

Report summary:

A new study conducted by Eco-Sigma in Brazil (www.ecosigma.com.br) shows the advantages and disadvantages of the use and disposal of different kinds of packaging. The 3 different types selected, are used to carry items purchased by customers in supermarkets throughout the country.

Eco-Sigma have compared bags made with d₂w oxo-biodegradable plastics technology, hydro-biodegradable (“compostable”) plastics and cardboard boxes.

The study shows that the hydro-biodegradable bags cost the consumer around \$0.11 per unit. This means that shopping at the supermarket may be more than 3% more expensive on account of this type of bag.

The work also reveals that the supermarkets that sell this type of plastic bags as garbage sacks are charging up to 235% more, further increasing the cost of shopping for the average consumer.

With regard to hygiene, cardboard boxes distributed by supermarkets are the great villains. Microbiological analysis of the cardboard boxes has revealed a large number of fungi, bacteria and various microorganisms that are harmful to one’s health. So consumers are taking contaminated boxes to their homes, increasing the risk for their food to become contaminated. However, no contamination was detected in the biodegradable plastic bags examined.

Another finding from the study shows that the disposal process (transport to landfills or to recycling units) of the cardboard boxes has a much higher cost, which reaches 125% when compared to oxo-biodegradable bags. The same study shows an increase in fuel consumption, emissions into the atmosphere, and the number of trucks required to transport these boxes when sent to landfills.

In the disposal and recycling, oxo-biodegradable bags have another advantage over other packaging options. While hydro-biodegradable bags are rejected by recyclers because they cause serious trouble to the recycling chain of conventional plastics, oxo-biodegradable bags are well accepted and recycled along with conventional plastics. These can also be made from recycled conventional plastics.

The study has also drawn attention to the fact that oxo-biodegradable bags are lighter than hydro-biodegradable bags and much lighter than cardboard boxes. This substantially reduces the environmental impacts at the time of transport, storage, energy production, and burning fuel for transport to final destination.

The study concludes that there is no environmental advantage in the distribution of cardboard boxes to consumers, as this practice undermines the recycling chain and causes severe risks to human health.

Regarding hydro-biodegradable bags, the report concludes that there is no useful purpose in its sale by supermarkets to consumers in places where there are no appropriate facilities for composting. These materials would also put the whole recycling chain of conventional plastics at risk if they are mixed during the recycling process.

The study also shows that oxo-biodegradable bags do not represent a cost to the consumer, that they can be recycled and that they are lighter, and do not lose their strength needed for carrying purchases.

View the full study at

[http://www.resbrasil.com.br/admin/ckfinder/files/Relat%C3%B3rio%20Projeto%20Especial%20Sustentabilidade%20Embalagens%20ADVBI_V_II_31032011_FF%20alta%20resolu%C3%A7%C3%A3o\(1\).pdf](http://www.resbrasil.com.br/admin/ckfinder/files/Relat%C3%B3rio%20Projeto%20Especial%20Sustentabilidade%20Embalagens%20ADVBI_V_II_31032011_FF%20alta%20resolu%C3%A7%C3%A3o(1).pdf)