Corn, Agricultural Vision: Future Renewable Chemical Building Blocks

CORN TALK NEWS
PENNSYLVANIA MASTER CORN GROWERS ASSOC., INC.

ST. LOUIS, Mo. — The National Corn Growers Association (NCGA) has a story to tell about checkoff-funded research that has the potential of increasing the price per bushel of corn by a minimum of 50 cents per year.

That research is funded under the Agricultural Vision, the Plant/Crop-Based Renewable Resources Vision 2020 program at the U.S. Department of Energy (DOE).

"Picture this research as a conversion of corn and other renewable inputs to chemical building blocks that would be used to produce a wide range of everyday consumer goods such as plastics, paints, carpet fibers, adhesives, antifreeze, and personal care products," said Vic Miller, a grower from Oelwein, Iowa, and a member of NCGA's Customer and Business Development Action Team. "The Agricultural Vision is for plants, instead of petroleum, to serve as the feedstock for 10 percent of the chemical building blocks market by 2020 and 50 percent by 2050."

Since 1997, the NCGA, in cooperation with the DOE, has championed the Renewables Resources 2020, a broad-based coalition of agricultural, forestry, and chemical industry experts working to create plant-based, renewable products that would replace petroleum-based products as fossil-fuel supplies dwindle.

"The program is focused solely on funding projects that will use plants instead of petroleum for chemical building blocks. While the program does not fund ethanol, a completely separate research and policy program of the NCGA, using plants for industrial feedstocks has the potential in the future to be an extremely significant market for corn," said Miller.

Gaining 10 percent of the market, he notes, would represent a five-fold increase from today's tiny market share of the chemical building blocks in the Agricultural Vision, he said.

In recent testimony to the House Subcommittee on Interior Committee on Appropriations, Miller pushed for a minimum of $13 million in funding for the Agricultural Vision. "If plants were the feedstock for 10 percent of this market, farm income would increase by more than $5 billion (or 50 cents per bushel) per year, greenhouse gas emissions would be reduced, recycling opportunities would be increased and, most importantly, our dependence on foreign oil would decrease."

Miller noted that recent experiences illustrate how the power of unstable oil exporting companies dramatically affect the price of gasoline, heating oil, and many consumer goods such as plastic because of the U.S. increasing reliance on imported oil.

"The U.S. currently imports more than 50 percent of domestic petroleum consumption. By 2020, net imports will grow more than 65 percent," he said. "While we have a finite supply of fossil fuels, we have abundant plant/crop based resources that are renewable over short periods of time. The most significant opportunity to help offset the need for imported oil is the use of alternative feedstocks that can be derived from renewable plants and crops."

He emphasized that renewable materials from American-grown crops can provide many of the same basic chemical building blocks as petrochemicals, and can provide others that petrochemicals cannot.

"To achieve the bold vision, we must begin laying the research foundation today," Miller said. "If we are to realize, fully, the potential for biobased resources as a supplement to fossil fuels, we need new routes for more efficient processing and utilization as well as a whole range of plant-derived building blocks. Now is the time for significant research and development on what renewable and novel processes might be available, and for beginning to develop selection criteria among the possible alternatives."