



Biodegradable plastic bags carry more ecological harm than good

Decomposing bags sound environmentally friendly but they require a lot of energy to make, won't degrade in landfills and may leave toxic leftovers



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Britain gets through 8bn plastic bags a year. Photo: Andy Rain/EPA

Biodegradable plastic bags – as handed out by Tesco, the Co-op and once even sold by the Soil Association – must be good, surely? They have a magic ingredient that means they self-destruct after a few months, breaking up into tiny pieces made of simple molecules that bugs and fungi can happily munch up. Dozens of major corporations use them, including Pizza Hut, KFC, News international, Walmart and Marriott hotels.

But last week, the European Plastics Recyclers Association warned that they "have the potential to do more harm to the environment than good."

Technically what we are talking about here is "oxo-degradable" plastics. These are plastics made to degrade in the presence of oxygen and sunlight, thanks to the addition of tiny amounts of metals like cobalt, iron or manganese.

British manufacturers – headed by Symphony Technologies of Borehamwood – are at the sharp end of a revolution that could banish bag-strewn beauty spots and back alleys alike.

But the criticisms are twofold. First, some research suggests that the bags don't degrade as well as claimed. And second, priming plastic bags for destruction is itself an ecological crime.

So, do they really biodegrade away to nothing? Symphony, which supplies the Co-op and Tesco, says its bags are "able to degrade completely within about three years, compared to standard bags which take 100 years or longer". Tesco reckons they all decompose within 18 months "without leaving anything that could harm the environment".

But whether it actually happens seems to depend a lot on where the "biodegradable" plastic ends up. If it gets buried in a landfill it probably won't degrade at all because there is no light or oxygen. But what about elsewhere?

Studies of one brand in the US, commissioned by the Biodegradable Products Institute, found that breakdown is very dependent on temperature and humidity. It goes slow in cold weather. And high humidity virtually stops the process, making long, wet winters sound like bad news.

You might think a compost heap full of biodegrading bugs would be ideal. But a recent Swedish study found that polyethylene containing manganese additive stops breaking down when put in compost, probably due to the influence of ammonia or other gases generated by microorganisms in the compost.

And, while most manufacturers say that to put only tiny amounts of metals into the plastic, the US study found that one brand contained "very high levels of lead and cobalt", raising questions about the toxicity of the leftovers. Neither of these studies relates specifically to Symphony's products. But they raise questions.

The European Plastics Recyclers Association last week argued that biodegradable bags are not the right environmental option anyway. Plastic bags take a lot of energy and oil to make so why waste them by creating bags that self-destruct? "It is an economic and environmental nonsense to destroy this value," the recyclers' trade association concluded.

Of course, we consumers can reuse or recycle biodegradable bags as easily as any other kind. Symphony and other manufacturers stress making bags biodegradable is just an insurance policy for those that don't get recycled or reused. But surely we are less likely to bother if we are told the bags are eco-bags that biodegrade.

This European backlash against oxo-biodegradable plastics follows similar rumblings in the US. In March, the New York Times announced it would not be wrapping its paper in bags made of the stuff because claims that the plastic was "100% biodegradable" did not stand up. This followed a ruling last December by an advertising industry watchdog, part of the US Council of Better Business Bureaus, that makers should stop calling the bags "eco-friendly".

(In marked contrast, the UK Periodical Publishers Association two years ago recommended that all its members use oxo-biodegradable film to wrap their magazines)

Industry websites, including Symphony's, do proudly proclaim one green endorsement – that the organic trade body the Soil Association buys their bags. But Clio Turton at the Soil Association told me: "We've had problems with people making these claims. We have asked for them to be removed. It's very frustrating."

Plastic bags are not the biggest environmental issue on the planet, as George Monbiot explained in a blog here recently.

But most of us probably make "bag choices" several times a day. Brits get through 8bn plastic bags a year. For that reason, they are one of the choices that tend to show if we care about the environment or not. And we should be clear. Re-using bags is best. Recycling is second best. Throwing them away in the hope that a magic formula will guarantee their rapid disappearance is laziness, not environmental care. And anybody who tries to persuade us otherwise is guilty of Greenwash.

- This article was amended on Friday 19 June 2009. We should have made clear that the Soil Association no longer sells the biodegradable plastic bags referred to in this article. This has been corrected.

- Do you know of any green claims that deserve closer examination? Email your examples to greenwash@guardian.co.uk or add your comments below