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Developing New Uses for Corn

Investing in research to develop new uses of corn is one of the ways the ICPB strives to increase corn use. For example, finding new uses for corn starch or corn fiber could result in a wealth of value-added corn products. One recent success is PLA (polylactic acid), which is now used in products as varied as disposable cups to carpet.

Project Title: Production of Isosorbide
Investigator(s): John Holladay
Institution/Department: Pacific Northwest National Laboratory
Partner(s): Department of Energy
Progress: Year 5
Description: The goal is to develop new ways to process corn into isosorbide. Isosorbide is used as a potential new ingredient in plastic materials such as PET. The use of this polymer additive has the potential to reduce the amount of petroleum feedstock used in the polymer industry, lower emissions and improve the properties of the plastic.

Project Title: Value-Added Products from Hemicellulose
Investigator(s): Linda Lasure
Institution/Department: Pacific Northwest National Laboratory, Idaho National Engineering and Environmental Lab
Partner(s): Ohio Corn Marketing Program, Minnesota Corn Research and Promotion Council
Progress: Year 3
Description: Hemicellulose is a component of a co-product of the corn processing industry. Hemicellulose is in the fiber portion of the kernel that, after separation or conversion, is mixed with other components and sold as livestock feed. This proposal is aimed at conversion of hemicellulose into high-value products. Successful completion of this project will lead to value-added products from dry mill corn ethanol facilities and will improve the overall economics of ethanol production. As more dry mill ethanol facilities begin production, this technology will help develop new products to diversify the dry mill business.

Project Title: Fiber Utilization
Institution/Department: Pacific Northwest National Laboratory
Partner(s): National Corn Growers Association
Progress: Year 4
Description: The goal of this project is to develop commercailly feasible technology to separate corn fiber recovered during the wet milling process into the component substances. Valuable chemicals will be separated from the fiber stream and the sugars will be converted into ethanol or other chemicals such as propylene glycol or ethylene glycol.