

Green Mountain keeps PRODUCTION ahead of growth

Grounded in Vermont, Green Mountain Coffee expands westward

GREEN MOUNTAIN COFFEE ROASTERS, WATERBURY, VT., THROUGH ITS GREEN Mountain Coffee division, plans to sell about 38 million pounds of coffee in the 2009. In a typical day, Green Mountain Coffee will fill 5,000 orders, and is prepared to handle large orders from restaurant chains, mass merchandisers and club stores as well as single bag orders from direct-mail customers.

"I have been with a few large companies before, but I haven't been a part of any company growing this fast," says Scott McCreary, Green Mountain Coffee's chief operating officer. "Just the sheer magnitude of our growth, on the order of 20 percent a year, meant a lot of thinking about what it is we need to do to support this growth — what is it we need to do to prepare ahead of time. We needed to start thinking a few years vs. just a year at a time because there was no way to keep up with the growth."

Green Mountain Coffee operates 22 packaging lines in three production and distribution facilities located in Waterbury and Essex, Vt., and starting in 2008, Knoxville, Tenn. In Waterbury, on a campus with its headquarters, the company operates a 100,000-square-foot production facility and 90,000-square-foot distribution center. Green Mountain Coffee's flagship production facility is set up to store and process organic and conventional coffee for roasting, processing and packaging.

The coffees, which Green Mountain Coffee buys from approximately 17 countries, arrive in New York, and are stored there until they are needed for production. The coffees arrive in burlap bags, and each country has its own identification markings so the company knows where the coffees came from. Green Mountain Coffee avoids cross-contamination of coffees by organizing its coffees by country and by type because regional coffees have specific characteristics.

Waterbury receives four or five truckloads of coffee a day, and only carries about a week and a half's worth of supply. To prepare for roasting, Green Mountain Coffee cleans the coffee beans through screens and

magnets to remove twigs or other foreign objects and then through another screening system that uses air

filtration. Coffee is then transported to the roasting area. Green Mountain Coffee owns four roasters: two 200-pound drum roasters and two 880-pound bowl roasters. The company uses the big roasters for larger volume products and the smaller roasters for smaller volume orders and blends.

Green Mountain Coffee roasts each coffee to its recipe and a targeted Agtron score, a standard measurement in the coffee industry of roast development using a near-infrared spectrophotometer. The roast recipes and processes are determined and managed by roasters and cuppers, using a computerized software system to maintain the consistency of the roasting batches.

"Quite frankly this is where we are adding our most value," says Joe Anderson, a quality assurance technician at Green Mountain Coffee. "This is what people are paying for is the roasting part of what we do, so that our Nantucket Blend coffee tastes the same all the time ... There is an art and science to roasting. They say it takes three years for a roaster to get to the point where he or she knows what they are doing."

After the coffee is roasted, it must be cooled immediately to stop the cooking. The coffee cools for up to four minutes, and then is placed in bags and conveyed in buckets to packaging. The bags of coffee are labeled with the coffee's processing instructions, such as whether it is whole bean, ground, flavored or blended, along with organic or Fair Trade certification, where the product is going and how it will be packaged. All organic coffee bags are labeled in blue for further distinction. The coffee is staged for packaging, but given time to rest to allow CO₂ gas to escape from the coffee beans. Coffee that is packaged in Green Mountain Coffee's valve bags are processed and packaged immediately.

After the coffee rests, grinding, flavoring and blending occur based on the order. Green Mountain Coffee operates four grinders. All blending is accomplished by computerization. Liquid flavoring, which is one of Green Mountain Coffee's most expensive raw materials, is used to create the flavored coffees. The liquid flavoring is measured by the recipe percentage of the amount of coffee being used. The flavoring is then poured over the coffee, and the coffee spins in a mixer.



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Green Mountain Coffee does not segregate any machine for organic coffees, but when it does one of its several changeovers between organics, flavors and blends, the company conducts thorough cleaning, Anderson says. An organic clean requires a much longer, documented cleaning than switching between flavors and blends.

With Green Mountain Coffee's multichannel distribution strategy, the Waterbury facility handles numerous types of packaging for more than 320 SKUs. The facility has a dedicated area for fractional packaging, which typically is smaller than a 12-ounce bag. The area mainly packages 2.2-ounce bags for 10-cup pots of coffee for restaurants, hotels and foodservice. The Waterbury facility also houses packaging equipment for 10-ounce and 12-ounce bags and K-Cup portion packs for Keuring Single-Cup Brewing Systems. The company operates five automated, high-speed K-Cup packaging lines producing around 280 to 320 cups a minute. The K-Cups are then boxed in 12-, 18-, 24- and 80-count boxes, depending on the channel to which they are being sent.

To manage numerous packaging types and multichannel distribution, Green Mountain Coffee added a new distribution center to its production facility about five years ago to handle large and small orders. The center holds 4,500 pallet locations and about two weeks of coffee inventory. The facility also houses other items, such as mugs, candies and jams that consumers might order from Green Mountain Coffee's Web site or catalog.

Distribution is computerized, so when an employee puts a pallet away and scans it into the system, the system knows how to organize it on a first in/first out basis. The warehouse operates around the clock with employees at night staging coffee for deliveries the next day. The warehouse features pick tunnels that have lights that flash when a product needs to be picked. Distribution employees walk around and look for the flashing lights. For example, if the pick

light flashes "5," an employee would pick five cases out of the bin and put them on a conveyor belt to the packing stations.

ESCALATING CAPABILITIES

With its rapid sales growth, Green Mountain Coffee realized that it couldn't handle all the company's

production demands from Waterbury. In its first expansion move in July 2007, Green Mountain **continued on page 38**

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Coffee leased a facility in Essex, about 30 miles away from Waterbury. By September of that year, the company was producing K-Cup portion packs in Essex.

"It was a really fast turnaround, but what it taught us was that we could take a basically empty 90,000-square-foot building and put an infrastructure in place and get lines installed and move on it quickly," McCreary says.

The company employs 149 people in Essex who operate 11 K-Cup packaging lines. This year, the Essex plant will produce around 450 million K-Cups, which are predominately coffee, but also tea and hot cocoa products. Since the coffee is roasted in Waterbury, it makes sense for the company to package as much coffee as it can there. The company does run multiple daily shuttles to ship roasted coffee to Essex to be packaged and to bring finished product to Waterbury to be stocked.

Green Mountain Coffee offers approximately 50 SKUs of K-Cups. Each K-Cup is an airtight, mini-brewer that locks out oxygen, light and moisture, and is measured to the exact specifications of each variety. Different roasts of coffee, say a dark to a light roast, can vary in density. Therefore if one tries to put the same amount of a dark roast coffee as a light roast coffee in a K-Cup portion pack, it might not fit and could risk getting coffee on the rim, causing the lid to not seal properly. To solve this problem, Green Mountain Coffee allocates certain products to be made on specific

packaging lines, McCreary says.

"There are amazing differences in the coffee depending on what their origin is and what the roast profile is for that product," he adds.

LONG-RANGE PRODUCTION GOALS

The Essex facility proved to be a short-term fix for handling the company's growing production demands and national expansion plans.

"As we look across the country, we're kind of tucked up here in this corner of the Northeast, and to ship coffee from here to all around the country is costly," McCreary says. "It really highlighted to us that as we expand, we need to add capacity outside of Vermont, and that's what led us to Knoxville, Tenn."

Green Mountain Coffee conducted a logistics study to understand where its customer base is today and how it sees its base growing in the next five years. The study took the company to Knoxville. "From that location, we can get to 70 percent of the U.S. population within one day's travel," McCreary says. "It was a huge logistics opportunity for us."

Using what Green Mountain Coffee learned in Essex, the company purchased an existing 330,000-square-foot building and so far has trained around 20 employees to operate lines to package K-Cup portion packs. Green Mountain Coffee originally was working with a partner to roast coffee to feed into the Knoxville plant, but this summer it will install coffee processing equipment that includes cleaning, storing, roasting, blending and grinding machinery. GMCR will be investing approximately \$8 million for this project. Production also will increase in Knoxville to 20-hour days, seven days a week.

Waterbury still will be able to support Green Mountain Coffee's volume in the Northeast, including its projected growth, by increasing efficiencies. The company plans for Knoxville to support growth in the Southeast, Mid-Atlantic, Midwest and Texas. In its master plan, Green Mountain Coffee did eventually see itself adding a West Coast facility, McCreary says. That plan went into high speed when Green Mountain decided to acquire the Tully's coffee brand and wholesale business from Tully's Coffee Corp., Seattle. After the acquisition is complete this spring, Green Mountain will sublease from Tully's



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the portion of the manufacturing and distribution center in Seattle that is devoted to the wholesale business.

"Tully's fits into this whole logistics picture now," McCreary says. "It gives us a brand in the West and manufacturing and distribution facilities, but also a base of employees to immediately pull into the team. It will save us again a lot of money, but also provide us with a foundation business to expand effectively [on the West Coast]."

Green Mountain Coffee continues to make equipment improvements to further increase its quality and production needs. This fiscal year, the company estimates that 1.5 to 1.6 billion K-Cups are going to be sold, and that it will produce about 55 to 58 percent of those. While some of Green Mountain Coffee's older lines can package 140 K-Cups a minute, new lines going into the Knoxville plant package 400 K-Cups per minute. In addition, the Waterbury and Essex production facilities added machines capable of producing a 12-count K-Cup box. These packaging lines flip every other K-Cup to allow the company to put 12 K-Cups in the smallest box it can, which works well for the shelves in the grocery channel, McCreary says.

Bucking recessionary trends, GMCR announced to

investors in January that it was raising its growth estimates for the 2009 fiscal year. The company expects its net sales to grow 43 to 48 percent, up from its earlier projection of 40 to 45 percent, it says. Green Mountain Coffee's new equipment additions and expansions leave the company positioned for growth, but its basic foundation also is helping it flourish.

"Over the years, Green Mountain Coffee's multichannel distribution model has been invaluable in buffering the ups and downs of the economic cycles," McCreary said in an investor call in January. "This benefit has never been more evident than it is today. Indeed our multichannel growth strategy, combined with our excellent coffee quality, superior customer service and our commitment to corporate social responsibility give GMCR a distinct advantage that is delivering to both coffee lovers and stockholders in the marketplace." **BI**



▲ Green Mountain Coffee's warehouse features pick tunnels that have lights that flash when a product needs to be picked.

CUPPERS: THE FIRST LINE OF DEFENSE

For more than 20 years, Green Mountain Coffee has approved coffee samples by conducting daily cupping sessions to ensure the coffee they purchase meets their quality standards. Green Mountain Coffee's customized Specialty Coffee Association of America cupping form evaluates five primary attributes that contribute to coffee flavor: fragrance, aroma, body, mouthfeel and finish.

Based on a 100-point scale, each of Green Mountain's coffees is assigned a sensory target ranging from 80 to 88, depending on the desired characteristics of the coffee and whether it is being used as a single-origin coffee or in a blend. At least three cuppers — Green Mountain Coffee employs six trained cuppers — set up 10 cups of each sample of coffee, with each sample representing a shipment of 250 150-pound bags of coffee. On average, the company tests 12 samples a day.

Cuppers taste each coffee "blind," with only the coffee's country of origin identified. "We try to be as objective as we possibly can, and try to keep any information that might sway our judgment

off the table until after we've done our evaluation," says Lindsey Bolger, Green Mountain Coffee's director of coffee sourcing and relationships.

Cuppers will total the score of each attribute and then add 50 points to convert to a 100 point scale. Samples that total below their target score are rejected. The cuppers' results are entered into a database to track the performance of each origin, supplier and cupper.

After cuppers finish their evaluations, the results are sent to the supplier, but not with just a pass/fail qualification. If the coffee meets Green Mountain Coffee's quality expectations, the company provides the supplier with Green Mountain Coffee's score and any special attributes the cuppers detected. If, for some reason, the coffee didn't meet the cuppers' sensory standards, the company explains why and provides suppliers with ideas to correct the problem. Green Mountain Coffee also trains its suppliers in the countries where its coffees originate on how it cups its coffees and also how it roasts, grinds and blends them. And whenever possible, the company tries to have suppliers visit the coffee



lab and facilities in Vermont so they can see firsthand.

"Regardless of where they are, if it's a coffee that they have prepared for Green Mountain Coffee, they know what our expectations are, and they know what our standards are," Bolger says.

While cupping is Green Mountain Coffee's first line of defense, the coffee lab also tastes finished goods that are pulled off the line and prepared as a consumer would.

"This team is not only responsible for the vetting of raw materials, but also ensuring that our finished goods are performing to the standards that we've identified," Bolger says. "We're also doing a lot of competitor testing, and we're also charged with sensory development for new products — so we give the sensory seal of approval for any new products that are coffee or beverage related produced under the Green Mountain Coffee brand."