

Integrated Corn-Based Biorefinery Research (ICBR) Program

Through a \$38 million partnership with the U.S. Department of Energy (DOE), DuPont is developing a cost-effective technology package to produce cellulosic ethanol from entire corn plants and, in the future, any biomass. This research will eventually lead to an innovative biorefinery capable of producing ethanol fuel, performance chemicals and materials from renewable resources.

Unlike traditional corn grain ethanol, DuPont biorefinery technology will use the entire corn plant, as opposed to only the corn kernel. Using the entire corn plant will double the amount of ethanol obtained per acre while also producing other innovative bio-based materials. DuPont and its partners are developing processes to convert the cellulose from the corn cob and stalk into sugars that can be fermented into ethanol. By using agricultural waste to make fuel, we will make better use of our resources, reduce our dependence on oil, and help improve the environment.

The ICBR program takes a balanced energy approach to fuel ethanol production. It evaluates the many environmental components involved in economically converting cellulose to sugar while efficiently producing the volume needed to meet market demands. DuPont has partnered with some of the best companies in their respective industries to help ensure the entire process—from plant to pump—maintains its sustainability and integrity. Through our early commitment and leadership in assembling a team of partners, DuPont is moving toward a future vision of maximizing the use of renewable resources for energy and materials.

DuPont and its Research Partners

Deere & Company—offering world class expertise in agronomic systems analysis and material processing—is providing consulting expertise for systems analysis and feedstock collection.

Michigan State University—an expert in sustainable agriculture—is conducting a life-cycle study to discover and explore how to prevent any potential environmental burdens of harvesting corn grain and corn stover.

Diversa—with decades of experience in discovering new enzymes—is exploring potential enzymes to aid in the breakdown of the entire corn plant into usable sugars.

National Renewable Laboratory—with 20 years of energy research and world-renowned expertise in biomass conversion—is working with DuPont to create the most economically feasible conversion of sugars to cellulosic ethanol.

DuPont—a leader in biotechnology research chemistry, chemical engineering and project management—is integrating the entire program to create an optimum process for producing cellulosic ethanol. The process will create products consumers will choose to buy at the pump in addition to other bio-materials.

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