

# Paper or Plastic Bags?

## *Solid Waste Management Fact Sheet No. 20*

After making numerous decisions about what foods to purchase, consumers are faced with one last decision before leaving the grocery store -- paper or plastic. Is one really better for the environment than the other? As with most stories, there are at least two viewpoints.

Plastic grocery bags are light, sturdy and easy to carry because of built in handles. They also have the added advantage of preventing foods from leaking onto your car should an accident occur while enroute from the store to home. They are cheaper than paper. They have the potential for reuse in the home. When they are compacted, they take up less space in landfills. In some areas, they are being recycled. Sometimes you may find that your local supermarket is participating in such a recycling effort.

Those who argue against the use of plastic bags are likely to point out the following facts. Plastic bags are made from non-renewable petroleum resources. Plastics can be recycled, but not as easily as glass, aluminum or paper. Part of the problem of recycling plastic bags stems from the fact that bags may be made from one of several plastic types. Although two plastic items may look similar, they could be made from different types of resins. This makes separating plastics for recycling difficult. The plastic industry has begun to address this problem by coding plastics with numbers to help consumers and recycling processors identify the type of resin used in production. Some plastic bags have resin codes imprinted on them. However, for the most part, plastic must be recycled into a product for non food use. For example, plastic soda bottles cannot be recycled into new bottles. They can be recycled into products such as bathtubs, flower pots, parking lot car stops, toys, and trash cans.

In addition to not being easily recycled, plastic production and processing require the use of toxic chemicals. Many manufacturing plants that produce these chemicals also produce hazardous waste and pollute the air. In 1986, the EPA, Environmental Protection Agency, ranked the 20 chemicals whose production generates the most hazardous waste. Five of the top six were chemicals commonly used by the plastic industry [propylene, phenol, ethylene, polystyrene, and benzene].

Claims have been made that some bags are degradable. In other words, they will decompose over time. Biodegradation takes place when air is present. Photodegradation occurs when sunlight is available. Most of the garbage we generate is landfilled (about 95%). In landfills, garbage is buried beneath layers of soil that make it difficult for air or sunlight to reach discarded items. The fact is that most plastic bags just don't degrade, even in a compost pile. There are some new starch-

based plastics that may be more degradable. But few grocery bags are made from that type of product.

Plastic bags are high in fuel energy if they are burned, but they emit harmful gases that must be prevented from entering the atmosphere.

Brown paper grocery bags have been around for a long time. To provide the strength necessary for groceries, the bags must be made from high quality paper. Consequently, recycled content is limited when the final product will be grocery bags. Although they are made from trees, a renewable resource, the production of trees and manufacture of paper bags can pollute the air and water with chemicals. Paper bags can be recycled -- often into corrugated cardboard. Recycled paper may create less pollution and require less energy than paper produced from virgin materials. Paper bags are biodegradable, but that process is not facilitated in landfills where there is a lack of air.

What is the best solution? The answer is not clear. But, to reduce the waste generated from paper or plastic bags when grocery shopping, select one of the following alternatives. Reuse paper or plastic bags when shopping for groceries. Reusable sturdy cardboard boxes or strong cloth bags will also help reduce waste. In the future, the final task of grocery shopping could be returning the bags (paper, cloth, or plastic) or boxes to the car so they will be available for the next shopping trip.

REFERENCE: "A Plastics Packaging Primer." Environmental Action. July/August, 1988.

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