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Instant is the latest scoop in ice cream Taunton's MooBella set to roll out machines that make it fresh

By Ted Nesi

Most news stories about ice cream start with a pun on the word "scoop" – yet they rarely contain much in terms of revelations. This fall, though, a Taunton company is bringing to market a product it hopes will revolutionize the industry.

The company is MooBella Inc., and the product is the MooBella Ice Creamery, a machine roughly the size of a refrigerator that makes a scoop of instant ice cream – not soft-serve, but traditional hard ice cream – in just 40 seconds.

Customers type their orders on an LCD touch-screen computer monitor in the front of the machine. They first choose whether they want regular or low-fat ice cream. Then they pick one of 12 flavors – say, coffee – and finally, they can add one of three mix-ins, like chocolate chips. Then they open a small door in the machine and stick in an empty cup.

The Ice Creamery takes over from there. A robotic arm lifts the cup into the machine. Inside, an aseptic bag of room temperature milk is punctured and the contents are mixed with the designated flavor. The liquid mixture is then blasted with air and flash-frozen – and within 40 seconds, the robotic arm lowers a 4.5-ounce cup of fresh ice cream.

The verdict in early testing has been an enthusiastic thumbs up. At the Worcester Polytechnic Institute, where the machine was installed for five weeks last spring, MooBella sold an average of 80 scoops a day for \$2.85 each, becoming the school café's top-selling snack brand. A second test started last month at Northeastern University in Boston has had similar results.

Soon many more people will get the chance to try MooBella's concoctions. The company is scheduled to receive the first shipment in its initial order of 100 machines by the end of November, and is in talks to install them at universities, hospitals and other food-service locations across southern New England, including in Rhode Island.

Erich Sieber, a member of MooBella's board and a partner at Inventages Venture Capital, which is backing the company, says MooBella will cause "a paradigm shift in the ice cream industry," which is valued at \$60 billion a year worldwide.

This fall's commercial rollout of MooBella has been more than a decade in the making. Paul Kateman, a Boston entrepreneur, founded the company back in 1992 as Turbo Dynamix after noting the success of TCBY and other frozen yogurt and soft-serve ice cream retailers. He believed there was money to be made by letting people combine flavors and mix-ins to create their own ice cream.

Kateman began working with Project Genesis, a Cambridge research and development firm, on the mechanics of instant ice cream. (MooBella now holds 18 patents here and abroad.) Although a deal with food giant General Mills failed to pan out, in 2000 he brought on board Bruce Ginsberg, an industry veteran who also owns distributor New England Ice Cream Corp., and the company moved into product development.

MooBella – named for a cow's sound and Ginsberg's Aunt Bella – spent the next five years working with Worcester-based DCI Engineering on building and testing a prototype Ice Creamery. In 2006 the company formally introduced the machine at publisher IDG's annual Demo technology show.

Unsurprisingly, instant ice cream stole the show. MooBella won an award at Demo and earned glowing write-ups in Time, USA Today, The Wall Street Journal and Fortune. Rachel Ray and "Good Morning America" picked up the story, and the company announced that its first commercial machines would roll off the assembly line by late 2006.

But they didn't. The 2006 Ice Creamery prototype was so intricate and had so many parts that there was no cost-effective way to build them. "It was not really designed for manufacturing scale," said Ginsberg, MooBella president and CEO.

The management team decided they had to all but start from scratch, re-engineering the machine from top to bottom. "It wasn't easy. But it was the right decision," Ginsberg said. "We were not ready."

The breakthrough came when MooBella signed a development agreement with IDEX Corp., the Northbrook, Ill.-based specialty manufacturer best-known for its Jaws of Life brand of rescue equipment. What MooBella sought in IDEX was its expertise in liquid management, honed making the machines that create paint mixes to order in Home Depot and other stores.

IDEX and MooBella's chief technology officer, Steven Moysey, spent two years overhauling the Ice Creamery to make it "more reliable and robust, and much less expensive," Ginsberg said. For example, they reduced from 47 to nine the number of parts that need to be cleaned nightly.

MooBella also secured new funding from W. Health L.P., a Geneva-based venture capital fund managed by Inventages. The firm gave MooBella a \$25 million infusion in 2007 – its fourth funding round in 15 years – and provided another \$15 million in September to pay for the first 100 commercial machines, which IDEX will manufacture and maintain.

The advantages of the Ice Creamery machine extend beyond its speed and novelty. It uses milk from a dairy farm in upstate New York that before being packaged is heated to 280 degrees, which kills bacteria but causes no physical change in the milk. (The same method is used to make coffee creamers.) That means the milk can

be stored at room temperature, eliminating the need for a supply chain of trucks and freezers kept at 20 degrees below zero – and cutting out a huge part of the cost associated with standard ice cream.

MooBella also uses less butter fat in its product because it does not need to mask the ice crystals that build up in ice cream over time when it gets stored for months. A 4.5-ounce, regular (non-low fat) scoop from MooBella contains 230 calories, about one-third fewer than Haagen-Dazs' regular ice cream, and 40 percent less fat.

"The story is almost too good to be true," said David Peters, MooBella's vice president of sales and marketing.

Some hurdles remain – most notably, the absence of chocolate from the flavor lineup. Initial chocolate mixes proved too thick for the Ice Creamery to handle. Ginsberg said MooBella is working with confectionaries to make chocolate work, and vows that the finished product will "knock people's socks off."

MooBella's machines may look like vending machines, but they are more like salad bars. They do not accept cash and credit cards (although Ginsberg says technologically they could). Instead, they will be installed in food-service locations that have cashiers to take payment and attendants to clean the machine each night – from hospitals and schools to stadiums and airports.

The Ice Creamery machines will be owned by MooBella and leased to cafeterias for \$400 a month, plus the cost of ingredients. At \$2.89, the company estimates food providers can make a profit of 60 percent per scoop.

MooBella's vision stretches far beyond Providence and Boston. The company and its investors see a lucrative opportunity in foreign markets, many of which have never had the infrastructure in place to distribute, store and sell frozen desserts. Ginsberg pointed to China and India as examples of places where MooBella's technology might find customers.

"One-third of the places we're looking at have no ice cream at all," he said. "We can bring ice cream where it has never gone – ever!"