PLANT-BASED MATERIALS CLING TO NEW COLLABORATIVE VINE

The plant-based bottle could expand its roots into other areas, furthering the influence of packaging as a growth leader in non-petroleum-based products.

Led by Coca-Cola Co., a new industry collaborative was announced June 5 that included H.J. Heinz, Ford Motor Co., Nike Inc., and Procter & Gamble (P&G). The Plant PET Technology Collaborative could lead to the growth of plant-based materials in such areas as automotive carpets and fabrics, apparel, and footwear.

A major goal of the new initiative is to speed development of 100% plant-based PET materials and fiber, a mission already embarked upon at Coca-Cola. The company currently uses the materials, made from sugarcane ethanol, for about 30% of its plant-based soft drink and water bottles.

Industry work is picking up in this area. Heinz and P&G already use the natural materials in some of its products, and Danone said in March that it would partner with Avantium to make biobased plastic bottles. Those bottles will be made from polyethylene furanoate (PEF), another material from non-food crops. Coca-Cola has signed licensing agreements with Avantium and two other biobased companies, Gevo and Virent.

P&G officials said the project could help provide a technology bed to advance its work to reduce petroleum-based materials by 25% by the year 2020. And Ford and Nike already are using the sugarcane-derived substances on a limited basis, too.

What’s encouraging about the collaborative is not only the development of a totally PET plant-based bottle. It is also the work being done to explore common sustainability methodologies and standards for the use of the newer materials. That work could include new lifecycle analyses and universal terminology that could advance the industry.

Packaging Strategies’ Perspective: Plant-based materials are gaining headwind, but issues must still be explored on how to create PET entirely from the sugarcane material and do it cost-effectively. Cost is a key component; consumers would be willing to use the material but not at a large cost disadvantage. PS
Expanded polystyrene (EPS) continues to expand its own use in shipping, where sustainability is just as critical as ensuring that containers keep their contents at the right temperature. According to GBI Research, EPS continues to increase in global demand, expected to rise from 14.9mn tons in 2010 to 23.5mn tons in 2020.

ACH Foam Technologies has long been aware of the benefits of EPS. As a manufacturer of polystyrene, ACH has used the product extensively in shipping containers. Now, the manufacturer is introducing an EPS-based wine container that can maintain temperature during the summer months which can be brutally harsh on wine products.

“We had considered a 12-bottle container, but that exceeded the 50-lb. weight limit and once you go over 50 lbs., the shipping costs get very expensive,” said Brandt. The six-pack container weighs less and costs less than $18.

According to Brandt, wineries cannot ship cost-effectively during the summer months of June to August. This can be particularly hurtful to their wine club businesses, which generate a lot of revenue. Or, folks visiting wineries during the summer will often want to ship wine back home.

“Often, wineries will have to hold off wine club and visitor’s shipments until the summer ends,” said Brandt. “WineLoc prevents them from having to put those shipments on hold.”

To prove itself, WineLoc underwent extensive ISTA-7E temperature testing, which included putting temperature probes inside the containers and taking 10-minute interval readings to ensure the temperature was being maintained over a 72-hour period. “This is quite a test, but passing is a real accolade for the product,” said Brandt.

ACH ultimately came up with an EPS-based packaging alternative that incorporates just the right amount of foam thickness and density to maintain a constant temperature of 80°F for approximately 72 hours. High temperatures can degrade the composition of wine: too cold and the cork gets pushed out of the bottle; too hot and spoilage can result.

The WineLoc is a six-pack wine shipper contained within a corrugated outer carton with specially designed pockets to hold two frozen gel refrigerants that allow airflow. This enables wine makers to ship two-day and sometimes three-day shipments to customers during the summer months.

Packaging Strategies’ Perspective: Maintaining temperature control during shipment is always a concern, but particularly in trucks that are not refrigerated. The wine industry may have found a cost-effective solution that keeps revenue streams—and wine—flowing during the summer months. It will be interesting to see if the same product will find use in other temperature-sensitive industries such as pharmaceuticals. PS

Click on the question here to blog your responses.

With the start of the Plant PET Technology Collaborative, do you believe that plant-based substances will someday become dominant as a packaging material?