

INDUSTRY NEWS

LATIN AMERICA

MILLS AND CONVERTERS

BRAZIL

Cenibra, Celulose Nipo-Brasileira SA awarded Kvaerner Pulping a contract to optimize its Belo Oriente, MG, chemical pulp mill. The order is for an EPC delivery of a new two-stage MCO₂ delignification plant followed by a pressure diffuser.

BRAZIL, CHILE

NEWS FROM CELSO FOELKEL TECHNOLOGICAL TRENDS: LATIN AMERICAN MANUFACTURERS KEEP FOCUS ON TREE BREEDING

The worldwide trend in the pulp and paper industry has been toward a dramatic reduction in technological R&D expenditures. Many technical centers have been discontinued, and many others feature a common management disease called "downsizing." This is a typical trend in mature industries, where profit margins disappear or become slim. Because of this, production costs must be sharply reduced. This is a consequence of depressed markets and low pulp and paper prices. What is the best way to obtain the technological improvements for building the future?

In the Southern Hemisphere, the most important competitive advantage to the pulp and paper manufacturers comes from photosynthesis. The amazing rate of dry-matter production by trees is due to very favorable weather conditions, but this is not the only reason. Since the early 1970s, the scientific and technical Latin American wood-based industry has concentrated its efforts on finding the right combination of natural conditions, natural resources, and technological development. The young pulp and paper industry could benefit from this approach.

Plantations of engineered trees have become the dominant trend. Low wood costs and upgraded wood quality brought the required key factors for the growth of an impressive wood-based industry in Chile and Brazil.

In this scenario of competitive positions, several companies attempted to get the most from enhanced fibers. At the same time, good forestry practices are being developed to minimize the environmental impacts of the planted forests. The better understanding of the forests' interrelationships is leading to what the foresters are calling *forestry sustainability*.

Riocell and Aracruz, in Brazil, and Arauco, in Chile, are good examples of the orientation toward tree breeding as a source of competitiveness. Aracruz became known worldwide for developing cloning techniques, mainly due to its search for eucalyptus genomes that could be more appropriate to growth in the Brazilian tropical areas. Riocell, in the southern part of Brazil, has one of the most favorable weather conditions for growing eucalyptus forests. The well-spread rainfall throughout the year, as well

as the consistent sunshine, enables the company to find the required fiber supply in several eucalyptus species.

It is important to note that Riocell is a pioneer in planting *E. globulus* in Brazil, with over 1000 hectares (ha) of forests with this species. Since the early 1980s, Riocell maintained a policy to enlarge its bank of eucalyptus genes, importing good-quality seeds and very productive clones from several regions, both from Brazil and overseas. As a consequence, Riocell today owns one of the richest banks of commercial eucalyptus genetic material. This policy was a success, giving Riocell the opportunity to tailor-make the wood according to its own process and to the market requirements.

A combination of different eucalyptus species, selected hybrids produced according to good science, and many evaluated clones oriented to specific end products and sites are sources of wood for the company. Teotonio de Assis, the forester responsible for running this program, proudly states that the company has a golden chest that has accumulated over the years. He was personally involved in collecting and selecting these genomes for commercial applications.

On the other hand, Aracruz is second to none in cloning techniques for commercial use in forestry. Its *E. urograndis* hybrids are well known throughout the world. The company has developed clones that are specific to different forest sites and different phytosanitary conditions and are specifically designed for its pulp mill. Today, Aracruz is going further, investing in the use of biotechnology and genetic engineering to reduce the lignin content in the wood. This favors pulping and bleaching. However, Aracruz is going further, concentrating studies not only on the quantities of lignin but also on the type of molecules. Dr. Ergilio Claudio-da-Silva Jr., Aracruz R&D manager, shows much enthusiasm when he talks about the lignin chemistry and topochemistry advances that the company is achieving. The better understanding of lignin may lead to better wood delignification and improved utilization of lignin by-products.

In Chile, Celulosa Arauco created Bioforest, a research company oriented to developing forestry technologies for Arauco's companies. Bioforest is active in several fields; genetics is perhaps the most attractive. Through genetics, Bioforest aims to increase the yield of the forest plantations of radiata pine and eucalyptus. This will provide plantations with better yields, growth, and form; with less impact on the environment; and with good and homogeneous wood properties to fulfill Arauco's product goals. The search for knowledge targets forest productivity, forest phytosanitary protection, and wood quality. Eduardo Rodriguez, Bioforest manager, indicated that thanks to this impressive R&D program, Arauco is in a never-ending process of tree and wood quality improvements to guarantee the future of its business.

INDUSTRY NEWS

LATIN AMERICA CONTINUED

Riocell, Aracruz, and Arauco. These are different companies, with different management, but with a common goal: to improve competitiveness by producing better trees to reduce costs, to improve pulping processes, and

to provide the end products that the customer demands.

—Foelkel is a consultant at Celsius Degree, Porto Alegre, Brazil.

ASIA PACIFIC

MILLS AND CONVERTERS

KOREA

Dong Il Paper Mfg. Co. started up a Valmet Condebelt® drying process at its Ansan mill in South Korea.

MALAYSIA

Golden Hope Fibreboard installed a Sunds Defibrator EasyTyre™ barking drum as part of the woodroom modernization project its Nilai MDF mill.

PEOPLE'S REPUBLIC OF CHINA

Shanghai Xing Huo Pulp & Paper installed a Gardner Systems Blow-Thru steam control system on the Tampella multi-ply boxboard machine at its Shanghai facility. The dryer portion includes the main dryer section, a Yankee dryer with after-dryers, an inclined size press with after-dryers, and two coaters with individual dryers.

TAIWAN

Chung Hwa Pulp Corp. ordered a Sunds Defibrator filter-based bleach plant for one of the lines at its Hualien mill. The mill is in the process of converting to ECF pulp production.

AUSTRALIA

NEWS FROM HUNTLY G. HIGGINS VISY BOARD EXPANDS

Stone Container Australia, a subsidiary of the Chicago-based Smurfit-Stone Container Corp., is to be sold to Visy Board, subject to approval from the Australian Competition and Consumer Commission. Stone has two corrugating plants, one each in Sydney and Melbourne, and imports most of its linerboard. With both Visy and Amcor currently controlling 45% of the local cardboard box market, the acquisition would appear to put Visy ahead.

AMCOR TRIMS ITS SAILS

Amcor has ended its excursion into the European corrugated box market by selling its fiber packaging operations in Britain and France to Anglo American Corp. for A\$ 380 (US\$ 241) million. Amcor Fibre Packaging (Europe) comprises two boxmaking plants in Britain and one in France, as well as 18 other processing plants, and has marketing agreements with producers in Italy, Spain, France, and Portugal. The Amcor group retains two other packaging

businesses in Europe—Amcor Flexibles Europe, which has eight plants in four countries, and Amcor Rentech, which has six plants in six countries. The sale of AFP (Europe) will be positive for earnings per share as the proceeds are to be used to reduce debt.

CARTER HOLT HARVEY LOOKS WESTWARD AGAIN

It is reported that New Zealand-based Carter Holt Harvey, in which International Paper has a controlling interest, is looking for a foothold in the Australian cardboard box market (estimated to be worth A\$ 1.5 billion/year). Opposition can be expected from Amcor and Visy.

FOREST AGREEMENTS AND DISAGREEMENTS

While loggers of native forests and protesters remain in conflicts involving physical confrontations, regional forest agreements (RFAs) are being hammered out with the object of resolving the disputes by reserving areas of environmental significance and setting sustainable yield limits on the number of trees felled for sawlogs in other areas. Amid a welter of claims and counterclaims, the effectiveness of the RFAs is under scrutiny and is the subject of an inquiry by the Australian Senate. In Victoria, RFAs are in force in East Gippsland and Central Highlands, and a paper is soon to be released that will form the basis of an RFA for the North East region, which embraces 1.3 million hectares (ha) of public land (54% of the total area), most of which is native forest. Agriculture makes up most of the private land.

The North East regional hardwood industry contributed more than A\$ 40 (US\$ 25) million to the Victorian economy in 1996-97 and provided about 485 jobs. The regional softwood industry, not part of the RFA process, employed 760 people, with another 135 in harvesting and hauling. The pine plantations constitute a major resource for the Albury newsprint mill, the wood being particularly suitable for TMP.

About 260,000 ha of public land in the North East region was identified as old-growth forest. A biodiversity assessment found about 2000 species of plants, including 166 of conservation significance, of which 24 were rated as critically endangered. The assessment also identified 34 species of mammals, reptiles, birds, and frogs that are rare or threatened.

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