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Pioneering Oxo-biodegradable Plastic Technology

May 11, 2010

Via Email

Editor

Time Magazine – Online Edition

letters@time.com

RE: May 3, 2010 Article: The Promise And Pitfalls of Bioplastic

Dear Editor:

This letter is in response to the fundamental error in the above article that petroleum-based plastic does not biodegrade and that plant-based plastic does. In reality, all plastics, biodegradable or not, can be made from petroleum, plant or a combination of both.

There are two main types of biodegradable plastics: hydro-biodegradable and oxo-biodegradable. The prefix hydro- and oxo- depicts how degradation takes place, either by reaction with water or oxygen. Some hydro-biodegradable plastics are made from petroleum, while others, such as PLA, are created from raw materials such as corn starch (these are typically referred to as 'Bioplastics').

Composting as a means of disposal for plastics is being questioned. Bioplastics are only compostable in an industrial composting facility that controls temperature and moisture. This can only create confusion for the consumer who may consider that bioplastics are suitable for backyard composting. Also, when considering industrial composting, there are few of these facilities currently in operation and even fewer are accepting plastics of any kind. In some cases, compostable bioplastic bags are segregated and sent to landfill because the composting rate is not fast enough.

The recent 2010 update to the 2006 Waste & Resources Action Programme (WRAP) report on the Environmental Benefits of Recycling evaluates compostable Biopolymers and concludes, "A main advantage of biopolymers that is often highlighted is the fact that some of them are degradable or compostable. Nevertheless, the analysis pointed out that composting does not appear to be advantageous for energy demand and depletion of natural resources compared to the other alternatives."

There has been considerable debate whether bioplastics is really good for the environment. Recent Life Cycle Assessment (LCA) by the German Institute for Energy and Environmental Research (IFEU) concluded that current bags made from bioplastics have a less favorable environmental profile than petroleum based polyethylene due to the process of raw material production.

Large scale production of bioplastics will affect food supply, food prices and energy and water usage. Bioplastics are denser than conventional plastics, problematic in recycle, has poor water and oxygen barrier properties, require thicker material, has higher packaging weight and expensive.

In view of these, we question what is the value of using bioplastics to make SunChips bag and Paper Mate pen products? Besides, these products which are designed for industrial composting will ultimately not be composted at the end of their product life.

EPI has developed a Totally Degradable Plastic Additive (TDPATM) which converts conventional plastics into oxo-biodegradable plastic without relying on global food sources. Once disposed of in landfill, or soil, the plastic fragments will biodegrade in the presence of oxygen, micro-organisms, heat and humidity. Thus, returning to nature by decomposing into carbon dioxide, water and biomass. Oxo-biodegradable plastics are degradable, biodegradable, reusable, and compatible with conventional recycling streams.

In closing, one needs to be aware of what type of plastic they're using, the environmental impact, and the best method of disposal. The availability of appropriate disposal facilities in our communities is a key consideration.

For further information, please feel free to visit EPI website at www.epi-global.com and our online blog at www.epi-global.com/blog for further information and resources.

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