

# Experts agree: Environmental standards needed for biofuels

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The United States lacks the standards to ensure that producing biofuels from cellulose won't cause environmental harm, says a distinguished group of international scientists. But because the industry is so young, policymakers have an exceptional opportunity to develop incentive programs to ensure the industry doesn't harm the environment.

"Environmental standards are needed now, before the industry moves out of its research and development phase," said Phil Robertson, Michigan State University professor of crop and soil sciences and lead author of the paper "Sustainable Biofuels Redux" published in the Oct. 3 issue of the journal *Science*. "With production standards and incentive programs, cellulosic biofuel cropping systems could provide significant environmental benefits."

Currently, all the commercial ethanol produced in the United States is made from grain, primarily corn. Robertson said that science has shown that almost all intensive grain-based cropping systems, as currently managed, cause environmental harm. As director of the MSU Long-Term Ecological Research program at the Kellogg Biological Station, part of Robertson's research focuses on management practices that can reduce these negative effects.

"We can soften the environmental impacts by using strategies such as no-till farming to minimize erosion and planting cover crops to sequester carbon and reduce nitrogen and phosphorus run-off," he said. "But few farmers use all of the best available practices because there are limited

incentives –and many disincentives – for them to do so. As the technology to make biofuels from cellulose is refined and commercialized, we believe it's crucial that the industry and legislators adopt policies that reward environmentally sustainable production practices for cellulosic biofuels. It's equally important for grain-based systems."

This is one of the first times such a large and diverse group of internationally recognized scientists have spoken with one voice on the issue. The 23 authors are some of the world's top ecologists, agronomists, conservation biologists and economists. The paper is the result of discussions that took place at a spring workshop on the environmental sustainability of biofuels sponsored by the Ecological Society of America.

"This was truly a collaborative effort," Robertson said. "There are strong and divergent scientific opinions on the sustainability of biofuel cropping systems. That this group, with its diverse backgrounds and professional experiences, can come to consensus is remarkable. Decision-makers should take notice."

Source: Michigan State University

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