

MSU to create genomic clearinghouse for biofuel crops

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Michigan State University scientists, armed with a half-million-dollar federal grant, are creating an easily accessible, Web-based genomic database of information on crops that can be used to make ethanol.

"Ultimately this will allow us to create better biofuel crops," said C. Robin Buell, associate professor of plant biology and project leader. "Right now, about half of the biofuel crops don't have genomic databases, and the ones that do are in many different places and are annotated differently, which makes it difficult to compare and use the information."

Genomic databases contain information on the molecular biology and genetics of a particular species.

Buell and Kevin Childs, a postdoctoral researcher in her lab, will use the \$540,000 joint grant from the departments of Agriculture and Energy to centralize the genomic databases, create uniform annotations (notes or descriptions of the genomes), provide data-mining and search tools, and provide a Web site for scientists from around the world to access the databases. They also will regularly update the information.

"Our biofuel genomic database portal will include information on any crop that can be used to produce cellulosic ethanol, including all the grasses such as corn, rice, maize, wheat and other biofuel species such as poplar, willow and pine," Buell explained. "This will save researchers a lot of effort, so we expect it to be a valuable resource for scientists at

MSU and around the world."

"Cellulosic biofuels offer one of the best near- to mid-term alternatives we have, on the energy production side, to reduce reliance and imported oil and cut greenhouse gas emissions, while continuing to meet the nation's transportation energy needs," said Raymond Orbach, undersecretary for science for the Energy Department.

"Developing cost-effective means of producing cellulosic biofuels on a national scale poses major scientific challenges," Orbach added, "(and) these grants will help in developing the type of transformational breakthroughs needed in basic science to make this happen."

Source: Michigan State University

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