

A More Responsible Alternative to Traditional Plastics — NatureWorks® PLA

Retailers, brand owners and foodservice operators who choose packaging and serviceware made with NatureWorks® PLA are taking note of consumer interest and acceptance by offering a more responsible plastic—an alternative made from a 100% renewable resource, field corn. Phrases such as “A 100% Annually Renewable Resource” and “Made from Corn” resonate with today’s consumers’ desire to be environmentally conscious. By showing responsibility with packaging and serviceware choices, companies can strengthen brand loyalty and drive sales.

Why a New Plastic?

NatureWorks PLA, originating from a 100% annually renewable resource, is more environmentally friendly and, being based on corn, pricing is more stable compared to traditional oil-based plastics.

The “Natural” Appeal

Today’s consumers have embraced nature-based packaging, including clear, thermoformed containers, flexible films and bottles. The desire to bring home fresh and wholesome food products with added benefits of “natural in natural” has strong consumer appeal. Being corn-based, there are no additives in NatureWorks PLA resin, it is non-allergenic and has food contact approval in North America and multiple other countries. In research conducted with more than 3,500 consumers in the United States, Europe and Japan, a majority of those surveyed ranked the concept of purchasing fresh food in nature-based packaging as “very desirable.”

Grocery retailers are offering customers fresh food items such as fruits, vegetables, deli and bakery products in corn-based packaging. The combination of performance and environmental attributes creates strong point-of-purchase differentiation for NatureWorks PLA which looks, feels and performs like traditional plastic packaging. It is strong and durable to protect food and retain freshness, and its clarity allows consumers to see the food inside.

Foodservice operators are winning over consumers by offering a more responsible choice in serviceware and packaged grab-and-go foods and beverages, especially in those operations that are exploring the option of compostability. Foodservice operators and grocery retailers who take advantage of the opportunity to industrially compost articles made from NatureWorks PLA position themselves as innovators and establish that there is no need to sacrifice limited resources for convenience.

Why Co-brand with NatureWorks PLA?

Being practically indistinguishable from packaging and serviceware made from other plastics, co-branding is the means by which converters and retailers identify and differentiate NatureWorks PLA. Embossing the NatureWorks brand on the parts and printing it on labels communicates to customers that the product they are choosing is packaged in NatureWorks PLA. NatureWorks LLC also provides various point-of-purchase templates to help communicate the message to consumers.

During photosynthesis, corn plants remove carbon from the air and store it in grain starches. The starches are broken down into natural plant sugars. Through a process of fermentation and polymerization, the carbon and other elements in these natural sugars are used to make polylactic acid (PLA). Because NatureWorks PLA is carbon-based, it has excellent shelf stability.

Technology Behind the Brand

About NatureWorks PLA

Feedstock

NatureWorks PLA is made from the fermentation of sugar (dextrose) milled from ordinary field corn. Corn is the most abundantly grown source of natural sugar in the world. In addition to corn, NatureWorks LLC is exploring and evaluating other abundant, inexpensive, non-food-nutrient crops for potential future use as an alternative natural source of sugar to create NatureWorks PLA.

Cost

NatureWorks PLA offers excellent price stability compared to traditional plastics. Also, increased efficiencies in our manufacturing process and those of our extruder and thermoformer partners have led to NatureWorks PLA being competitive with other conventional plastic materials such as polyethylene terephthalate (PET) and polystyrene (PS).

Environmental responsibility

Peer-reviewed and published life-cycle analysis (LCA) data shows that NatureWorks PLA requires less fossil resources and generates fewer greenhouse gases than traditional plastics. Throughout the production process, from corn to plastic, NatureWorks PLA requires 30-50 percent less fossil fuel resources than the entire production process to manufacture PET. And with the purchase of renewable energy certificates to offset energy used at our Blair, Neb., manufacturing facility, NatureWorks PLA contributes up to 68 percent less greenhouse gases to the atmosphere than PET, and we have created the world's first greenhouse-gas-neutral polymer.

Disposal options

NatureWorks PLA fits all existing disposal options. It can be physically and chemically recycled, and composted in industrial facilities. Composting PLA requires approximately 140°F and humidity between 80% and 90% for extended periods of time. For example, under these conditions, cups made from NatureWorks PLA can break down in roughly 47 days into carbon dioxide, water and humus. The current material code for NatureWorks PLA is 7, the initial designation for any new plastic introduced into the marketplace.

The Company

NatureWorks LLC is a stand-alone company wholly owned by Cargill, Inc. Dedicated to meeting the world's needs today without compromising the earth's ability to meet the needs of tomorrow, the company produces commercial quality polymer resin from the carbon found in simple plant sugars to create a proprietary polylactide polymer, which is marketed under the NatureWorks® PLA and Ingeo® fiber brand names. In 2001, NatureWorks opened its PLA facility in Blair, Neb., USA. The manufacturing plant is capable of producing 300 million pounds (140,000 metric tons) of resin a year. This is the first and largest PLA manufacturing facility in the world and provides NatureWorks PLA to markets across the globe.

To read more about NatureWorks PLA and view customer success stories, please visit www.natureworkspla.com or call **877-423-7659**.