



PACKAGING

Deanna Rosolen

Going green...finally

Recent biodegradable-packaging innovations are driving it into the mainstream

A year and a half ago, Frédéric Langlois decided to take Biscuits Leclerc Ltd.'s recycling program a step further. The St-Augustin-de-Desmaures, Que.-based cookie manufacturer already had an intensive program in place in its plants. "Everything that can be recycled is recycled," says Langlois, the company's vice-president of Marketing, noting that Biscuits Leclerc has been recycling for the past six years.

But to make the company even more environmentally friendly, Langlois focused his attention on the packaging. "In our type of product we have a tray, a bag. There's a lot of stuff that ends up in the garbage," he explains. So Langlois contacted Quebec-based Tilton Plastics, the company that makes its trays, to develop a biodegradable one. The company began transitioning to the new corn-based trays late last year and so far over one million are in circulation.

Across the food industry, biodegradable packaging is catching on slowly. But recent developments may be changing that. Last fall, Wal-Mart announced that it would begin using NatureWorks PLA, a corn-based packaging, in fresh-cut produce packaging at Sam's Clubs and Wal-Mart Super Centers. Wal-Mart and NatureWorks PLA, which is wholly owned by Cargill Inc., had partnered the year before to research and test market the packaging. Using it for fresh-cut produce would translate into more than 100 million containers per year. Changing the packaging will also mean saving the equivalent of 800,000 gallons of gasoline and reducing more than 11 million pounds of greenhouse gas emissions.

Experts say Wal-Mart's move was a signal to suppliers. "When that comes from a large company like Wal-Mart you're going to get a lot of people interested," says Carol Zweep, senior research scientist at the Guelph Food Technology Centre. Especially, she says, if suppliers want to continue supplying Wal-Mart.

Zweep says another factor affecting the recent move to biodegradable is the rising cost of plastics due to the increased cost of petroleum. That means food packagers could be facing price hikes of between 30 and 80 per cent. At the same time, says Zweep, environmentally conscious consumers now have biodegradable

packaging on their radar, in large part due to media coverage. As a result there's been a spate of new initiatives just in the past year (*see sidebar*).

But the big news is the work to improve the most popular PET replacement, PLA (polylactide). According to Zweep, PLA's drawback has always been its poor barrier properties. Now, however, companies are attempting to tackle that issue head on. Germany-based SIG Coroplast, for example, has a technology called Plasmax, a barely perceptible layer of glass applied by plasma to PET bottles. And in France, Sidel now has a technology called Actis, an amorphous carbon coating applied on the inside of PET bottles. Zweep says both companies are looking at applying their technologies to PLA bottles.

Despite the advances, there are still drawbacks to PLA, according to Louis Hartley, North American sales manager at Vancouver-based EPI Environmental Technologies Inc. EPI manufactures Totally Degradable Plastic Additive (TDPA), which can be added to polyethylene, polystyrene or polypropylene material, making it stable and biodegradable. It can be used in 158 applications in rigid and flexible materials, and won't affect the print surface. The company has been marketing TDPA for the last six years. As for PLA, Hartley says it has good clarity, but isn't very stable; it doesn't react well to moisture and will break down under high heat.

Over at Biscuits Leclerc, Langlois acknowledges that Tilton Plastics explained that the corn-based tray would react differently to heat. As a result, both parties made adjustments to accommodate the change. Now, says Langlois, he's working on the cookie bags. "It's tougher. We started with the tray because there's no print and it was easier. When you get to the bags, there are glues, multiple lamination, different inks – it's more complex." By this spring, Langlois says all 49 skus of cookies will be nestled in corn-based trays, amounting to about 50 million trays. "[Converting] was fairly comparable in price. We couldn't increase the price for the cookies – consumers are environmentally friendly, but I'm not sure they're ready to pay for it," he says. "It's a good project. I'm very happy we were able to do it."

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WHAT'S NEW

- Amcor Australasia and U.K.-based Plantic Technologies Limited are developing biodegradable packaging for confectionery.
- Denmark-based Danisco has developed a vegetable oil-based plasticizer called GrindSted Soft-N-Safe, which facilitates the production of soft and flexible polyvinyl chloride (PVC) applicable for food and beverage packaging, and which is completely biodegradable.
- U.K.-based Stanelco received U.S. FDA approval for its biodegradable packaging material Starpol 2000.
- Germany-based BASF has launched Ecovio, a biodegradable plastic.
- The Netherlands-based Zip-Pak now features the Degradable zipper for film and bag converters.