



Food and Beverage Industry Update

Good Things Come in Safe, Smart and Attractive Packages

The food and beverage industry turns on innovation, as manufacturers and suppliers in this highly competitive world strive to be the first to reach consumers hungry for a new product, better value or more eco-friendly approach to production and packaging.

Case in point: The 2009 Produce Marketing Association Fresh Summit, where more than 17,000 industry representatives from 50 countries saw the latest in produce packaging and presentation. Among the highlights were Del Monte Fresh unveiling its Controlled Ripening Technology packaging, and Mann Packing Company's introduction of a new color-code packaging system for fresh cut vegetables.

Both products are prime examples of how packaging technology, color and chemistry are driving the food industry. Del Monte's proprietary plastic wrap absorbs ethylene gas that contributes to banana ripening, extending banana shelf life by up to five days. Mann Packing, a mainstay in vegetables for 70 years, unveiled a new packaging that segments fresh-cut vegetable products by color, drawing attention to the packer's core broccoli offerings with a bold hue not often seen in vegetables – bright blue.

Consumers are seeing similar innovations in the fresh meat, poultry and seafood segments, where modified atmosphere packaging (MAP) such as Cryovac's Mirabella employs a unique dual-film lidstock that allows oxygen to reach the product at the point of film contact. The MAP approach eliminates product discoloration as well as headspace under the film, allowing for safe packaging using foam and rigid trays with a lower profile. The innovation provides a more appealing package for consumers, takes up less space in the refrigerated case, and requires less material to produce.

Packaging success

Bryan Silbermann, President and CEO of the Produce Marketing Association, noted that since PMA's Impact Award program began in 2007, "The entries reflect an increasing industry commitment to the role packaging can play in maintaining product quality and safety, in communicating with consumers, and in demonstrating the industry's commitment to the environment and sustainability." PMA's Impact Award winners for 2009 included IFCO Systems for its reusable plastic produce container and Yottamark Inc for its Microbaker traceable labels.

PCC Corporate Headquarters:
142nd & Paxton Avenue
Calumet City, IL 60409
Phone: 800.922-9936
www.plasticscolor.com

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Despite the global economic crisis, the market for biodegradable polymers actually grew in 2009, according to a recent study from SRI Consulting. Titled *Biodegradable Polymers*, the study noted that 2009 growth in Europe was in the range of 5–10% over 2008. Worldwide, the biodegradable polymer market doubled from 2005-2009 according to SRI. Total consumption of biodegradable polymers in Europe, North America and Asia is forecast to grow at an average annual rate of nearly 13% over the five-year period from 2009 to 2014, and SRI noted that “The food packaging, dishes and cutlery market is the single largest end use and will be the major growth driver in the future.”

In the beverage segment, biodegradability and color-change technology continue to show tremendous consumer appeal. International Paper’s *ecotainer* line of PLA-coated containers features drink cups that can be composted at municipal and commercial composting facilities. Another hot attraction in the beverage world is the color-change lid. Sydney, Australia-based Smart Lid Systems received a Worldstar Packaging Award in 2008 for its beverage cup lid that changes from brown to red when the cup contents are hot, then back to brown as the beverage cools. The color-sensitive pigmentation also allows for a red-brown gradient across the lid to indicate when the lid might not be secure and spillage could occur.

Contact is key

In leading consumers toward a greener future, the food and beverage industry must clear recycling-related hurdles that other industries generally won’t see. While a greater use of recycled plastics is both eco and consumer-friendly, it comes with a price -- anything that touches food also touches a set of FDA regulations dedicated exclusively to food contact containers.

The FDA says it becomes involved in food and beverage recycling when “the industry collects used polymeric materials (usually food containers) and proposes to recycle these materials to make new food containers. FDA’s main safety concerns with the use of recycled plastic materials in food-contact articles are: 1) that contaminants from the post consumer material may appear in the final food-contact product made from the recycled material, 2) that recycled post-consumer material not regulated for food-contact use may be incorporated into food-contact packaging, and 3) that adjuvants in the recycled plastic may not comply with the regulations for food-contact use.”

To address these concerns, the FDA says it considers each proposed use of recycled plastic on a case-by-case basis and issues informal advice as to whether the recycling process is expected to produce plastic suitable for food-contact applications. FDA has prepared a document entitled [*Guidance for Industry - Use of Recycled Plastics in Food Packaging: Chemistry Considerations*](#) that will assist manufacturers of food packaging in evaluating processes for recycling plastic into food packaging.

Compliance and beyond

The safety of any food supply chain is only as good as each link in the chain. Packaging manufacturers need to know their material suppliers are on top of all federal and state regulations. And, says PCC's (Plastics Color Corporation) researcher David Witt, "they need to know their supplier-partners have the equipment, processes and people that reflect their own commitments to health, safety and the environment. Becoming more eco-friendly is an admirable goal, but it's a goal that must be attained in a manner that does not compromise public health or the trust of our business partners and consumers."

To meet the color and masterbatch demands of food and beverage packagers in the safest manner possible, PCC opened its 7,000 square foot *Plant Within a Plant* in 2008. This closed-loop production facility was designed with input from food and medical packaging industry experts who cited reducing contamination risk as a paramount concern. "It has been important for customers to see how we handle materials and how the cross-contamination risk has been almost eliminated by using such equipment as a sterilized water bath utilizing UV filtration and a closed-loop water system," explains Joe Byrne, PCC's vice president for sales and marketing.

PCC President Douglas Borgsdorf adds that the *Plant Within a Plant* anticipates the industry's general requirements for 2014: optimal production turnarounds and a closed-loop manufacturing system — a resource-planning architecture in which production planning drives the master schedule that in turn drives the material plan that dictates the capacity plan. "As key elements of lean manufacturing, just-in-time production and a closed-loop system maximize the use of existing inventory, thus generating additional cost savings for the customer," says Borgsdorf.

In fact, demand is increasing so quickly that in May, PCC announced plans to open a new facility in California that is based on the success of its Plant Within a Plant clean compounding facility. The plant will open this fall with two segregated clean lines targeted squarely at the medical, pharmaceutical and food packaging industries.

While raising the industry bar for health and safety, PCC has also been leading the production shift toward more eco-friendly colors and additives. Since 2007, PCC has offered an innovative line of masterbatch additive using a new impact modifier. Polylactic acid (PLA), a bioplastic polymer derived from renewable resources such as corn, has been welcomed by the packaging industry to reduce dependence on petro-chemical-based plastics. The masterbatch broadens the usability of bioplastics by making them stronger without losing the desirable clarity so important in packaging.

Early in 2010, PCC announced a new line of color concentrates made partially with post-consumer and industrial plastic content, providing manufacturers with a way to meet recycled material requirements while protecting valuable natural resources. The recycled colorants are offered in a variety of resin types and wide range of colors with recycled content of the concentrate formulations ranging from 25 percent to 82 percent, depending on their color. "The product line was developed in response to customer requests for products that aid in their

sustainability initiatives,” said Joe Byrne, PCC’s vice president of sales and marketing. “One of the key elements of sustainability is to reduce the use of products derived from limited resources, such as petroleum. Every pound of post-consumer resin we use helps to reduce consumption of virgin material, therefore minimizing the impact of depleting our limited resources.”

For more information on color and masterbatch additives for the food and beverage industry, contact Joe Byrne of PCC at 800-922-9936 or visit www.plasticscolor.com.

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