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# The grocery bag dilemma

## Which bag is better for the environment?

*Diane Katz*

WITH the arrival of reusable grocery bags, there appeared to be, at long last, a definitive “eco-friendly” answer to that question posed to consumers every day: “Paper or plastic?” But, alas, it was not to be. Researchers recently discovered that the supposedly green alternative actually harbours bacteria, mold, and other unappetizing and unhealthy organisms (EPIC, 2009).<sup>1</sup>

That we still lack a neat resolution to the checkout line dilemma exposes a fundamental truth about all environmental issues. For every choice related to resource use, trade-offs are inevitable. In some cases, the upsides clearly offset the downsides, or vice versa. But in many matters, as with the grocery bag quandary, the calculations can get dizzyingly complex.

### Regulating bags

SOME governments certainly have not considered the issue in any depth before issuing regulatory edicts in the name of environmental protection. Toronto, for example, recently passed a bylaw requiring stores to charge five cents for every new plastic bag in which groceries are packed (City of Toronto, 2009).<sup>2</sup> The mandated fee does not apply to paper bags even though, as described below, these carry environmental impacts equal to or even greater than those of plastic.

Similarly, Leaf Rapids, Manitoba, imposed a three-cent tax on “single use” plastic grocery bags in 2006, before banning them outright in 2007 (Leaf Rapids, n.d.). The Liquor Control Board of Ontario has

also banned plastic bags in its stores, but it does allow paper bags (LCBO, 2008).

Even China’s State Council has weighed in on the issue by forbidding shops from offering free plastic bags and “encouraging” the masses to tote their groceries in baskets instead (*People’s Daily*, 2008, Jan. 9). And just last month, Achim Steiner, executive director of the UN Environment Program, called for a global ban on plastic bags (Daou, 2009).

Retailers are instituting bag policies, as well. Metro Inc., Canada’s third-largest supermarket chain, recently announced plans to charge customers five cents per bag (King, 2009, May 18), just as grocery giant Loblaw’s already does in its Ontario stores. On Earth Day (April 22) last year, Whole Foods announced its plans to discontinue the use of conventional plastic bags, although the store will sell upscale ones for 99 cents apiece (or canvas ones for \$6.99 to \$35). It will continue to offer paper bags free of charge.

### Pros and cons

THE effective endorsement of paper over plastic by Whole Foods and others has offended some green groups who (justifiably) argue that such moves lack an objective scientific basis. Steve Hamilton, president of the California-based Environmental Affairs Council, charges that Whole Foods and the like are engaging in “feel-good environmentalism at its worst” (Plastics in Canada, 2008). “This paper vs. plastics debate is a serious, complicated, and unsettled scientific issue,” he notes.

Indeed. Myriad factors must be considered when calculating the pros and

cons, benefits and costs, of each bag type, including all the environmental and economic impacts of various energy and chemical “inputs” and “outputs” involved in production, distribution, and reclamation (or recycling).

Conventional wisdom holds that plastic bags—being synthetic—are environmentally destructive, while paper bags—the spawn of trees—are the greener option. But various “life cycle” analyses of both products indicate that bags made from paper actually require more energy to produce, create more pollutants, and take up considerably more landfill space than plastic.

According to the Progressive Bag Affiliates, a division of the American Chemistry Council, paper bags generate 70% more emissions and 50% more water pollutants than plastic, which requires 40% less energy to produce and generates 80% less solid waste (American Chemistry Council, 2009).

Using plastic bags involves trade-offs, too. Earth Day Canada (2009) reports that production of plastic bags involves five of the top six chemicals responsible for the greatest proportion of hazardous waste generation. Moreover, most plastic bags are made from fossil fuels.

In their favour, paper bags are recycled at a higher rate than plastic ones, and require less energy to be recycled. They are also biodegradable, although neither type of bag breaks down all that well in the dark, dry, and oxygen-deprived confines of modern landfills (Rathje and Murphy, 2001).

When exposed to ultraviolet light from the sun, the plastics will, over time, degrade into smaller particles. But they

will not reduce to organic matter, as is the case with paper (Boustead Consulting and Associates Ltd., 2007).

And not all reusable bags are created equal, either. For example, those made from polypropylene (plastic) are cheap to manufacture but wear out quickly, thereby limiting their reusability quotient. Canvas types are more durable, but cotton production is water intensive and typically involves large quantities of pesticides. Bags made from jute are strong, but most of the fibre used to create the bags is imported and requires considerable fuel consumption to get to market.

Perhaps most troubling for consumers is the recent discovery that reusables pose a potential health risk, according to testing by two independent laboratories (and an evaluation of the results by a third) (EPIC, 2009). Researchers obtained the bags for testing from shoppers leaving major grocery stores. Each shopper was offered a new reusable bag as replacement for their existing bag, and the participants were asked a series of questions about their bag, including its age, how often it was used, and whether it was ever washed. Four new bags also were tested as controls.

All the bags were tested on a “blinded” basis. More than 30% of the used bags had unsafe levels of bacterial contamination, 40% had yeast or mold, and there was fecal bacteria embedded in the surface of some (EPIC, 2009). In contrast, conventional plastic bags showed no evidence of bacteria, mold, yeast, or coliforms.

According to the researchers, “The moist, dark, warm interior of a folded reusable bag that has acquired a small amount of water and a trace of food contamination is an ideal incubator for bacteria” (EPIC, 2009).

### Conclusion

BILLIONS of grocery bags, both paper and plastic, are used and discarded annually worldwide. It should come as no surprise,

therefore, that environmentalists would single out this particular “waste stream” as being ripe for corrective action. Some are even capitalizing on the crackdown. Vincent Cobb, founder of Reusablebags.com, describes plastic bags as “a powerful symbol of consumerism gone wild” (Cobb, n.d.). His website, Reusablebags.com, markets reusable alternatives that range in price from \$4.95 to \$18.95.

Opinions vary widely about the “proper” choice of grocery bag, and each has merits and drawbacks. That’s all the more reason for governments to avoid dictating the choice for consumers and retailers, particularly when the elected officials doing the choosing are more intent on scoring green political points than actually improving the environment.

The fact that we are now able to commit so much attention to the issue reflects the dramatic progress that has been made on more pressing environmental problems. But even if a consensus were achieved tomorrow, sound policy could only be crafted if the trade-offs inherent in this and every other use of natural resources were acknowledged.

### Notes

1 Testing for this report was conducted by Guelph Chemical Laboratories (GCL) and Bodycote Testing Group of Montreal. The results were interpreted by Dr. Richard Summerbell, director of research for Toronto-based Sporometrics, and the former Chief of Medical Mycology for Ontario Ministry of Health, Laboratory Services Branch.

2 And just to ensure compliance, official notice of the new bylaw has been issued in Arabic, Chinese, Farsi, French, Greek, Gujarati, Hindi, Italian, Korean, Polish, Portuguese, Punjabi, Russian, Spanish, Tagalog, Tamil, Urdu, and Vietnamese.

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