



# Nature's Sweet rewards

Quebec maple syrup co-op steps outside the box to optimize its bulk shipments with super-strong, jumbo-size specialty containers

**M**aking maple syrup may seem as simple as sucking sap from a tree to most people, but most people have never been exposed to the multitude of behind-the-scenes production, packaging and distribution challenges that must be overcome on a daily basis by thousands of Canadian producers owing their livelihood to the gathering and processing of this quintessentially Canadian breakfast favorite.

As operations manager and quality control director for **Citadelle Maple Syrup Producers' Cooperative** in Plessisville, Que., Denis Lajoie is understandably more than just familiar with the comings and goings of the maple syrup business in Canada—by far the world's largest producer of the sweet stuff used by many thousands of consumers worldwide to top off their morning pancakes, waffles and many other types of breakfast pastries.

In fact, he explains, Citadelle is actually comprised of more than 2,100 members of the Cooperative, which accounts for nearly a third of the estimated 7,000 or so maple syrup suppliers operating in Quebec. In comparison, there is an estimated 2,000 producers operating across the provinces of Ontario, New Brunswick and Nova Scotia, Lajoie relates, as well as about 5,000 affiliated sugaring operations located in the north-eastern U.S.

Officially incorporated under the name of **Les Producteurs de Sucre d'Érable de Québec** in 1925, the cooperative started out as a joint effort by 102 local syrup producers—mostly operating in the Dorchester and Mégantic counties—to combat an alleged “monopoly” of large corporate buyers, whose low-balling purchase practices were threatening to drive the fledgling industry into the ground, according to Lajoie.

“By operating as a cooperative, Quebec maple producers then, as well as now, were in a better position to supply the industrial and retail markets with maple products packaged and stocked under the best possible conditions—thereby offering customers a product with the highest-quality standards at a fair price,” Lajoie told *Canadian Packaging* recently.

While Canadian consumers enjoy easy access to a wide variety of maple-syrup brands on a year-round basis, the actual harvesting of this sweet maple-tree extract is very much a seasonal undertaking, and a very brief one at that.

The maple syrup season typically lasts only from



At Citadelle's Guadeloupe facility, a worker delivers everything required to construct a single SpaceKraft intermediate bulk container (IBC) on a skid via forklift.



It only requires one person about a minute to erect a ready-to-go, 1,000-liter SpaceKraft intermediate bulk container.



A worker places an IBC tote upon a scale, where it remains while the maple syrup is poured inside the inner bag until reaching target weight.

mid-March to mid-April, Lajoie explains, timed to coincide with the annual thawing of the ground after a cold Canadian winter, and just before the buds start to appear on the maple trees.

Maple sap only runs after a night of below-freezing temperatures, and then collected with a tubular vacuum system after it gets above 0°C. The collected sap, which is only two to five per cent solids, is then pre-concentrated by reverse osmosis, after which it is further concentrated by an evaporator to 66 brix (sugar content) to create the finished maple syrup.

Saying that it takes over 40 liters of sap to obtain one liter of maple syrup, Lajoie points out that the final product quality of pure maple syrup is heavily influenced by how well it is stored and bottled, which is why Citadelle has over the years invested in four state-of-the-art facilities to package it.

“In our main Plessisville location, we have 75 employees, with 40 of them working in the plant,” expands Lajoie. “Our plant in Guadeloupe has 30 employees, Auclair has four, and our plant in Saint Quentin, New Brunswick, has six employees.”

In addition, Citadelle operates a 25-employee **Maple Delights** retail division. Based in

Montreal, it is comprised of three boutique-style outlets: one in Montreal, one in Vancouver and, as of last June, a new boutique located right inside Montreal's Pierre Elliott Trudeau International Airport—selling maple-sugar dessert products like ice-cream and fudge.

“We process about 15 million pounds of maple syrup each year, which translates into annual revenues of about \$60 million,” states Lajoie. “We process and sell maple syrup throughout the world under many different brands and in many different packages, such as glass bottles, plastic jugs, pails, drums and totes.”

Citadelle's bestselling brands in Canada and the U.S. include such labels as **Camp** and **Citadelle**, as well as **Maple Gold** in the U.S., **Shady Maple Farms** in the U.S. and Europe, **Canada Gold** in Europe and Asia, and **O'Canada** in Asia.

Aside from selling the packaged syrup in its pure form, Citadelle also bulk-ships it to multiple manufacturing plants all over North America, Europe and Asia for use as a key ingredient in products like breakfast cereals, flavored yogurts, candies and a wide assortment of snack-foods.

“In the U.S., our major customers include major supermarket chains like Safeway, Stop and Shop, Albertson's Whole Foods Market, while in Canada it's Loblaws and Sobeys,” says Lajoie. “We also sell to the ‘Big Box’ operators like Costco, Sam's Club and Trader Joe's, and we use many different distributors to sell into the European and Asian markets.”

To help optimize its bulk-shipping operations, Citadelle recently began using the IBCs (intermediate bulk containers) manufactured by **SpaceKraft**, a business of forest products giant **Weyerhaeuser**, who specialize in the manufacture of specialty corrugated containers for the storage and transport of bulk quantities.

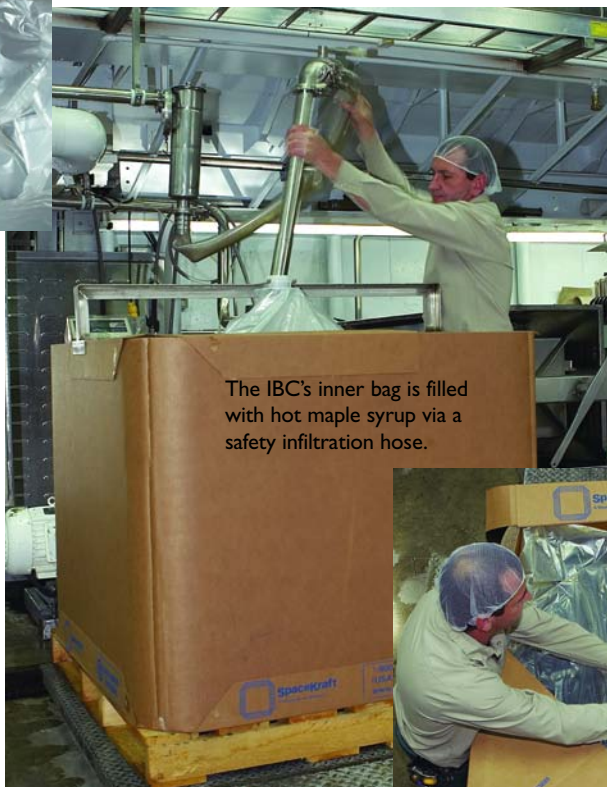
Developed specifically for liquids, the IBCs selected by Citadelle are not only the most durable corrugated containers available in the marketplace, according to Lajoie, they are also the preferred packaging choice for most customers with whom Citadelle does business.

“Our customers prefer the SpaceKraft totes because they are easier to move with a forklift, as opposed to a drum and, more importantly, our clients only have to plug a pump into the tote's inner container to drain it,” he explains. “Because the product is never exposed to air, it maintains its full sterility.”

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Citadelle employee Jocelyn Moisan adds air to the inner bag to ensure and maintain correct positioning within the tote throughout shipment.



The IBC's inner bag is filled with hot maple syrup via a safety infiltration hose.

After achieving the appropriate weight, a cap is placed on the tote, securely sealing the still-sterile maple syrup within.





PACKAGING FOR DISTRIBUTION

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Citadelle operations manager and quality control director Denis Lajoie stands in front of the filled drums of maple syrup in one of the co-op's storage warehouses.

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"We've been using SpaceKraft products for shipments around the globe to industrial clients who use the maple syrup to make other products," says Lajoie.

Strong enough to be stacked up to four-units-high, each of the recyclable SpaceKraft *IBC for liquids* containers is outfitted with a special high-temperature liner, rated to 200°F, and when not in use, it can be easily collapsed and folded—taking up less than 80 per cent of the space taken up by the conventional plastic drums.

Manufactured at SpaceKraft's facilities in Indianapolis, Ind., Kennesaw, Ga, and Salem, Ore., the company's IBC products have been distributed in Canada by **Esselpak Canada Inc.** since 2002.

"We manufacture the 55-, 110-, 220-, 260-, 275-, 300- and 330-gallon IBCs at our Indianapolis facility, which supplies all of SpaceKraft's Canadian customers," says Greg Templeman, sales representative for the **ISO 9001-** and **HACCP (Hazard Analysis Critical Control Points)**-certified Indianapolis plant.

According to Templeman, the *IBCs for liquids* container provide an ideal replacement for plastic drums, returnable totes, and the ordinary eight-sided corrugated IBCs.

Capable of carrying up to 330 gallons of liquid, a single SpaceKraft *Liquids IBC* can do the job of up to six drums, which sharply reduces the time and labor required for the filling, emptying and handling of multiple containers, he explains.



Plastic 32-ounce jugs of maple syrup speed down the plant's bottling line on their way to the labeling station.

They are also far less expensive to ship and maintain than returnable totes, adds Templeman.

"SpaceKraft eliminates the high cost of maintenance and return transportation, and unlike other eight-sided IBCs, they do not require

any additional wood or metal parts or reinforcements," he says.

Best of all, one *IBC for liquids* container can be fully set up for duty by one person in about a minute, according to Templeman.

"What we normally supply to Citadelle for their maple syrup is our 1,000-liter (275-gallon) export containers, which actually hold 1,040 liters of product," Templeman expands. "It measures 45-inches-wide and 45-inches-long, with 36-inches in height, fitted with a 180-pound laminated inner board, and is constructed by the continuous winding from eight or nine piles of 69-pound linerboard and 36-pound A-flute medium, which eliminates the need for any wooden or metal joints or other components.

"In addition to being completely recyclable, these containers provide seven times the insulation factor of drums for superior protection during extreme heat or cold," Templeman states.

In addition to the IBCs themselves, SpaceKraft also supplies Citadelle with a range of value-added system

accessories tailored for its application, including: a corrugated location cassette containing a high temperature 1,000 liter pillow-style inner bag liner made of three piles of polyethylene (PE); two-inch top-fill fittings and two-inch side-dispensing fittings; corrugated caps; and heavy-duty PE protective outer shrouds.

"Whenever we need to ship a large amount of maple syrup out, we bring out a flat tote on a forklift, build the outer tote, place the tote on a scale, and hand-fill it by weight," explains Lajoie. "We add air to the inner bag liner to help place it correctly in the tote, and then add a filler material to help it support the liquid we add next."

After that, a plant worker fills the inner bag liner with hot (approximately 190°F) maple syrup—much like pumping gas into an automobile—until reaching the desired weight, and affixes the corrugated cap to seal the sterile maple syrup inside. The IBC is then covered with the outer shroud, outfitted with corner-edge protectors and strapping, and moved into the storage area by forklift to await shipment.

"The SpaceKraft tote typically costs less than the equivalent volume of new steel drums, and given the projected increases in steel prices, this gap can be expected to increase," says Lajoie. "One of our best achievements so far has been our partnership with SpaceKraft.

"It has really been a sweet success." □

For more information on:

**SpaceKraft**

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