

**Unacceptable Agricultural, Health, and Ecological Risks from Burning Miscanthus
In the Proposed Jasper, Indiana Biomass Facility** (12-12-12)

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Abstract

Twisted Oak Corporation (TOC) proposes to convert Jasper's coal plant to natural gas/biomass (using *Miscanthus giganteus*). However, its proposal is scientifically indefensible. While TOC fails to present full agricultural, economic, and medical analyses of facility effects, this report shows they would be deadly. Besides particulate pollution, carbon dioxides, etc., this analysis uses basic science and TOC disclosures to show the facility would have at least 4 harmful effects, 3 of which are never assessed in either the city's TOC proposal or its Shaddix review. Besides problems discussed in 2 other ND reports, this analysis reveals 4 TOC deficiencies.

(1) Because the nitrogen oxides (NOX), released by the TOC facility, have no safe dose whatsoever, its NOX releases could cause up to a 260 percent increase in total local, preventable deaths, especially among children, and up to a 320 percent increase in local, preventable, cardiovascular and respiratory deaths, depending on wind patterns and facility-stack velocity. The proposed facility also could cause an epidemic of local child-respiratory diseases.

(2) Growing *Miscanthus* is uneconomical, as compared to growing crops such as corn and soy.

(3) Scientists agree: *Miscanthus* could be invasive. Because Mendel (the *Miscanthus* supplier) contradicts TOC claims that it is not invasive, TOC should bear city/county liability-insurance-protection costs against *Miscanthus*' invasiveness---that could cause \$ billions in local damage.

(4) Because of causing losses to biodiversity, growing *Miscanthus* is less safe than growing biofuels like switchgrass---the US-government-preferred, highly drought-resistant biomass crop.

Senior Author

K. S. Shrader-Frechette specializes in human-health risk assessment and has advised industries and governments all over the world. Author of 16 books and about 400 technical articles, she is a past president of the Risk Assessment and Policy Association. Her work has been translated into 13 languages, and she has served on many US National Academy of Sciences Boards and Panels. The US National Science Foundation has funded her research for three decades. Besides her Ph.D. and biological work, she also has done post-docs in both economics and hydrology/hydrogeology. Among many other awards, *Catholic Digest* recently named her one of 13 "Heroes for the US and the World" for the pro-bono scientific work that she and her Notre Dame students do, to help protect poor and minority communities from disproportionate pollution. Her website is at www.nd.edu/~kshrader