IN-STORE STUDY:

GREEN FIXTURES

Effects of Shelf Management Systems on Freezer Energy Conservation and Product Sales

STUDY PURPOSE: To test the effect of Shelf Management Systems (open wire dividers and spring fed auto sales pushers) on freezer temperature, energy consumption, and frozen product sales. It was theorized that well-organized, well-displayed, highly-visible freezer contents would attract more customers to access the freezers (door openings), yet cut the decision-making time decreasing the length of time freezer doors remained open, improving freezer temperatures and lowering energy consumption.

STUDY METHODOLOGY: The test was conducted for a 20-day period in February 2008 at Schiel's Sure-Save SuperMarket, Wilkes-Barre, Pennsylvania. A typical 5-door freezer case was monitored for 10 days in the "before" mode and a similar 10-day period "after" installation of an EWT Expandable Wire Tray Shelf Management System. Remote sensing units were used to monitor the total aisle traffic in front of the freezer, the number of times freezer doors were opened, and average freezer temperature. The data was transmitted to a computer for data file collection, and averaged over the 10-day test periods. Products displayed were prepared meats.

ASSUMPTIONS: Though dollar sales from the specific coolers studied could not be measured, it is logically assumed that increased door openings correlate directly with increase visibility and customer attraction to the items ... and ultimately increased sales. Similarly specific dollar cost energy savings could not be measured, but lower freezer case temperature would correlate with less chill loss due to open cooler doors. Lower case temperature would therefore translate into increased freezer operating efficiency and decreased energy cost.

	AISLE TRAFFIC	DOOR OPENINGS	MERCHANDISING EFFICIENCY	FREEZER TEMP	COOLER EFFICIENCY
BEFORE INSTALLATION OF SHELF MANAGEMENT FIXTURES (Freezer without EWT Dividers and Pushers)	13,156	717		22.22 F°	
AFTER INSTALLATION OF SHELF MANAGEMENT FIXTURES (Freezer with EWT Dividers and Pushers)	13,133	774	+7.90%	20.57 F°	+2.50%

CONCLUSIONS: With virtually the same aisle traffic, door openings increased by 7.90 percent representing Shelf Management Fixture's ability to better display product and attract purchases. And though door openings increased 7.90 percent, operating temperature dropped 7.43% increasing cooler efficiency by 2.5%, saving energy and reducing demand upon compressors. This indicates that well-organized and displayed shelves allowed product to be showcased more effectively, speeding selection and reducing chill loss through open doors. Shelf Management Fixtures therefore increased operating efficiency and reduced refrigeration cost. In addition the store personnel maintaining the freezer can perform their facing and maintenance quicker also saving in BTU's. Planogram changes can be performed quicker by removing the entire EWT tray for relocation saving additional time and BTU's needed to maintain the freezer. Typical planogram changes in a 5-door freezer can take 3 hours or more, during which temperature readings can climb into the mid 40s F°. After the planogram change, it can take 4 to 6 hours for the freezer temperature to stabilize back in the operating range. EWT trays can reduce the planogram change by half, from 3 to 1-1/2 hours, saving both labor and freezer BTU's. This also translates into reduced time for the freezer to stabilize back in the operating range.

Trion Engineering Department, Trion Industries, Inc., 297 Laird Street, Wilkes-Barre, Pennsylvania, 18702
800-444-4665, Email info@trionline.com, Web www.trionline.com