

Pigs fed GM grain suffer health problems, study says

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Pigs fed GMO grain in recent study suffered higher incidence of serious stomach inflammation. Stomach on left came from GM fed pig and stomach on the right came from a control group. (Courtesy of Sustainable Pulse)

Pigs fed a combination of genetically modified soy and corn suffer more frequent severe stomach inflammation and enlargement of the uterus than those who eat a non-GM diet, according to a new peer-reviewed long-term feeding study [published Tuesday in the Organic Systems Journal](#).

The five-month study combined “real on-farm conditions” with “strict scientific controls,” according to lead researcher Judy Carman of Flinders University in Australia.

Using pigs was important not only because “we eat them,” but because humans and pigs share similar digestive systems, Carman said in a statement.

“We need to investigate if people are also getting digestive problems from eating GM crops,” the statement said.

In pigs eating genetically modified crops, the average rate of severe stomach inflammation was nearly three times as high as that for other pigs (32 percent vs. 12 percent). Among male pigs eating a GM diet, the rate of severe stomach inflammation was four times higher.

“The results indicate that it would be prudent for GM crops that are destined for human food and animal feed ... to undergo long-term animal feeding studies preferably before commercial planting, particularly for toxicological and reproductive effects,” concluded Carman and her colleagues, who include Iowa-based farmer as well as crop and livestock advisor Howard Vlieger.

Monsanto, the dominant manufacturer of genetically modified seeds, questioned why the study focused on uterine size and stomach inflammation rather than "body weight and feed conversion." Those factors, it said, are "routinely used as endpoints in health assessments" and have "been measured in hundreds of studies where GM crops have been fed to poultry and livestock with no negative effects."

To that Vlieger responds, "why would you not care what the GM feed does to vital organs and parts of the body?"

Carman added that her findings on weight and feed efficiency largely matched those of Monsanto's. "But we then went further and looked deeper than their superficial studies," she said Tuesday, "and that's when we found significant evidence of harm from eating GM crops."

Monsanto representative Thomas Helscher said that many of the differences in health outcomes were "within normal range" and "considering the ages of the pigs, the author's speculation about differing uterine weights might be the result of pigs in estrus (heat)."

Carman responds that uterus weights can't "be due to differing rates of estrus...as pigs were thoroughly randomized before they began their diet."

David Edwards, who is the director of animal biotechnology for biotech industry trade organization BIO, questions the methodology and notes that overall stomach inflammation was more common in non-GM fed pigs, even though *severe* stomach inflammation was more common in the GM-fed group.

And while researchers say they used a combination of GM grains (with traits that resist herbicide and deliver insecticide) to mirror how most hogs are fed, Edwards believes the combination muddies the specific origin of the outcome.

Dr. Michael Hansen, a senior scientist at Consumers Union, the advocacy arm of Consumer Reports, referred to the new study today during testimony before Massachusetts legislators in support of labeling of products with genetically modified ingredients.

"The new peer-reviewed long-term pig feeding study just published raises important concerns about possible health impacts of consuming genetically engineered corn and soy," he said in a statement. "There have been very few animal feeding studies of GE food to date, and extremely few that lasted longer than 90 days."

Hansen also said in his testimony that intellectual property issues have prevented independent safety testing of genetically modified crops in the United States. Researchers must get permission from the biotech companies to obtain the seeds they would need for such studies, he said in a statement.

The Center for Food Safety, a sustainable food advocacy group, has long bemoaned that long-term feeding studies are not required before GE foods enter the food supply. Today it called

Carman's findings "biologically and statistically significant," mirroring "what many farmers have been reporting anecdotally for years."

“This study raises serious questions about the long-term health impacts of genetically engineered foods,” said Andrew Kimbrell, the center's executive director. “It is grossly negligent that neither the companies nor the government have conducted these rigorous types of studies in the 15 years that GE products have been on the market. Until further long-term, independent studies are done, the public are unwittingly participating in the safety testing of these products.”