



Aerosol Whipped Department production supervisor, Jeff Miller says Gay Lea's new heat shrink tunnel (*inset*) manufactured by Associated Packaging Equipment has helped the dairy processor become more efficient.

While majority of Canada's dairy cooperatives have fairly similar product lines, the \$10-million aerosol line at the Delta plant gives Gay Lea a unique competitive edge, according to plant manager Mario Dicunto, "because it is the only one in Canada that produces such a product."

Installed about five years ago, the high-performance, state-of-the-art line—normally running at an average operating speed of just under 200-upm (units per minute)—boasts annual production capacity to produce up to 40 million aerosol cans per year, according to Miller.

"Gay Lea is always looking for new ways to do things—like creating a better package or product, or even finding a more efficient way of operating our packaging line—and this line has helped us do that," exclaims Miller.

Miller explains that maintaining the marketing success of the whipped cream product means using only top-quality packaging components, such as aluminum cans supplied by **Ball Corporation** and **Crown Holdings**; nozzles from **Clayton Corp.**; and full-bodied wraparound decorative labels from **Labelad**.

"We're in the food production business, not the packaging production business," says Miller, "so we rely on our packaging suppliers to send us nothing but the very best packaging they can."

After the plant receives a bulk shipment of aerosol cans, the containers are depalletized, rinsed, sanitized and conveyed to a cleanroom for filling, Miller explains.

"The cans then get a spray nozzle crimped on, the nitrous-oxide (NO₂) gas is added in, and the cans are then weighed and coded," he elaborates. "The aerosol cans are then rinsed again and have a body label applied to each before passing through a heat shrink-tunnel to have them adhere to the surface properly."

Gay Lea utilizes a **Polyclad 200 Series** roll-fed labeler manufactured by **Associated Packaging Corp.** of Markham, Ont. that features a Schneider Electric **Telemecanique Magelis** viewscreen and SICK Stegmann, Inc. motors to apply the labels around the aerosol whip cans. And while the folks at Gay Lea can't speak highly enough of the labeler, Dicunto notes that a second Associated Packaging machine—a custom-designed and built heat shrink tunnel used in the next stage of the production line—has been a key factor in helping Gay Lea become more efficient in the way it runs its business.

The **Polyclad ST-005** heat shrink tunnel from Associated Packaging is used to apply localized heat

WHIPPED INTO SHAPE

Aerosol whipped cream manufacturer uses new technology to beat the heat

BY ANDREW JOSEPH, FEATURES EDITOR
PHOTOS BY COLE GARSIDE

Keeping it real has always come naturally for folks at **Gay Lea Foods Co-operative Limited**, a well-established dairy cooperative founded in 1958 and today owned and operated by about 1,200 Ontario dairy farmers—accounting for about a quarter of all of the province's dairy farm operations.

Headquartered in Mississauga and operating six manufacturing plants across Ontario, the coop enterprise—originally called United Dairy and Poultry Co-operative Limited (UDPC)—has grown over the years to become a prominent staple in the Canadian dairy product markets, with its diverse product portfolio comprising many popular, bestselling brands such as **Lacteeze Lactose-Reduced Milk**, **Gay Lea Sour Cream**, **Nordica Cottage Cheese**, **Nordica Single Serve Cottage Cheese with Fruit**, **Gay Lea Sour Cream Dips**, its award-winning salted and unsalted **Gay Lea Butter**, and the aerosol topping **Gay Lea Real Whipped** and the iconic **Gay Lea Real Whipped** aerosol cream topping.

Today employing over 500 full-time staff at its six production plants—including the country's only aerosol whipped-cream products plant in Guelph, Ont.—the company converted about 374 million liters of milk last year to produce products worth just over \$441 million in the 2010 fiscal year, continuing a long tradition of bottom-line growth fueled by its widely-acknowledged high product quality.

"Our products' success is what drives us," Jeff Miller, production supervisor for the aerosol whipped department at the company's Delta facility, one of two Gay Lea plants operating in Guelph.

Between them, the two Guelph plants last year shipped out 13.6 million kilograms of butter; 22 million kilos of skim milk powder and powder blends, and about 12 million units of aerosol whipped cream products, Miller told **Canadian Packaging** during a recent visit to the 34,000-square-foot main Delta facility, which produces aerosol whipped creams and butter.

Miller relates that since changing its name to Gay Lea (meaning 'happy meadow') to reflect the sale of the cooperative's poultry and egg business, the company's marketplace success has made the Gay Lea brand actually better-known across Canada than the name of its manufacturer, which today also sells its powdered products to several export markets such as Mexico, Malaysia, Philippines, Sudan, Thailand, Tunisia and Belgium, among others.

"We serve the entire Canadian market as a whole for all of our products," states Miller, explaining that the all-important **HACCP (Hazard Analysis and Critical Control Points)** certification of the **Canadian Food Inspection Agency approved (CFIA)** provides Gay Lea with the with formal regulatory approval to supply major food manufacturers and retailers such as **Campbell Company of Canada**, **Kraft Canada**, **Unilever Canada**, **Loblaws**, **Sobeys**, **Chapman's Ice Cream**, **Baskin Robbins**, **Maple Leaf Foods**, **Ferrero Canada** and many others.



After each aerosol can is rinsed, an Admark dryer supplied by RE Morrison blow dries the can to allow a proper label application seal.



Utilizing a Schneider Electric Telemecanique Magelis viewscreen, an Associated Packaging system wraps labels around cans of Gay Lea Real Whipped Cream.



Manufactured by Weber Marking Systems, a labeler applies a pressure-sensitive label to cartons of aerosol whipped products at Gay Lea's main Guelph facility.



A Douglas Machine case packer uses ELAU servo motors to package product into corrugated cartons.

A PCTA2100 automatic pallet wrapper manufactured by Phoenix Inno-tech secures product for transportation.

at the top and the bottom of the aerosol can to slightly shrink the film wrap around the label—by allowing the label to shrink against the can, it gives it a neat and clean finished appearance.

Despite giving Gay Lea exactly what it asked for, initially, the dairy cooperative had concerns.

Martin Malthouse, president of Associated Packaging explains: “Gay Lea came to us noting that because our heat shrink tunnel and labeler both obviously emitted a fair amount of heat in their utilization, and they were concerned that they were losing a large amount of cooling capacity. Basically our machines emitted heat meaning their air-chilled clean room needed to work harder to keep the room at the proper temperature.”

Because the option of using a closed tunnel system to contain the heat was not considered as aerosol cans are subject to explosion if over-heated, Malthouse

notes that while some heat was still going to be emitted by the hot-melt adhesive required for the labeler, it could devise a way to capture the hot air being blown by the open-design heat shrink tunnel and then recycle it.

“While an added cost, it was a no-brainer for Gay Lea when they realized its ROI (return on investment) was only three years,” mentions Malthouse.

So, to lessen the air-conditioning refrigerating load in the plant, Associated Packaging devised a shrink system to work in conjunction with the *Polyclad* labeler. The company developed a return duct and a make-up duct connected to the inlet of a fan within the shrink tunnel. A specially developed butterfly valve used in conjunction with a thermostatic control regulates the temperature of the air supplied to the tunnel by varying the amount of air supplied from the return to the make-up ducts.

“We’re very proud to be the first company in

North America—perhaps the world—to offer a straight-line rotary drive that shrinks the necks of film and also provides an energy-savings aspect to it,” reveals Malthouse.

Installed in February 2008, Gay Lea’s green shrink tunnel immediately began running 24/7 for six months with only minor bugs to iron out—as the financial and environmental savings of five kilowatts per operating hour is worth a lot to the company.

Aside from Associated Packaging’s contributions to the aerosol whipped line, other equipment includes:

- An *XODUS* can depalletizer and a *MarmionoX SRL* 12-head plastic capper from **Priority One**;
- A Priority One conveyor system that uses **SEW-Eurodrive** motors to power it;
- A 20-head *Serac Inc. 720* filler utilizing a Rockwell Automation *Allen-Bradley PanelView 600* touchscreen;
- **Admark** can rinser and *Air Knife* dryer;

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An Allen-Bradley PanelView 600 control panel and SEW-Eurodrive motor help power a cap distribution system on Gay Lea’s aerosol packaging line.



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After the aerosol whipped products are packed, a Nordson ProBlue 10 hot melt applicator applies adhesive to seal the corrugated carton.

- A **Videojet Technologies Inc.** *Excel* inkjet coder to apply lot and coding data.
- A **Douglas Machine Inc.** casepacker featuring a **Siemens Simatic MultiPanel Touch** viewscreen

that packs 12 aerosol cans at a time into a carton using **ELAU** servo motors to push product into cartons;

- a **FANUC Robotics Canada, Inc. M-410iB 160** robotic palletizer;
- corrugated cartons converted by **Norampac Inc.**;
- a **PCTA2100** automatic pallet wrapper from **Phoenix Innotech**.

Another recent addition to the aerosol whip line is an accumulation system built by **Lagrotta Packaging Group Inc.** and installed in June of 2010. Gay Lea required accumulation between the labeler and the capper units.

“We installed the accumulation system in June of 2010 during an eight-hour window so as not to disrupt our production,” explains Miller. “It needed to fit within a 12’ x 4’ footprint, which was accomplished by keeping all of the cans in a single-file and using a tight turn radius to loop back and



Cartons of product are directed toward a FANUC Robotics M-410iB 160 robotic palletizer.


forth within the space provide.”

When Gay Lea first began to produce the whipped cream, it used pre-printed cans, but the convenience of using bright cans with labels manufactured by **Labelad** proved to be a better fit for them.

“Since we’ve begun using Labelad, they have helped improve our lead times while also giving our products a high graphic quality and great inventory management services,” offers Dicunto.

Both Miller and Dicunto agree that thanks to the help of some fine equipment manufacturers and great suppliers, Gay Lea has been a company on the move.

“The quality of our products speaks for itself, as does the fact that we continue to garner new customers,” states Dicunto. “It’s even better that thanks to our new production line, we can better serve our customers while also doing our part to remain a lean company.

“Even though the dark days of the recent recession are now in the past, Gay Lea is always striving its best to keep our costs down—and with ongoing tweaks to our facility and the way we run our production lines, we’re going to continue that trend well into the future.” 

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