From Carpet to Fuel

What's good news for flooring could be good news for the ethanol industry. It may come as no surprise that new DuPont technology allows carpet, typically manufactured using a petroleum product, to be made using corn, according to Russ Sanders, marketing director for Pioneer Hi-Bred International Inc., a subsidiary of DuPont. What's exciting, though, is that methods used to make the stain-resistant carpet could also help DuPont improve the efficiency of the fermentation process for ethanol, Sanders tells EPM.

It's not the only example of possible crossover among existing company departments. "We see a lot of potential for leveraging scientific know-how that we may be deploying in other markets into ethanol," says Sanders, also a Pioneer representative on DuPont's newly created biofuels business unit.

DuPont has adopted an aggressive strategy aimed at growth in the alternative energy technology sectors. The company announced the creation of a biofuels business unit in April, which will cover current work in the field and research into new technologies, such as cellulosic ethanol. "I think the intent is really a signal to customers and other … stakeholders that we truly want to be a leader in biofuels," Sanders tells EPM.

DuPont's work in biofuels encompasses things from the beginning of the chain, like developing corn seed, all the way to fermentation processes at the end of the chain. The secret ingredient will be tapping into current company capabilities to make that all come together, Sanders says.

The foundation is Pioneer's IndustrySelect program. IndustrySelect seed can be chosen according to where it will be grown and what it will be used for.

The IndustrySelect program has 135 corn seed varieties designated as high ethanol hybrids, he says. Near-infrared technology is used to measure the fermentation yield in corn. The company uses the information to classify those varieties as suitable for dry-grind ethanol production.

Developing grain options for ethanol is a booming business for Pioneer and DuPont. In the past five years, global sales to biofuels markets, mostly corn seed sales, have more than doubled to beyond $300 million, Sanders says.

However, the companies also recognize that, as the ethanol industry grows, corn seed sales might not be enough to satisfy the demand for ethanol feedstocks. "That's why DuPont is working pretty aggressively on concepts to convert cellulose into ethanol," he says.

The company is working on an integrated biorefinery research program in collaboration with the U.S. DOE. The goal is to convert the corn plant—almost in its entirety—into ethanol, rather than just plowing the stover back into the soil.

DuPont researchers Joe Keaschall and Carla Peterman work in a Johnstone, Iowa, greenhouse.

DuPont has also made it a goal to accelerate commercialization of alternative biofuels technologies. It's all part of the companies holistic, long-term strategy to grow along with the ethanol industry. "We're actively looking at using all of our know-how, all of our science to try to make the industry more efficient," Sanders says.

—Holly Jessen

On the Web
For more information about DuPont and Pioneer check out www.dupont.com or www.pioneer.com.

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