 301’s servo-driven infeed conveyor interfaces with the Delfi Feed Placer for variable speed based on product flow and proper placement with incredible accuracy. The wrapped bars convey to a Dobby Model 7520 Carton Former forming two cartons at a time. The formed carton backlog is photo-eye monitored to ensure a precise carton flow necessary based on upstream demands. The current production line has the cartons traveling in one direction. As the product line grows, there is an option to form two cartons. These would then travel in opposite directions to service two separate lines.

**Finishing steps**

The formed cartons travel to a Dobby Presto Top Loader where they are filled with rows and layers of wrapped bars. Advanced tracking software picks the product off a moving collation chain and top loads the moving carton. The exact location of the bars and cartons during the pick-and-place process is tracked by software, therefore only one collation chain is necessary, which in turn

requires but a small footprint robot only 4 foot wide x 4 foot long. The filled cartons then enter the Dobby 840e Tri-Seal Carton Closer, at up to 30 cartons per minute. The Dobby 840e accepts random carton flow and accurately stages the cartons prior to gluing. The integrated Nordson Bravura Hot Melt Unit ensures an accurate glue pattern. Once closed, the cartons are ready for shipment.

**Bright future for increased production and international distribution**

Chef Jay’s is now a leading supplier of high-quality Tri-O-Plex™ bars in 13 flavors shipped to major nutrition suppliers across the nation and to parts of Canada, Australia and Europe. Dobby’s complete packaging solution allows the company to now package up to 240 bars per minute, more than twice of what was achieved through manual labor. “We like the flexibility of the new Dobby line and its ability to accommodate different product shapes and sizes,” Littmann concluded. “This flexibility will allow us to add new product lines in the future and we anticipate Dobby will be there with us every step of the way.”

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