

by Aaron L. Brody

Delivering Foods: Distribution Packaging

Before there was processing and packaging, people lived on the land and grew their own food, which was not always safe or tasty or available, but that was before an itinerant peddler schlepped packaged food from farms and kitchens to remote areas to complement fresh harvests (packages for food were hardly uncommon during the late 19th century). Then came general stores that stocked a limited assortment of bulk packaged foods delivered by the occasional visit by horse-driven drays. As populations moved to cities, packaged and unpackaged food followed since backyard gardens were no longer feasible. Later came grocery stores stocked manually with packaged and unpackaged foods. During the 1950s, supermarkets became the next great evolution in food distribution. And 40 years later, food is distributed via limited assortment club outlets, box stores, ethnic stores, and convenience stores with both packaged and unpackaged foods delivered on unit pallets. One singularity of all 20th and 21st century food retailing is manual (i.e., one-at-

and temperature considerations. But who is responsible for presenting the packaged product at the retail or consumer level? And who frets over how the consumer stocks the food product at home?

Somewhere in the recesses of food distribution and the subset of retailing are calculators measuring the cost of labor to place a can, bottle, pouch, bag, carton, punnet, tray, cup, or bowl in a position where it is visible and accessible. With distribution (which includes transport, inventorying, transfers, insurance, lost product, profit margins, packaging, etc.) representing about up to 40% of the total retail price of food, someone must have figured out that labor counts—and costs—during these intermediate steps of getting safe quality food to the vicinity of consumers.

Obvious Localization Issues

It is easy to wrongly assume that distribution costs can be saved by growing the raw material at a nearby farm, but has anyone ever computed the

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a-time) stocking and shelving regardless of whether the food was or was not packaged. In an era of electronics and automation and the drive toward natural and less packaging, the final steps of delivery of food to and by consumers is still labor-intensive, one-unit-at-a-time human selection. Can't we do better?

Today's Food Distribution Systems

More than 2,000 food scientists and technologists are educated and trained to deliver a safe food product at the end of the production line. Food packaging technologists then offer packaging that protects food from the actual product manufacture to the loading dock. Many food packaging technologists factor in downstream elements of the distribution system such as unitization, palletization, vibration, impact, vertical compression,

costs of local small-load trucking and small-quantity minimal processing to achieve minimal shelf life? For the record, there are no growers of extra virgin olive oil, coffee or cacao beans, Valencia oranges, Wisconsin aged cheese, clams, or beer hops in my geographic region. Yet somehow these delicacies must be distributed to arrive in my pantry or refrigerator or freezer.

Retail Food Shelving and Display

I have made some fascinating observations at my local retail stores: Each outlet employs people but not necessarily to offer personal service to customers or to check them out. Thus, a large amount of human effort is devoted to the mundane tasks of simply picking orders, schlepping loads of packaged and sometimes unpackaged food from back to front, and grasping a fruit, a jar, or a carton and



For most U.S. shoppers, extra virgin olive oil is not produced locally and arrives at retail outlets via distributors.

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Delivering Foods: Distribution Packaging continued...



Club store operators are masters of distribution efficiency and frequently display full pallet loads in the store. Photo courtesy of Walmart.

positioning it in the consumer-friendly region of the store. At a typical hourly wage, one cent per unit is invested in just pick and place. Actual work-studies have placed the cost of racking a card on a flat vertical display such as pouches of jerky on vertical attitude post at three cents per unit. And human labor is hardly ever continuous: people need intermittent rest from the repetitive boredom of select, reach, grasp, turn, read, lift, etc. In addition, after the primary task is done, how much time and effort are invested in breaking down the corrugated distribution case near the display shelf, folding it back into knocked down format, and carrying it to the back room for bundling into a waste paper cube that needs to be transported for recycling?

Has anyone ever seriously considered the guy or gal who stands in front of display shelves and arranges everything to best show food items to the inattentive consumer? Does anyone ever reflect on the concept of forward-facing the

most attractive surfaces of packages so that the most information can be communicated to consumers passing by? Occasionally a package designer will figure out a means to employ 360-degree graphics so that no matter how the stock clerk places the package on the shelf, it has a visual impact, but most designs usually require the stocker to turn and adjust for best facing.

Self-Adjusting Displays

Some of the more astute food marketers have offered up mechanisms that automatically align packages for best visual impact (such as the Campbell's soup displays of recent years), but aren't those self-facing racks horizontal with vertical labels? And isn't the human hand involved in aligning all those reds and whites?

Direct Delivery – Whose Labor?

Has anyone ever paused for just an instant to observe the direct delivery men and women of bread, salty snacks, carbonated beverages, or beer standing at the shelves and shifting pouches or cans (or cartons or bottles), fluffing pouches, and making adjustments according to

shelf life expiration date as they align all the packages? It is important to rotate stock to ensure that the stated and effective shelf lives are not exceeded. Time = money, which means that someone is paying for the time of direct delivery professionals.

Fresh and Natural

Prepackaged meat and poultry are manually placed in refrigerated displays one package at a time after being cut and packaged one at a time in a back room. Unpackaged fruit and vegetables are carefully arranged and stacked for greater appeal. Apples, peaches, potatoes, broccoli, and Brussels sprouts achieve their spectacular and succulent appearance because of paid individuals who select irregularly shaped and sized recently harvested items and skillfully arrange them into mountains. And butchers and mongers cut and trim fresh products before wrapping them.

Dairy Delivery Racks

Retail professionals claim that they can deliver product ready to display: After all, bottled milk is provided daily in self-facing tiered racks to chilled rooms with glass doors. Indeed, this works when the daily unit volume of the specific item is sufficiently high to warrant this low-cost system, but what about milk delivered in quarts, chocolate milk, kefir, and organic milk, which usually do not merit their own tiers? Then it's back to manual shelving.

Comes the Club Store

Club stores do not suffer from this malaise by virtue of limited assortment and mandated maxi-sized unit portion packaging that can be and is transported in full returnable pallet loads that are virtually all self display on the floors of retailers. Is it any surprise that these outlets have gained such a large market share? Much of the labor, waste, and accompanying cost have been eliminated.

With the current full pallet

exchange programs at wholesale level, why hasn't there been an implementation of half and quarter pallet programs at retail level? Aren't there enough high unit volume and weight turnover food products that can be moved from truck to floor slots in retail stores to warrant this more efficient distribution mode? Might an assortment of canned fruit, carton-packed crackers, pouched sugar, dry pet food, or a bin of packaged potatoes or avocados be transited by small unit loads instead of the current one-at-a-time scheme?

Are There Realistic Solutions to One-at-a-Time Displays?

I find it troubling that in 2010,

individual food packages and individual food units are overwhelmingly moved into retail outlets by manual methods subject to contamination, damage, misreading, misplacement, and expiration-date errors. Double-digit food loss occurs at retail level for some items. Would unit load displays resolve all of the economics and losses? Perhaps, if one extrapolates the club store distribution revolution. Would such an initiative spark changes in product, primary, and secondary packaging and channel management?

Certainly. And would such innovations stimulate further and better controls over food product quality and safety offered to

consumers at retail level? Absolutely. So as food products are being developed, holistic integration of all distribution elements should be incorporated into the thinking and execution to reduce the multiplicity of handlings and render the entire system more efficient. To date the focus has been on the primary package in the upstream components of the distribution system. Now is the time to address the paucity of technology in the final phases of delivery to consumers. **FT**



Aaron L. Brody, Ph.D., Contributing Editor • President and CEO, Packaging/Brody Inc., Duluth, Ga., and Adjunct Professor, University of Georgia • aaronbrody@aol.com