

'It was a job with prestige. For many, it still is.'

Paper mills

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"We are one of the most efficient inside IP," said Luiz Carlos Rehder, mill manager. "We are profitable because of the engagement of our employees."

The mill is already a star. It earns a 94 percent efficiency rating within IP's corporate kingdom of 116 mills; the average is in the high 80s. It also hasn't had a lost-time incident in its manufacturing plant in 689 days and counting.

The average overall incident rate for IP is 1.2. At Mogi Guaçu, it's 0.13 and at Arapoti, 0. In Jay, the average was 2.5 last spring, but the rating dropped to 1.6 in August.

The new owners of the Jay mill, Verso, declined to release its efficiency rating, but tipped their caps to their Brazilian cousins.

"Verso has a plan and is working hard to get to the level that the Brazilian mills achieve," said William Cohen, spokesman for Verso.

The business of doing business

There are, of course, challenges to Brazil's pulp and paper industry. Like Maine, it has a tough regulatory climate.

There are no government subsidies, yet 35 percent of operating costs go toward taxes. A cumbersome government with suffocating layers of bureaucracy makes doing business in Brazil difficult — so much so that it is considered the least business-friendly country in South America, according to the World Bank.

The focus of intense global criticism for its lack of protection of the Amazon rain forest, Brazil now has stringent environmental regulations. The pulp and paper industry is required by law to protect native species of trees already on its land; it can only grow plantation species where native species are not growing and can only harvest plantation species for its mills.

The upshot: The industry manages 4.2 million acres of plantation forests, and preserves another 6.4 million acres of natural forests.

"Between 25 and 30 percent of our land is in native species," said Luis Fernando Silva, nursery manager at the Mogi Guaçu mill, speaking about his company's holdings. "It is a legal requirement we take very seriously."



"Our people work as if they are the owners of the company."

**Luiz Carlos Rehder,
Mogi Guaçu mill manager**

Brazil's government flexes its muscle in other ways as well. The law requires that workers receive vacation (four weeks minimum); long-term disability; Social Security payments; maternity leave; minimum wage (\$350 reals per month — about \$167 U.S., considered a livable wage); notice of layoffs; and FTGS (a form of severance pay).

It also mandates a bonus of one month's pay per year, called simply the "13th." The extra payment is usually made in two installments, one in November and another in December, for the holidays.

Beyond that, mill management also offers employees health insurance, profit sharing, assistance with car and homeowners insurance, free transportation to and from work, an allowance for families with disabled children, child care allowance, Christmas baskets and gifts, life insurance, meal subsidies and a pension plan.

Brazil's papermakers make about \$8,000 U.S. a year; in Maine the average is \$58,000.

"They are considered good jobs," said Marcos Gardinali, whose father, Luiz, spent 13 years working at the mill in the safety and security division. A shopkeeper in Mogi Guaçu's central plaza, Gardinali remembers his mother washing his dad's uniform two or three times to remove the paper mill smell, and — more warmly — the terrific holiday parties the mill would throw for its workers.

"Ten years ago, it would be the dream of everyone to work inside there," he said. "We didn't have many



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A slasher operator works into the evening at a cut site for the Mogi Guaçu mill. Harvesters work around the clock and maintain a repair shop in the field in case equipment breaks down. On a normal day, they will clear 17 acres of forest.

options. Nowadays, it's different."

German auto parts maker Mahle opened a factory here a few years ago, giving IP a run for the money attracting workers. And two internationally renowned ceramic factories still operate in Mogi Guaçu, producing tiles and other ceramics for high-end designers that carry the Italian names of the founding families who started the factories 50 years ago.

New industries, commercial farming and other businesses are springing up in this community of 100,000. A growing infrastructure supports them, from financial services to restaurants to car washes.

Yet the underpinnings of its prosper-

ity are obvious just outside of town. Eucalyptus plantations are everywhere.

Tree makers

Snip. Snip. Snip.

The fierce concentration on Maria de Fátima da Costa's face contrasts with the gentle flutter of her scissors and the dappled sunlight that plays off her hands as she strips most of the leaves from a small green sprig.

Costa repeats that motion 5,000 times a day preparing the next generation of genetically enhanced eucalyptus trees for planting.

Methodically she moves along the long rows of sprig trays, one of a team of nursery workers who will send 11 mil-

lion new sprouts annually into the fields, ensuring the mill a constant supply of superior fiber.

Eucalyptus, a tree indigenous to Australia, has found a home here in southeast Brazil. And it has made millions for the papermakers who use it.

"This is where it all begins," said Silva as he sweeps his hand across the nursery.

At Mogi Guaçu, scientists have spent the past 20 years refining eucalyptus for pulp. By fusing the best attributes of two species of eucalyptus, they have produced a new species that is resistant to disease, pests and drought. Fast-growing, it produces high-quality fiber for paper making.

The result? Urograndis, and her millions of clones.

Growing at almost 2 centimeters per day (about four-fifths of an inch), urograndis allowed Brazil to export \$2.9 billion in market pulp in 2005; this year, exports are expected to cap \$3.5 billion, making it the largest exporter of bleached hardwood pulp in the world.



"... we invested a lot in eucalyptus to improve its wood quality. That's our great secret."

Ludwig Moldan, Bracelpa executive

A urograndis tree reaches harvest age at six years, eight months versus the 35 to 40 years for a spruce or fir tree in Maine. The abundance of eucalyptus — IP has 6 million acres in plantations — is the reason Brazil can make market pulp at \$250 per ton while U.S. manufacturers come in at \$400 per ton.

"I think in paper we might not be so competitive. But in pulp, we are very, very competitive," said Bracelpa's Moldan.

To market, to market

A setting sun casts long shadows over a stand of eucalyptus where harvesters have been working all day. In their wake, stumps and shreds of trees litter the ground, which will get 45 days of rest before the next crop is planted.

Genetically identical, the trees are uniform in width and height, making it easy for the feller buncher to do its work. First, it gathers the slim trunks together — as if it were hugging a bundle of asparagus — then slices the trees at ground level. A skidder hauls the tree lengths; a slasher strips them of their slender branches and tops.

Nothing goes to waste.

"About 92 percent of the tree becomes pulp while the other 8 percent becomes energy wood," said Possamai.

Like most Brazil mills, Mogi Guaçu is more than 60 percent energy self-sufficient, using waste wood and chips to fuel its boilers.

More than 90 percent of its fiber comes from within a 56-mile band around the mill.

"I think we have the lowest delivered hardwood cost in the world," said Possamai. "Because of the proximity to the mill, the growing time and our efficient harvest."

That, in turn, allows Mogi Guaçu to make a very competitive grade of copy paper on its four machines. It turns out a ton of uncoated free sheet paper for \$533, versus its U.S. brethren's \$682.

Last year, its return on investment was 20.7 percent with profits in the \$15 million to \$20 million range, impressive enough to green-light the two upgrades.

"Our people work as if they are the owners of the company," said Rehder.

Shopkeeper Gardinali doesn't doubt it. He remembers the despair on his mother's face when his father lost his job at the mill, a scapegoat in a turf battle between new bosses.

A proud man who liked his job very much, Luiz mourned the loss of his mill job even as he turned his attention toward opening the Biju, the shop his son now owns.

In Brazil, 110,000 people earn their livings through mills; in Maine it's now less than 9,000.

"It was a job with prestige," said Gardinali.

"For many, it still is."