Packaging 2000: Virtually Real

While the turn of the century is still about five years away, technology — from talk to total automation — continues to broaden packaging options.

● by Huston Keith

It's the first College Bowl doubleheader, quarterfinal playoffs for the best collegiate team in the nation, and everyone's gathered around the thin-screen, surround-sound, entertainment system.

Someone opens up a bag of snacks. A soothing voice intones, "Congratulations on purchasing the latest in delicious, nutritious, totally natural, no-fat crackers. We're helping sponsor the College Bowl playoffs and hope you'll participate in our Sports Wish promotion during the game. Please reclose me when you're done so I can be fresh for your next snacking occasion. When I'm empty, just recycle me with your used beverage bottles."

Talking packages? It's possible, says Jim Scott, director, biscuit packaging development of Nabisco Foods Group, East Hanover, N.J. With computer chips being made smaller, thinner, cheaper and more powerful each year, a voice chip may be laminated to snack packages in the next century. And the message is only limited by the marketer's imagination, ranging from a birthday song to product directions to targeted promotions. It's not farfetched at all, he says, citing the example of the battery tester already included on *Duracell* packages.

Such razzle dazzle, however, represents only a small segment of ongoing R&D work that will transform packaging as snack processors know it today. Part of that development process stems from the snack food industry itself.

Talking packages, as illustrated by this cereal box mockup, open a variety of merchandising and marketing possibilities for snack manufacturers. As voice chips become smaller, cheaper and more powerful, they could be incorporated into paperboard boxes or films.

Lowfat product introductions skyrocketed to more than 1,200 last year, double the count of four years ago, states David Lindblade, manager, market development, Mobil Chemical Co., Pittsford, N.Y. Health foods, once a niche market dominated by specialty retailers, is now mainstream.

While food scientists have learned to make lowfat products tasty, holding the flavors are a packaging challenge. Mobil's Lindblade notes that flavors migrate out of lowfat foods more readily than higher fat products, and has conducted studies at Kansas State University to show why its high barrier films are needed to retain flavors better.

Philadelphia-based packaging analyst Aaron Brody, notes that better moisture barriers are also needed to maintain proper textures for lowfat snacks.

Karen Welsh of Quantum Performance Films, Streamwood, Ill., agrees and notes that the company has developed a new OPP film with 75% improvement in moisture barrier over regular OPP.

However, not all snack food companies agree that more barrier is needed. "Many are re-evaluating barrier requirements to determine if they are 'over-spec'ed'," says consultant Mary Vaughan of Kline & Co., Fairfield, N.J.

As an example, Vaughan points out a customer using metallized PET is looking at switching to metallized OPP.

All snacks, not just the lowfat ones, will need the increased shelf-life provided by inert gases, such as nitrogen, declares Brody. To provide fresher products to long distribution channels such as vending and convenience, and for specialty products made in remote locations, gas flushing is required, he says.

With gas flushing, however, comes high costs and wasted gas — at least in most cases. The new Laminar Barrier Inerting Process patented by Praxair Inc., Chicago, uses up to 50% less gas, says Monica Sund, marketing manager for packaged food. A co-

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sponsor of the Kansas State study with Mobil, Praxair notes that the rancid taste of potato chips was three times lower after 70 days in a nitrogen-flushed, high-barrier package versus a generic OPP package without a gas-flush.

OPEN THE CENTURY WITH RECLOSABILITY

Better low-cost reclosability is another snack packer need, says Nabisco's Scott. While zippers have worked well for deli meats, shredded cheese and even fruit snacks, they didn't work for one salted snack packager. Not only were material costs much higher, but line efficiencies dropped dramatically.

To address these concerns, packaging companies are marketing less expensive devices.

Planters LifeSavers Co. uses a removable liner near the top of its stand-up pouch, which exposes an adhesive. The consumer rolls the package down as usual and the adhesive holds it in place. Bedford Industries Inc., Worthington, Minn., offers Fold 'n' Hold, a plastic-coated wire strip adhesive-mounted to pouches. The consumer folds the bag down, and the wire strip is folded over to hold it closed.

While package performance comes first, packaging companies are developing products that perform for both the product and the environment. The only PET film for food applications using post-consumer reclaim (PCR) is now available from ICI Films, Wilmington, Del. At least 25% PCR is contained in this FDA-approved coextrusion, says Marketing Manager William Nelson, which is available at a slight premium with properties akin to other PET films.

Fewer cartons will be used in snack packaging, Brody foresees. The stand-up pouch offers not only source reduction but cost savings, says Dennis Calamusa, product manager, packagers & systems, Klöckner Bartelt Inc., Sarasota, Fla. The pouch also has marketing benefits.

It's no doubt that packaging will become more active in the next century, Brody says. Active or "smart" materials, as they are sometimes called, maintain or modify package atmospheres after the package is sealed. They include oxygen, carbon dioxide and flavor absorbers. Flavor emitters are being developed to compensate for flavor loss or even as a marketing tool.

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The most common example is an oxygen scavenger sachet, which removes headspace oxygen. Cost and concerns over accidental ingestion have slowed acceptance by domestic snack manufacturers. To address these issues, Multiform Desiccants, Buffalo, N.Y., recently announced plans to offer materials that can be directly incorporated into films.

Another imminent development is a cost-effective transparent barrier film, say many in the industry. While silicon dioxide-coated films and aluminum oxide-coated films have been available for years, snack packagers say they are too costly. Of course, as Max Mechsner, head of R&D for Bryce Corp., Memphis, Tenn., observes, "20 years ago metallized OPP and PET were too expensive."

LIGHTS OUT!

By the turn of the century, many snack food plants will also be turning their lights off — not because markets have dried up, but because machines will do all the work. According to Allen Major, sales manager, snacks & baked goods, Hayssen Manufacturing Co., some candy plants already have totally automated operations. He expects other snacks to follow suit as machine technology is developed to handle flexible pouches consistently.

The labor savings available today from automation are astounding, says Walter Ellis, vice president, sales, Sasib Packaging North America, Skokie, Ill.

One processor saved more than 50% after installing pick-and-place equipment, automatic case packing and other automatic machines. He says many processors, especially smaller ones, are concerned about making large investments to gain automation benefits, then being faced with obsolescence as the next generation equipment becomes available.

His company and others are working on providing an upgrade path for existing equipment, such as kits for auto-splicing on vertical form/fill/seal machines.

The serviceman may not even need to come into a plant by 2001, states Curt Kuhr, Kliklok Corp., Decatur, Ga. While the serviceman may not be keeping company with Maytag's Mr. Lonely, the only road he may ride on in the future is the information superhighway.

Since most newer equipment has computerized controls, it's quite conceivable that digital hookups for machine operations will provide diagnostic information for repairs. Video cameras will provide the eyes. Machine upgrades could be handled via transmitting software over a datalink, and the monitoring of several "lights out" plants could be handled from a central location.

All this before the year 2000? Let's put it this way: These developments are a safer bet than the National Collegiate Athletic Association agreeing to a playoff process to determine a college football champion. ●

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