

Natur-Tec plastics ready to embrace shift to green technology

by Jay Stephenson

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CIRCLE PINES — If green technology is the wave of the future, an international corporation located in Circle Pines is ready for the world to embrace the change.

Since 2004, the Northern Technologies International Corporation (NTIC) has been developing bio-based substitutes to traditional plastics through its Natur-Tec branch. Its products have been developed to eliminate further damage to the environment caused by traditional plastics, but also to correct past mistakes other companies made from “biodegradable” products that, according to the company CEO, weren’t biodegradable.

The company’s products gained attention recently after Rep. Paul Gardner (DFL-Shoreview) introduced a bill in the State Legislature requiring that yard waste dropped off at landfills be contained in compostable bags. The bill would expand an already existing law in Dakota County to the seven-county metro area.

It all began when the company developed plastic packaging material for auto companies in the early 1980s for assembly lines and shipping products.


The material worked wonders, and the auto industry eventually asked NTIC to develop a biodegradable plastic material to replace their current plastic products. NTIC responded with a biodegradable product that could disintegrate into carbon dioxide, water and fertilizer in about 180 days.

The auto industry was receptive to the product, but wanted the material to be cheaper than the materials it was currently using. Since the materials NTIC developed were new and rare, they couldn’t be sold for a cheaper price and as a result, NTIC is now targeting the products to waste disposal sites.

“The target for this product line is closed loop waste streams,” said NTIC CEO Patrick Lynch. “Bioplastics today are more expensive than conventional plastics.”

The goal is to have compost sites accept biodegradable plastics, which can include utensils, doggy bags, and garbage bags. That way, the waste stream is capable of complete and total disintegration.

Traditional plastics can be broken down, but cannot be completely eliminated, hence causing the unseen materials to remain in the air, water and ground.

“Plastic doesn’t degrade — it fragments into little pieces, but it’s still around for tens of thousands of years,” Lynch said. “And they’ve now found little plastic fragments in fish. If you take a bucket of standard ocean water and analyze it, you will find (plastics) in ocean water  the world is that

polluted at this point.”

But the bioplastics movement hit a roadblock in recent years, after it was discovered that some products sold as biodegradable weren't as green as advertised.

“What they (plastics manufacturers) were really doing is putting in a special additive to conventional plastics that's referred to as ‘oxodegradable,’” Lynch said. “When sunlight hit it, it would cause the plastic to fragment. It didn't mean it went away, it just went into tiny pieces.”

The problem was realized two years ago when a garbage company sold oxodegradable bags advertised as biodegradable, creating further problems for compost sites in which the bags were dumped. Since then, the compost sites in Minnesota and around the country have been less inclined to accept plastic material, even if it is advertised as biodegradable, Lynch said.

“It has also led to more government regulation,” noted Vineet Dalal, vice president and director of global market and development at NTIC. “In California, for example, they have a law on the books that says if you are promoting any type of plastic material in the state with the term biodegradable compostable, it has to meet the ASTM D6400 standard.”

The ASTM D6499 requires that plastic materials completely disintegrate without any remaining residual.

Lynch and Dalal believe if the state of Minnesota institutes a similar law as California, their company's biodegradable products could be more easily marketed. The company has more success selling products in California and other states than it does in Minnesota, they said.

The biodegradable materials could also save on other costs, Lynch said. For example, cafeterias could save on the labor, water and energy used to wash dishes by using disposable, but biodegradable tableware.

Though some companies have had difficulty developing biodegradable products that are strong enough to withstand heat and other factors, Lynch and Dalal say their products are just as usable as more traditional plastic materials.

“We also make machines that turn conventional waste plastics back into hydrocarbons,” Lynch noted. “It's a recycling technology. We're taking those plastics that are already out there and reusing them as fuels, or even new plastics, to basically get rid of all that waste stream.”

The machines are ideal for landfills that are currently being mined for old plastic material, he said.

For more information on the company, see Natur-Tec's Website at www.natur-tec.com.