

FEBRUARY 2004

FLEXO

THE FLEXOGRAPHIC TECHNOLOGY SOURCE

QUART (946mL)

Orange Juice 100% Orange Juice

BREAKTHROUGH

BEVERAGE

PACKAGING

100% CONCENTRATE

WITH PULP

QUART (946mL)

(946mL)





Photo courtesy of Seal-It Inc.

DRINKING IN THE FEATURES

FLEXO QUENCHES BEVERAGE INDUSTRY'S THIRST FOR INNOVATION

■ By Christian R. Bonawandt

Sports drinks . . . vitamin-enhanced water . . . vanilla-flavored cola. Beverage companies strive for innovation and new products. This must be reflected in the packaging. Beverage manufacturers are working to differentiate their products on the shelf. To do this, many are tapping into the latest technologies available from flexographic printing. Others are seeking wholly new ideas.

"There are two major activities that have revved up the pace of the beverage industry," said Randy Bailey, vice president of North American manufacturing for MeadWestvaco Packaging Systems LLC, Atlanta, GA. "One trend that we've seen over the past few years has been an increase in promotional activity, including a lot of regional activity, mostly around current events, and requiring more complicated graphics such as extensive halftones and vignettes. . . . Beverage manufacturers also want to achieve this in a very cost-effective manner."

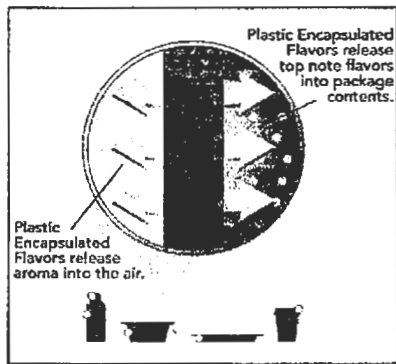
These demands have forced many printers to invest in new technologies, such as servo-

driven presses, digital plates and a full digital workflow. "We are after that perfect, sustainable dot. With the inks, the plates and the new printing presses, we are much better able to produce and reproduce that dot over and over through the press runs," Bailey said.

"It starts with higher-end graphics and more color capabilities," added Bailey's co-worker, George Mundy, manager of printing technology. "When we bought our 10-color presses, our customer demands went from five and six colors to seven and eight colors. Along with that, they want higher line-screen counts. Where it used to be 85 or 100 line-screens, today we're talking 120 to 130."

Rick Harris, market product manager for the product branding business team at FLEXcon, Spencer, MA, noted, "UV flexo and screen combination printing is superceding classic screen printing techniques of late." He believes that, with technology on their side, many beverage companies are becoming bolder and going for more value-added printing. "Hot stamping is increasing due to industry developments that have solved technical issues in recent years,

Diagram courtesy of ScentSational Technologies LLC



Food and beverage companies are exploring the new technology of encapsulated aromas built into packaging.

making it more accessible to beverage companies," Harris said. "The result is an upscale image that stands out."

Many beverage companies have not taken advantage of special-effect printing such as foiling and holography in the past due to the high costs associated with the material. "Holographic materials are under-utilized in both flexible packaging and labels," professed Martin Aleksis, business director for AET Films, New Castle, DE. "Embossing technology has improved, offering patterns without shim lines, and new wide-web, high-speed equipment helps overcome some of the price barriers historically associated with using this highly effective promotional tool."

Material Trends

Pouches and shrink labels are the most noticeable trends in beverage packaging, according to some in the industry. "You get more pop out of a shrink label than you do out of a paper label," stated Sharon Lobel, CEO of Seal-It, Farmingdale, NY. "You get 360 degrees of real estate to put information on, and more vivid colors, as well."

Nancy Smith, market development manager, Rohm & Haas, Philadelphia, PA, observed the tendency toward use of pouches, and away from cans and juice boxes.

Lobel insists that shrink sleeves possess a more contemporary look than traditional pressure-sensitive labels. "Surveys have shown that when a consumer walks down an aisle and sees a shrink label, he or she often picks it up and looks at it. And that's exactly what you're selling—pick it up, look at it and try it."

Shrink sleeves are also conducive to another growing trend identified by Lobel, which is tamper evidence. "Shrink neck bands are popular now," she said. "People are doing combinations of a shrink label and tamper-evident band with a horizontal perforation so that when you turn the cap the neck band comes off."

Traditional pressure-sensitive labels continue to evolve, as well, to fit the changing needs of the beverage market. "Recent technology advancements are allowing thinner-gauge films that offer beverage companies greater economics," said Harris. "What we are seeing is the use of a two-ply construction—a printed clear film laminated with another clear film that protects the graphics and ink—totaling a thinner construction



Photo courtesy of FLEXcon Co.

than the more historic 2mm BOPP.

"Conformable and economical films for difficult surfaces are also being advanced," Harris continued. "Glass is not a perfect container. When you're making glass, you have a wide tolerance and end up with concave and convex areas. A small label such as a beer bottle label is not too much of a problem, but when you get into larger-panel bottles—such as rum and wine, for example—you need a more conformable film."

Labels and containers aren't the only part of beverage packaging undergoing change. "We're doing a lot with thermochromic inks," said Lobel. These temperature-responsive inks are being used for a variety of different added-value features. "You can put a message on the label that says 'refrigerate me,' so that if the drink sits on the table and gets to a certain temperature, those words will appear," Lobel explained. "And if you put something in the microwave, for example, a message appears when the contents are at the right temperature."

Even adhesives are being modified to meet the growing needs of beverage manufacturers. "There are some new chemistries out there for adhesives that have very low migration levels," said Smith. "We call them extremely low-monomer chemistries. These can be used with the hot-fill applications typically found in juice beverage packaging, for example, and cure at a much faster rate."

Brand Identity

Beverage manufacturers fight hard to keep their products distinct and recognizable. Brand identity is paramount. This poses a challenge to printers, who are doing more short-turnaround,

short-run jobs. "In the beverage industry," Bailey said, "the spot red printed in Atlanta needs to look like the spot red printed in Chicago and the spot red printed in Los Angeles."

"Flexo used to be more of an art than a science," Bailey said. "As consumer product companies get more into both regional and national programs, the regional programs have to look like the national programs." Process control, Mundy proclaimed, is the answer.

Spot colors aren't the only way for beverage companies to make themselves stand out. "Aroma is a very powerful memory trigger," said Steven Landau, chairman and CTO of ScentSational Technologies, Jenkintown, PA. According to Landau, food and beverage companies are just now getting into the technology of encapsulated aromas built into the packaging or bottle.

"Adding aroma to packaging is not necessarily new," said Barry Edelstein, president of ScentSational. "What's new is that it can be done safely with food-grade flavors."

Smells are processed in the limbic node of the brain, which is the human emotion center. According to tests, Landau said, "Consumers show a much higher likelihood of buying a product when exposed to a pleasing aroma."

One of many benefits of this technology is the creation of a trademark aroma. "The smell becomes their signature," Landau said. "You smell the aroma and it becomes recognizable as that product."

Convenience

"The Fridge Pack has literally changed the face of the industry," Bailey declared, in reference to the relatively new 12-pack folding carton shape that holds cans and bottles in six rows of two instead of four rows of three. The Fridge Pack fits more easily on consumers' refrigerator shelves and is die cut in the front to form a vending machine-like dispenser.

Another new carton design that is targeting consumer convenience is the Duralift Beverage Carrier, designed by Mead-Westvaco. Ideal for glass-bottled beverages, this carton's handle is designed to lift above the rest of the package, ensuring that consumers' hands are comfortably above the bottle crowns. "We worked with customers to try to find something unique and innovative," Bailey said. "And there are other shape and handle configurations that are coming along." ☐