

# Biotech conference highlights stuff made without fossil fuels

By [Kevin Spear](#), Orlando Sentinel  
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Ron Buckhalt, of the USDA's Bio Preferred Program, shows off a rug sample and dress shirt made from corn. (Photo by Ricardo Ramirez Buxeda/Orlando Sentinel)

"Plastics" was the advice given to the youthfully clueless character played by Dustin Hoffman in the 1967 film "The Graduate."

Today, he might be counseled, "Plastics — there's a great future in plastic that isn't made from costly and climate-disrupting crude oil because it can be manufactured with ingredients derived from corn, soybean or other things that grow."

Hot topics this week at the World Congress on Industrial Biotechnology & Bioprocessing at the Gaylord Palms Hotel south of Orlando include stuff called "bio-succinic acid" used to make the soles of tennis shoes or de-ice airplanes; enzymes that render poultry feed more nutritious and, after it becomes manure, less environmentally harmful; and biofuel made from 20,000 acres of 20-foot-tall grass grown as a crop in South Florida.

A driving force behind biotechnology, or the tinkering of cells and genetics of living things, is a move away from the carbon added to Earth's environment by consuming fossil fuels, a trend which industry media consultant Kathryn Sheridan said is "decarbonizing the economy."

Products made from biologically based chemicals range from lip balm to car seats, from glues to laundry detergents and from motorcycle fenders to the widely used gasoline component — ethanol.

Biotechnology goods can have more reliably stable prices than those produced with petroleum, said Paul Winters, spokesman for Biotechnology Industry Organization, a nonprofit, industry group and organizer of the World Congress.

What's more, biotechnology's products can have "the exact same chemical molecules" as those made from fossil fuels, Winters said.

Yet some biotechnology results are valued because they don't have the same molecules, including plastic food containers that, unlike conventional plastics, will decompose rapidly.

At the World Congress, Ron Buckhalt, manager of the U.S. Department of Agriculture BioPreferred Program, displayed food containers and a men's dress shirt made from corn, notebooks from sugarcane and carpeting from soybeans.

Buckhalt was promoting the USDA Certified Biobased Products program, which verifies that a product contains biological rather than fossil-fuel ingredients.

Some of biotechnology's big players are Coca-Cola Co., DuPont and Dow. Other advocates are environmentalists, including the Union of Concerned Scientists' Jeremy Martin, a senior scientist with the group and a speaker at the World Congress.

Martin said biotechnology advances can misfire; the use of palm oil, for example, has encouraged a destruction of rain forests.

Another concern, Martin said, is the use of food crops to make fuel or products.

His goal is to push biotechnology entrepreneurs toward deriving energy and chemicals from fast-growing plants, such as grasses and trees, taking the so-called "cellulosic" approach.

"We really have to step on the gas with respect to cellulosic biofuels, and we will, no doubt, have to make adjustments as we go," Martin said.

The London-based energy giant, BP, is building what it calls the largest cellulosic-energy plant of its type in the world — in Highlands County about 75 miles south of Orlando.

The facility will farm "energy grass" on 20,000 acres to produce 36 million gallons of ethanol a year.

"The key is getting the economics of production into a place where over the long term it will be competitive with oil without any support or subsidy," said Phil New, BP Biofuels chief-executive officer, adding that it may be five years before that happens.

"But to get there, you have to build a plant at commercial scale so you can learn about the engineering. It would be naive of us to expect the very first one we do is going to be the finished article."

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