

Reports show consumers prefer  
plastic bags at grocery stores

# THE PLASTIC IS PILING UP

BY YU-TING LIN



Plastic bag usage has exceeded paper bag consumption at grocery stores both in Michigan and nationwide, statistics show, and economics is the essential factor.

"It costs less than paper and requires less storage space," said Susan E. Selke, a professor at the department of packaging at Michigan State University.

Plastic bags are usually more convenient for customers, too, Selke added.

But what are the environmental impacts of this increase in plastic bags over paper bags? The answer may be surprising.

## PLASTIC: THE AMERICAN CHOICE

For the past 15 years, the amount of plastic bag usage has exceeded paper bags at regional stores in Michigan and Ohio, said Monica Gordon, manager of Public Relations and Media Relations at Kroger Co.

She said approximately 10 out of 11 Kroger customers request plastic bags.

Roughly 1.64 million tons of plastic packaging bags were generated in 2001, which constituted almost 54 percent of all packaging bags, according to the Environmental Protection Agency's 2001 report on municipal solid waste in the United States. That compares to 1.42 million tons of paper bags.

In 1999, paper and plastic usage were nearly identical.

The report also indicates paper bag production dropped nearly 2 million tons from 1980's 3.38 million to 2001's 1.42 million. That is a 58 percent decrease.

In the same period, plastic bag usage went up 320 percent from 3.9 million tons in 1980.

Lisa Roderiguez, service coordinator at Meijer on Lake Lansing Road, East Lansing, Mich., said new boxes containing 1,500 plastic bags are put under each register each night. Typically, 28 registers operate on weekdays and 30 on weekends.

Approximately 300,000 plastic bags are used each week, totaling 15.6 million bags at one Meijer store each year if those figures are typical, she said.

Nearly 47 million plastic bags are given away annually at the three Meijer stores located in Lansing on Saginaw Highway, Pennsylvania Avenue and Lake Lansing Road.

Kroger Co. shipped close to 550 million plastic bags to Michigan and Ohio regional stores last year, Gordon said.

Two factors, economics and its convenience to customers, could be the cause of this trend, Selke said.

For instance, plastic bags are more convenient to carry than paper bags.

"If it rains," she said, "nobody wants to carry paper bags around. Plus, the handles on plastics make it easy for people to carry."

And it's also a lot cheaper for the stores.

According to Roderiguez, it normally costs about 10 cents for a paper bag, but only 1 or 2 cents for a plastic bag.

"It's just much cheaper," she said.

## PAPER OR PLASTIC? ENVIRONMENTAL CONCERNS

According to Selke, the cost and impact of both plastic and paper bags on the environment are complicated to measure.

"If you want to measure the impact of both bags on water pollution, paper bags are probably worse," Selke said. "But in terms of air pollution, plastic is not much different than paper."

Only half of the tree becomes the paper for paper bags, and most of the rest of the fiber is used as fuel for the process. There are also some water and air emissions, she said.

Paper bags also demand more storage space. "Just think of all the truck delivery and storage requirements," Selke added.

Most plastic bags are made of either low- or high-density polyethylene, which may need hundreds or thousands of years to degrade, while paper bags may need a few decades to degrade. But the actual time required depends on the conditions involved, she said.

Robert Fenton's "Grocery Bag Comparison" shows plastic bags use less material per bag, less energy per bag, either about the same or more fossil fuel per bag (depending on the study examined), and lower atmospheric and waterborne emissions per bag.

A study by Janet Marinelli, published in *Garbage*, reporting on a study for the German Office of the Environment, concludes, "There is no ecological reason to change from polyethylene to paper bags. Nor does it make much sense to switch from paper to polyethylene."

A 1989 study by Robert Graff titled "A Comparison of the Environmental Effects of Kraft Paper and Polyethylene Grocery Bags" found that, on a per-bag basis, plastic uses less energy and produces fewer air and water pollutants. Paper

is easier to recycle and better for composting. Both are suitable for incineration. Plastic bags are more likely to blow in the wind at landfills, but are more stable once landfilled.

Most studies agree that reusable bags triumph over one-way bags, either plastic or paper.

Both Kroger and Meijer companies used to recycle plastic bags, but decided to cancel the program few years ago.

"Those plastics were either contaminated or had insects inside," Roderiguez said. "And it's really disgusting sometimes. That's why we canceled the recycling three or four years ago." 🌱

### Plastics Worldwide

While "paper or plastic?" may be the question of choice for American cashiers, customers in other countries are choosing between canvass bags or an extra tab on their bill. The following countries have implemented laws to reduce disposable bag usage overall: Taiwan, Ireland, Germany, Italy, South Africa and Australia.

In Taiwan, for example, the government launched a new policy to reduce plastic shopping bag use in March 2002. In supermarkets or department stores, customers are required to pay 3 cents for a plastic bag if they forget to bring their own bags with them. Convenience stores and small businesses are prohibited to provide any plastic bags to their customers.

The percentage of customers bringing their own shopping bags to markets had grown from less than 20 percent in March 2002 to 79 percent in May 2003, according to the 2003 Solid Waste Report published by Taiwan's Environmental Protection Administration.

The total amount of plastic bag usage has decreased 73 percent since the law was implemented, and 86 percent of respondents reduced the amount of plastic bags they use after the policy was implemented, the report showed.