

## Wearing Different Caps

Usually it's the last thing done at the plant and the first thing you touch when you open something. The humble cap or closure barely registers on the packaging scale, but performs an important function. When you consider caps or closure on a product, "there's no single definition," says Martin Downey, senior sales representative with PanoCap Canada Limited. "Some people limit the definition to openings that can be easily re-closed, but a peel-back foil lid on single-serving yogurt is also a closure. Closure can range from the traditional threaded cap, to vacuum-sealed metal caps on baby food jars, to push-pull caps of sport drinks, to one-way valve caps of the inverted ketchup bottles, to multi-function caps of liquid laundry detergent bottles with built-in measuring cups. Each cap must help contain the product and allow the consumer easy access."

Protecting the product means not only keeping the product in, but also keeping oxygen out. "Oxygen is the major factor in eroding food quality," explains Carol Zweep, senior research scientist at the Guelph Food Technology Centre. "When we evaluate packages, we find that the bottle/cap interface tends to be the weak spot. Especially for wellness-boosting products with delicate functional ingredients, a good package and closure are crucial."

Important as they are, they are often overlooked. "Some smaller companies and entrepreneurs occasionally make the mistake of treating packaging as an afterthought," explains Downey. "Big companies with on-staff packaging professionals work on packaging long before the product is even developed. Smaller companies often have the product ready to go and need a package next week, but haven't considered whether their choice of packaging will protect their product, or be compatible with their process, or even whether it will fit the retailer's shelf."

Consumers, too, are often unaware of the technical features of packaging, which are impressive. "Powerade's hinged dispensing closure contains four different compo-



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nents, three of them tiny," notes Downey. "The one-way valve keeps the product in the bottle until the consumer squeezes it. The inverted ketchup bottle works on the same principle. Manufacturers also look for subtle changes with big impact. For instance, the traditional 28 mm diameter water bottle closure is being changed to 26.7 mm. With the sheer volume, that tiny change will shave down packaging manufacturing costs significantly. Consumers are unlikely to notice the difference."

The threaded cap remains the king of closures not only for food and beverage products, but for motor oil, personal care products and more. "While you can fold the peel-back foil lid on your yogurt and put it back into the fridge, you can't pop it in your

briefcase," says Downey. "Likewise, you can re-close the jar of baby food, but you won't re-establish the vacuum. And you can push-down the push-pull closure on your sports drink, but if it catches on the edge of your bag, the contents can spill. With a threaded cap, you may not be able to close it as tightly as the manufacturer, and you certainly won't be able to reinstate the tamper-evident seal, but spilling is far less likely."

Consumers have an interesting perspective on tamper-evident closures: they don't much notice. "In a focus group I observed some years back, consumers noted that, if they saw the tamper-evident seal broken, they might not buy the product, or return it to the store, but equally, they might go ahead and use it," says Downey. "Consumers tend to trust food processors, packaging manufacturers and retailers, and it is incumbent on us in the food and packaging industry to safeguard that trust."

So the next time you reach for a bottle of water, juice, tea, energy drink or other product in a package with a closure, stop for a moment and admire. Hats off to the hardworking cap.

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*Cliona Reeves is communications manager for the Guelph Food Technology Centre. [www.gftc.ca](http://www.gftc.ca)*