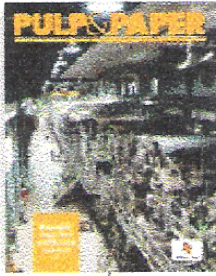




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# PULP & PAPER

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## COMMENT

### Looking at the alternatives

*I was recently invited to participate in a symposium at the University of Minnesota-St. Paul. The topic was "Paper in the New Millennium." Most of the discussion centered on recycling, the effect of the Internet on paper usage, and making paper from fibers other than wood.*

*Among the other panel participants were John Stahl, who manufactures paper from hemp; Jagannadh Satyavolu, a researcher from Cargill who is examining the use of flax in regular papermaking machinery; Ulrike Tschirner, a professor from the University's Department of Wood and Paper Science; and Tom Biazzo, vice president of development for Potlatch.*

*What changes will we see in the paper industry? Here's what our panel of experts concluded:*

**MORE RECYCLE AND ALTERNATIVE FIBERS.** *It's a given. Mills are already putting more recycled content into their papers. Some, like Liberty Paper, which recycles old corrugated containers (OCC), produce 100%*

recycled-content papers. OCC already has the highest recycling rate—70%—and recycled paperboard is the fastest-growing segment of the industry. In addition, there's a new generation of consumers out there who are very aware of environmental issues. They have grown up with recycling, and, as they mature and begin directing paper purchases, they will demand more recycled papers.

Wood-based papermaking is the dominant technology, but other fibers, in addition to recycle, need examination. Shortly after our startup five years ago, Liberty Paper partnered with the University of Minnesota in growing a field of kenaf, with the idea of converting the fibers into paper. Unfortunately, with Minnesota's short growing season, the plants were kind of spindly, and not very good for papermaking. We must, however, continue to look at alternatives, especially if we're going to please tomorrow's customers.

Ulrike Tschirmer has been researching the use of wheat and barley straw in papermaking. It's a byproduct of the harvest that could bring extra income to farmers throughout the wheat belt, and possibly worldwide. Unfortunately, use of these fibers would be somewhat seasonal.

Flax is yet another story. Its fibers can be baled and stored for months without breaking down. Nadh Satyavolu's has researched whether or not flax can be used in machines that accept wood chips, which could be valuable to farmers and papermakers alike. Working with Ulrike, he has produced a paper consisting of 30% flax. But, as he said at the symposium, "You can never replace wood in the industry. All the capital put into the paper industry is geared toward wood, so it cannot go away."

**WEB USE WILL INCREASE PAPER USAGE.** We're just beginning to see this in our industry. Liberty Carton, another division of Liberty Diversified Industries, works closely with a

Minnesota-based catalog merchandiser that has become a leader in direct marketing on the Internet. This past holiday season, Liberty was operating at full-tilt, helping this customer and others keep up with the demand for shipping cartons for Internet-generated orders. This direct selling method is also changing packaging. The dot-coms are creating more individual shipments, instead of large bulk shipments to distributors. I haven't seen any numbers yet on differences in board feet consumption, but I would guess that it's going to increase.

In addition, Tom Biazzo pointed out that part of the paper industry's projected 1% to 3% increase over the next decade is due to increasing numbers of people making printouts from the Internet.

**CHANGE MUST COME FROM THE CONSUMER.** Every papermaker knows that the type of paper you produce depends on its end use. Potlatch creates bright white papers for brochures and annual reports, and many mills producing virgin kraft use Southern pine because of its long fibers and strength advantages. The paper industry produces these papers because that's what their customers want.

The switch to recycled fibers has been incremental. The first recycled papers had only 10% recycled content. Today, it's not uncommon to find papers with 50%, 80%, or 100% recycled fiber. This change has come about because customers asked for it. A change to alternative materials would be just as gradual.

A paper mill is a 100-year investment; the industry can't afford to change to alternative fibers overnight. But demand for papers made from alternative fibers such as hemp will increase only if consumers demand it. The changes can't be driven down; they must be pulled through the marketplace. Society needs to change its patterns of consumption, and the paper industry needs to respond to those changes. For the papermaker who's listening to his customers, there are new challenges ahead!