

## From Plant to the Pump: How Plant Genome Research at MU Is Helping To Achieve Bioenergy Goals

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Part of America's answer to the current energy crisis could be fuels made from plants. Fuel made from plant materials, such as cellulose or corn kernels, not only holds promise of reducing our nation's dependence on foreign sources of energy, but also offers a 'green' alternative to traditional petroleum-based fuels. Researchers are investigating a number of different plants as possible sources of biofuels, with corn, soybean, switchgrass, algae, and sugar cane, being the most popular. No matter the source, the process of converting plant material into fuel will require fundamental knowledge of plant development and growth in response to changing environments. For example, production of cellulosic ethanol requires a genetic understanding of how plants control the composition and structure of their cell walls. A number of faculty in the Interdisciplinary Plant Group at the University of Missouri are working on projects that could help scientists and engineers develop new energy crops. Plant sciences at MU could also lead to other improvements in energy crops, including maximizing their productivity, increasing their resistance to pests and drought, and reducing the need for fertilizers.