

Preserving Forests

Remaking the Way We Make Paper

"What we are doing now to biodiversity is like burning Renaissance masterpieces to cook dinner," said Dr. E.O. Wilson, an author and research professor in entomology at Harvard University.

A total of 41,895,000 tons of paper ends up in landfills each year in the United States, which is 712,215,000 trees. This does not include paper that was recycled.

But we don't have to destroy forests to make paper. Melcher Media has printed seven books, a total of 750,000 copies, on synthetic paper made of polymer that can be melted down and endlessly recycled at the same level of quality since the inks separate from the polymer. In contrast, paper made from trees can only be recycled eight times.



Photo courtesy of Morguefile

The paper of Melcher's synthetic "DuraBooks" looks like traditional paper with a smooth, satiny finish and excellent print quality. The paper is also nontoxic, highly durable, tear resistant and waterproof, enabling you to read your book in the tub or wash off dirt and grease with ease.

The polymer paper, which is constructed from plastic resins and inorganic fillers, costs more than paper made of wood pulp at this time, but the costs will drop when it is mass produced.

Even newspapers can be printed on this paper, but it would take more time to dry.

There are also many kinds of natural fibers that paper can be made of. When the Chinese invented paper 1,900 years ago, they made it from hemp instead of wood. Hemp makes high quality paper and was used to print the King James Bible, in the 15th Century, and the Gutenberg Bible, in the 15th Century.

Furthermore, compared to wood-based paper, paper made of hemp produces four times the paper per acre, costs less than half as much to process and has a longer shelf life, according to the Green Press Initiative. Also, hemp paper can be recycled 10 times. Also significant, hemp paper is produced with almost no pollution.

Bamboo is another excellent material for making paper because it is strong and flexible rather than stiff and brittle, has no bark to be removed and has a higher specific gravity, said David Farley in his book The Book of Bamboo.

Also, according to him, an acre of some species of bamboo can be harvested 10-20 times before an acre of conifers can be harvested a second time. Bamboo matures in three to six years, he said, but is ready to be pulped for making paper in one to four years. In contrast, pine matures in 30 years.

Paper can also be made of kenaf, cotton, flax, banana leaves, seaweed and agricultural residues such as corn stalks, corn leaves, corn sheaths, wheat straw, rice straw, barley straw, oat straw, seed-grass straw and bagase from sugar cane.

Producer Responsibility

The Federal Ministry of the Environment in Germany has attracted interest across the globe by passing an ordinance in 1991 that helps ensure they get the most out of their forest products. It obligates manufacturers to take back and recycle used packaging.

The take back effort proved to be difficult for businesses to undertake alone, so 12,000 companies in Germany, including 1,900 outside the country,

collaborated to form the dual system, along with a non-profit organization for overseeing the recycling of their packaging waste.

Households are given an additional recycling bin in which they put all packaging that contains a green dot. Consumers look for the green dot, so foreign products, which don't have it, can be at a competitive disadvantage. Furthermore, distributors and retailers refuse imported goods without the green dot, because the responsibility for collecting and recycling packaging waste for these items falls on them.

The legislation gives manufacturers an incentive to reduce packaging waste so they can pay fewer fees to the companies that do the recycling.

After the green dot program was established, the recycling rate for the entire paper packaging sector in Germany rose from 56 percent in 1991 to 89 percent in 2002. The recycling rate for aluminum surged from 5.1 percent in 1991 to 82.5 percent in 2000. The rate for plastic increased from 3.1 percent in 1991 to 60.8 percent in 2000 and the rate for glass increased from 53.7 percent in 1991 to 82 percent in 2000.

In 1994, the EU passed a directive on packaging and packaging waste and the green dot system has now spread to 21 European Union countries as well as to partners in Canada and the U.K., according to PRO Europe, or Packaging Recovery

Organization Europe, the umbrella organization for countries participating in the green dot program. There are 95,000 enterprises participating in the program.

Reducing the amount of packaging and paper sent to landfills could reduce the amount of trees we cut by 50 percent, according to Jeff DeBonis who founded Public Employees for Environmental Responsibility.

Trees take decades to grow and are too valuable to end up in a landfill.