

World's Finest Chocolate employees involved in a value stream mapping training session.



Lean manufacturing helped bring World's Finest Chocolate Company's 81,000-sq.-ft., Campbellford, Ont. plant greater efficiency, productivity and waste reduction.



BY KEN MARK

# STAYING LEAN

Canada's food processing industry is just now starting to take baby steps towards adopting leaner manufacturing practices

**W**hen food industry executives discuss getting lean, they're not talking about calories. They're talking about waste reduction and continuous improvement, cornerstones of what has been called the Toyota approach to production. Such discussions on lean manufacturing have spawned a growing number of early-stage trials, but as yet not many major success stories.

“The Canadian food industry finds itself in the same position as the North American auto industry did in the early ’80s when it could not meet the cost and quality advantages of Japanese imports,” says Gary Fread, president and CEO of the Guelph Food Technology Centre in Guelph, Ont. “Today, food processors in the developed world are feeling that competitive pressure from overseas suppliers who already enjoy lower commodity prices and labour costs. On top of that, they are investing heavily in modern technology and new processes. So for Canadian companies the penny has dropped. They now realize they must become more productive to stay competitive, and that lean manufacturing can be part of the solution.”

Still, lean’s penetration remains shallow. And the reasons behind it are complicated. “The further away you get from the automotive industry,” says Chad Metcalfe, president of Orillia, Ont.-based Value Streams Solutions Plus Inc., “the fewer lean initiatives you will see.” Fread supports that view, pointing to the food industry’s greater quality variability in its raw materials and the reality that its production processes are often less visual and predictable than an automotive assembly line.

Bill Neeve, Kitchener, Ont.-based senior manager of Strategy and Operations, Lean Enterprise Group for Deloitte Inc., believes that since many food processors are capital-intensive and highly automated, they assume lean manufacturing wouldn’t apply to them. “They look at it one-dimensionally, as simply

“Many food processors currently have some sort of lean manufacturing projects in their facilities,” says Todd Oliver, Owen Sound, Ont.-based director of Program Delivery for the Excellence in Manufacturing Consortium (EMC). “They just may not call it that. But if the project’s goals include eliminating waste or continuous improvement, it’s lean because they are all central parts of the philosophy.”



a shop-floor process and technology project, overlooking the people and corporate culture side that involve their entire operations,” he says.

But the overall picture isn’t quite as bleak as it appears. “Many food processors currently have some sort of lean manufacturing projects in their facilities,” says Todd Oliver, Owen Sound, Ont.-based director of Program Delivery for the Excellence in Manufacturing Consortium (EMC). “They just may not call it that. But if the project’s goals include eliminating waste or continuous improvement, it’s lean because they are all central parts of the philosophy.”

There have also been positive cases in the Canadian food processing industry that others may be inspired to follow. One notable example is Campbellford, Ont.-based World’s Finest Chocolate (WFC), which saw significant results within four



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years (2000 to 2004) of implementing lean manufacturing. Its 81,000-sq.-ft. plant was able to reduce waste by 23 to 70 per cent on various processes, improve order fulfillment rates to 99.5 per cent consistently, achieve first-time through performance to more than 97 per cent, cut process changeover times by as much as 80 per cent on some processes, and lower “unknown” production waste levels from \$1.1 million to \$67,000.

When Doug Harper first came on board as the WFC plant’s manufacturing director, it was not a happy place. Productivity was low and waste was high. The shop floor was cluttered, production lacked flow, management/employee relations were far from ideal and profits were non-existent. No wonder there were persistent rumours that its Chicago-based parent company would close it down and move all production to its larger U.S. plant. If ever there was a crisis capable of bringing on lean manufacturing, this was it.

Job one for Harper was to develop a new sustainable business model leveraging all aspects of the business and creating a new corporate culture that would embrace change. At first, lean manufacturing was not even on the radar screen. But to achieve his goal, Harper soon realized he needed a disciplined, time-tested approach rather than a series of short-lived, ineffectual management fads. “From my past experience with improvement programs I learned that although they yielded benefits, they also usually had finite life spans,” says Harper. “It was critical to our long-term sustainability for us to adopt an entirely new manufacturing philosophy, one that would not only help us with the initial steps of our journey but that would also be there as we continued to evolve our operations.”

To get employees on board, Harper had to quickly establish trust and credibility. “We had to show them that management cared, that they mattered to us and that together we could make it all work,” he recalls. Once WFC decided to go the lean route, it brought in EMC and its training partner, Value Streams Solutions Plus, to provide instruction and guidance. To set everyone’s mind at ease, Harper announced to all employees that there would be no layoffs resulting from the lean initiatives. He then focused time and resources to get shop floor staff to enthusiastically embrace lean manufacturing principles. That included breaking down the “we/they” gulf between management and workers, promoting shared responsibility and teamwork, and providing coaching and mentoring to improve skills. In that way, Harper hoped to tap into employees’ discretionary effort. His sincere care and attention paid off. “Some of our best leaders were employees who had gained the reputation of being ‘difficult to manage,’” he says.

With the help of consultants, one of the first lean steps forward was to have employees begin collecting and processing performance data to set initial benchmarks. Next came “kaizen,” or continuous improvement events, another basic lean manufacturing building block. Not only were these events instructive, they also helped pay some of the bills. The results of the first event, which reduced changeover time on a moulding line by 75 per cent to 30 minutes, paid for all seven kaizen held.

Further success resulted from the team adopting a “NASCAR pit-crew mentality.” Members began developing a

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greater sense of working together that eliminated jobs done in isolation while increasing those done in parallel. Besides improving productivity, the new techniques boosted flexibility by enabling the plant to switch over faster and more easily to produce different-size bars on the same production line during a single shift.

The lean implementation, like many of the pioneering successes at Toyota, was relatively technology-free. A firm

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believer in the concept of “creativity before capital,” Harper says, “We invested almost nothing in technology.” Compared to other productivity improvement systems, lean instead involves harnessing the knowledge and experience of everyday production workers. “Since other solutions such as Six Sigma work better in data-rich manufacturing plants, they are more expert-driven,” says Metcalfe. “Lean is based more on collective common sense. Technology investments become important after lean has done its job so the plant can move up to the next level. But that never happened at WFC.” Explains Harper: “In the past the plant had adopted a mass-production approach. We would make 1,000 units and ship say 700 to a customer while storing the rest. Besides taking up floor space, the excess inventory also increased risks caused by spoilage and obsolescence.”

To change all that, Harper and the employees looked for ways to balance line speed so it would more closely match actual customer order patterns. The team made conscious decisions to run at faster speeds to build either “smart inventory” or to make time during the week to focus on *kaizen* activities aimed at creating greater added value for customers and ultimately for all WFC stakeholders. “When you are producing flat out, you don’t have time to think about anything else,” says Harper. Breakthroughs such as this enabled the plant to align production rates more closely with true customer demand. In other words, it converted a push production system into a pull system. As a result, the Campbellford facility gained the reputation for handling short-run and specialty products faster and more nimbly than the larger, mass-production Chicago plant.

In 2004, thanks to that accomplishment, the Campbellford facility achieved its finest hour. To fill a special order, head office asked Harper to produce eight million caramel bars in the final seven weeks of the year. The plant had already done that in the past – but it had taken 45 weeks. To make the announcement, Harper gathered all the employees into the company cafeteria and told them they would have to increase line speed and do more overtime. But the rest



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would come from employees working smarter and putting into practice all the lean manufacturing “mojo” they had learned.

“We set up a flip chart in the cafeteria with the total number of bars still to be made to keep everyone up to date on our progress,” says Harper. Every day it showed the new total figure reduced by the previous day’s production. At first, not many employees paid it much attention, but as the number got smaller and smaller, more of them began stopping by to look. After a while, they began lining up in the morning to see the numbers. “We produced the eight millionth bar on Dec. 23, in 6.5 weeks, so all employees could spend the holidays at home with their families,” recalls Harper. “It was quite a remarkable accomplishment by an amazing group of people.”

Ultimately even the runaway success of lean manufacturing could not resolve WFC’s corporate overcapacity problem. In early 2006, WFC put the plant up for sale. By May the Chicago, Ill.-based Blommer Chocolate Company had bought it and renamed it Blommer Chocolate Company of Canada Inc. As a result, the Campbellford facility now plays in a different sector of the chocolate business. Blommer is North America’s largest producer of industrial chocolates and coatings, with the Ontario plant supplementing U.S. production. The good news is that within the next 18 to 24 months, Harper expects production to reach 15 million to 20 million pounds per year. That compares to just five to six million pounds annually at its peak under WFC.

However, the not-so-good news is that the plant currently



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has only 36 employees, compared to an average of 125 (up to 200 during peak season) under WFC. “We will add jobs as production increases,” says Harper, whose new title is general manager. “But it will never reach the old numbers. The business we are in now is very different and doesn’t require the same head-count levels. Anecdotally, I hear that some of our former employees are using their lean training at other nearby facilities.”

So who knows, one day those baby steps into lean manufacturing could turn into a great leap. [FC](#)



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