

With cellulosic ethanol, there is no food vs. fuel debate according to MSU scientist

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As more and more corn grain is diverted to make ethanol, there have been public concerns about food shortages. However, ethanol made from cellulosic materials instead of corn grain, renders the food vs. fuel debate moot, according to research by a Michigan State University ethanol expert.

Bruce Dale, an MSU chemical engineering and materials science professor, has used life cycle analysis tools, which include agricultural data and computer modeling, to study the sustainability of producing biofuels – fuels such as ethanol and biodiesel that are made from renewable resources.

Dale will present his findings today at the American Chemical Society annual meeting in Chicago.

"We grow animal feed, not human food in the United States," Dale said. "We could feed the country's population with 25 million acres of cropland, and we currently have 500 million acres. Most of our agricultural land is being used to grow animal feed. It's a lot simpler to integrate animal feed production into cellulosic ethanol production than it is to integrate human food production. With cellulosic ethanol, the 'food vs. fuel' debate goes away."

Cellulosic ethanol is made from the stems, leaves, stalks and trunks of plants, none of which is used for human food production. Having studied ethanol for more than 30 years, Dale said that as the country moves



toward large-scale cellulosic ethanol production, the yield of so-called energy crops – grasses and woody materials grown for their energy content – also will increase dramatically.

"This will reduce pressure on our land resources," said Dale, who also is associate director of the MSU Office of Biobased Technologies. "We'll be able to get more raw material out of one acre of land."

Dale said that many of these energy crops will be grown on land that isn't prime agricultural acreage. In other words, they'll be grown on marginal land that isn't growing a commercial crop right now.

"The evidence indicates that large-scale biofuel production will increase, not decrease, world food supplies by making animal feed production much more efficient," Dale said.

Source: Michigan State University

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