

Paper *nor* Plastic?

Shoppers are confronted by the same question every time they make a trip to the grocery store: Paper or Plastic? Many consumers may wonder which type of bag is better for the environment. To assess the comparative environmental impacts of each material is not a simple matter; it requires consideration of the inputs of matter and energy throughout each stage of the life cycle of each product.

PRODUCTION OF MATERIALS & MANUFACTURING

Plastics are produced from the waste products of oil refining. An analysis of the life cycle of plastic bags includes consideration of the environmental impacts associated with the extraction the separation of products in the refining process, and the manufacturing of plastics. The total environmental impact depends upon the efficiency of operations at each stage and the effectiveness of their environmental protection measures. Paper is produced from trees; environmental impacts include those associated with extracting timber and processing it for paper products. Again, the environmental impacts depend on whether the timber was obtained from a sustainably managed forest -- most industrial timber products in the U.S. come from plantations -- and the environmental management of the paper processing plant. Comparatively, plastic bags require less energy to produce.

PACKAGING & TRANSPORT TO STORES

Both paper and plastic bags have to be transported to stores, which requires energy and creates emissions. In this comparison, plastic is preferable because plastic bags are lighter in weight and more compact than paper bags. It would take approximately seven trucks to transport the same number of paper bags as can be transported by a single truck full of plastic bags.

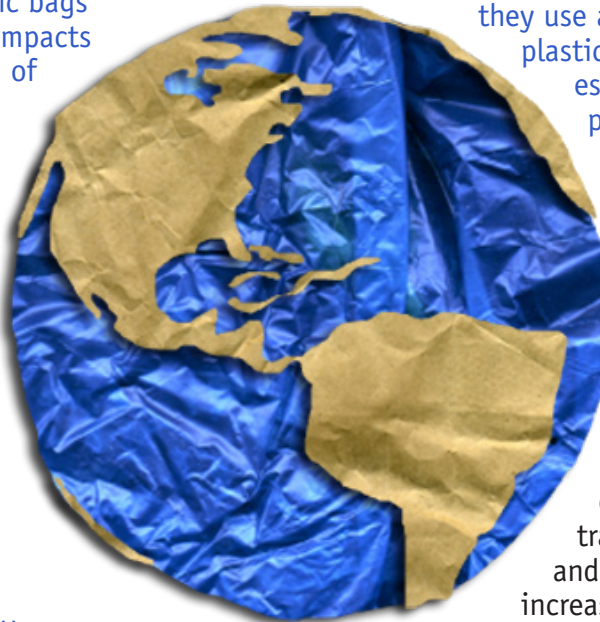
DISPOSAL OF BAGS

The disposal of bags entails additional environmental impacts. If landfilled, plastic bags are more environmentally benign than paper, as they require less space; paper occupies approximately half of overall landfill volume. Plastics (not just bags) generate 14 to 28 percent of the volume of trash in general, but because much of it can be compressed, only 9 to 12 percent of the volume of waste in landfills. Although plastics do not biodegrade, modern landfills are designed in such a way

that nothing biodegrades, because the waste is isolated from air and water in order to prevent groundwater contamination and air pollution. As manufacturers have continued to make their plastic packaging thinner and lighter to save materials, the percentage of landfill volume taken up by plastics has remained steady since 1970 even as plastics have become more widely used.

LANDFILLS

Not all trash ends up in landfills; in the U.S. about 80 percent does. Each year Americans return only 0.6 percent of the 100 billion plastic bags they use and toss the rest. Stray plastic bags, which have been estimated at one to three percent of the hundreds of billions that are produced each year, are now found almost everywhere on the planet. Although littering and trash laws in developing countries have significantly reduced the amount of improperly disposed trash, many developing countries have fewer trash receptacles, landfills, and programs to handle the increasing amount of trash.



ENVIRONMENTAL IMPACT

Plastic bags pose a threat to marine life, because, if ingested, the bags can block the stomach and cause starvation. Sea turtles, for example, mistake plastic bags for jellyfish. In 2002 a minke whale that washed up on a beach at Normandy was found to have 800 grams of plastic and other packaging in its stomach. Stray plastic bags can also clog sewer pipes, leading to stagnant, standing water and associated health hazards.

In 2002, Bangladesh banned plastic bags after drains blocked by bags contributed to widespread monsoon flooding in 1988 and 1998. Ireland has decreased plastic bag consumption by placing a consumer tax on plastic bags. Perhaps the most strict plastic bag regulations are found in the Indian province of Himachal Pradesh, where people caught with plastic bags are fined \$2000.

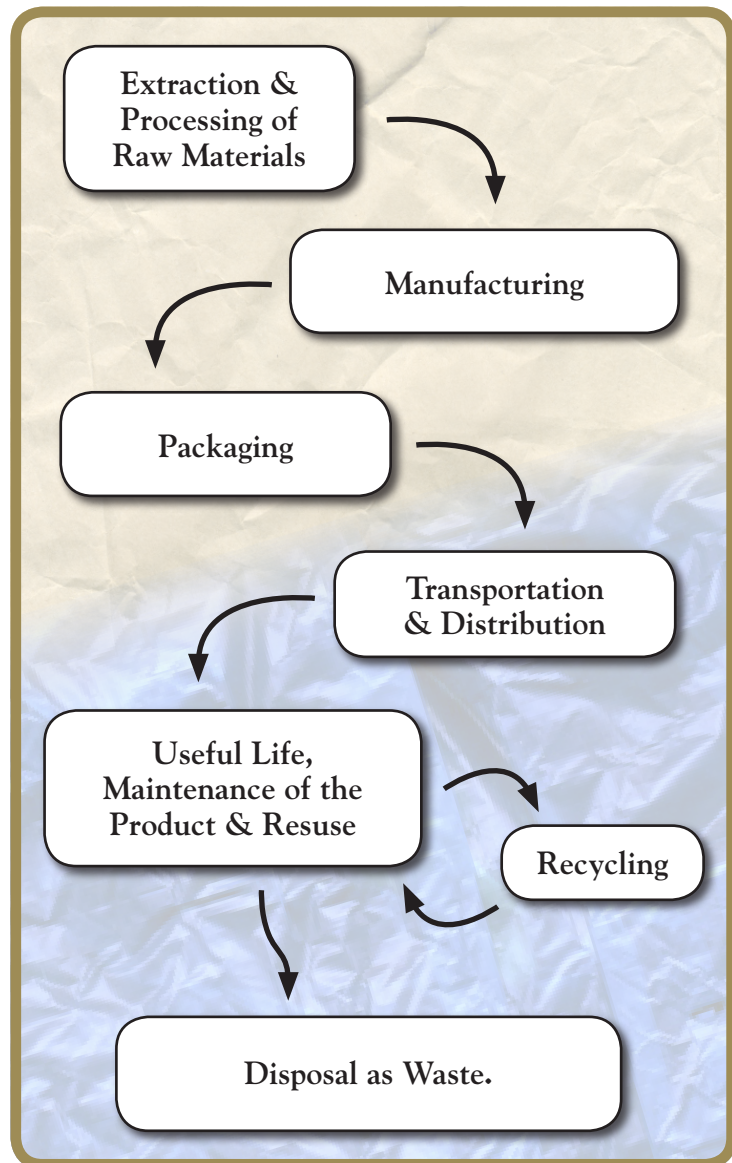
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MAKING A DECISION

Are paper bags better? Let's compare paper and plastic. Plastic bag production requires 40 percent less energy, results in 80 percent less solid and 94 percent less waterborne wastes, and generates 70 percent less air pollution than the manufacture of paper bags. Plastic bags also take up less room in landfills. But many plastic bags are littered or fly away, where they clog up sewers and waterways, become entangled in vegetation and fences, and get caught in the throats of animals. Plastic bags are found in the stomachs of marine animals and on the shores of remote islands. Once plastic bags are in the environment - whether in a landfill or polluting a lake - it can take hundreds of years for them to decompose, and they contribute toxins to the soil and water as they do. And paper bags? Although they are more likely to be recycled (about 10 to 15 percent), the environmental impact is staggering. Beyond enormous energy costs, 14 million trees in 1999 alone were cut down to manufacture the 10 billion paper grocery bags used by Americans.



Sources: www.poppackaging.com
www.enviroliteracy.org/article.php/1268.
www.charityguide.org/volunteer/fifteen/plastic-bags.htm

WHAT IS MUSTARD SEED MARKET DOING ABOUT IT?

We can work together to avoid sending thousands of bags into the disposal stage of the bag's life cycle. We'll take 5¢ off your purchase for EACH bag you bring for us to use for your groceries. The next step we've taken is to avoid supporting the production and transport steps by offering you

- **Canvas Bags.** environmentally sound and strong for heavy packing.
- **Chico Bags.** Reusable nylon shopping bags.
- **String Bags.** Made from natural fibers, these bags stretch to an incredible capacity!
- We now also offer **Polyfabric™ bags.** Although this sounds like a glorified plastic, hang on and consider the qualities of such material: **CHILD SAFE:** Polyfabric™ bags are safe to have around small children. The fabric is breathable so it is impossible for them to suffocate if they put one of these bags around their heads. **NON-ALLERGENIC:** The fabric does not provoke an allergic response in sensitive people. **ENVIRONMENTALLY SAFE:** Polyfabric™ bags are designed to be indefinitely re-usable. Standard plastic shopping bags are typically one-use only, after which they take up space in a landfill. Paper bags, of course, require a tree to make the ultimate sacrifice and they use bleaches and other industrial chemicals in their manufacture.

Mustard Seed Market & Café



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