

## 3Qs: Considering new data on genetically modified corn

October 3 2012, by Angela Herring

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Professor Chris Bosso explains the significance of a new journal article questioning the safety of herbicide-resistant corn. Bosso's research focuses on environmental and food policy, science and technology. Credit: Brooks Canaday

An [article](#) recently published in the journal Food and Chemical Toxicology shows the results of a two-year study on the health effects of a corn species produced by the agricultural giant, Monsanto. The corn is genetically modified to resist the herbicide Roundup, and pervades the U.S. agricultural system. The paper claims that mice fed a diet consisting of 11 percent of the novel corn species were two to three times more likely to develop tumors. As the first article to present evidence that genetically modified organisms can have inherent health effects, some critics have called the research methods into question. Northeastern University news office asked Chris Bosso, a professor in the School of Public Policy and Urban Affairs in the College of Social Sciences and

Humanities, to explain the impact the new data will have on the growing discussion of genetically modified foods.

## **How concerning are these findings, given both the data presented in the paper and the reach of Monsanto's maize products?**

While we want to be careful about extrapolating from one study, if substantiated the findings raise profound concerns about the long-term [human health effects](#) of genetically modified [food crops](#). Critics have long argued that Roundup-resistant variants only encourage overuse of the herbicide, with adverse chemical effects on human and [animal species](#). However, this study's findings suggest far graver health dangers from both the herbicide and the variants engineered to withstand it. If substantiated, such findings would have dramatic impacts on a U.S. [food system](#) heavily dominated by GM corn, wheat, and soybeans.

## **Should consumers expect the findings to change the market in any way?**

Not anytime soon, unless consumers simply stop buying commercially prepared [processed foods](#) and decide to rely on only home-cooked meals from grains produced out of non-GM variants. That would include any meat or poultry raised on corn. That's how deeply embedded GM variants are in the U.S. food supply. This being said, any emergence of focused consumer concerns about the long-term health effects of GM crops would shake the nation's food safety system, not unlike what happened in Europe in the 1990s with outbreaks of mad cow disease. Again, while we want to be cautious about extrapolating from a single study, its potential to catalyze public concern about GM food cannot be overstated.

## **What do the findings add to the current body of public policy research regarding genetically modified foods?**

The results raise warnings that force us to think hard about our standards for proof and about the role of precaution in policy decisions about risk. If history is any guide—and here I'm thinking about the battle that ensued after publication of Rachel Carson's "Silent Spring" in 1962—we may well soon be witness to a pretty nasty open fight over appropriate methodology, standards for proof, and whose findings engender greater trust. Given the billions of dollars involved, defenders of GM foods, Monsanto in particular, will debate every last point. And, as history also shows, we as consumers, and citizens, aren't well equipped to know whose word is "right." It may well all come down to whose word we most trust.

Provided by Northeastern University

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