

Scary Pictures

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PRAGUE – Campaigners on important but complex issues, annoyed by the length of time required for public deliberations, often react by exaggerating their claims, hoping to force a single solution to the forefront of public debate. But, however well intentioned, scaring the public into a predetermined solution often backfires: when people eventually realize that they have been misled, they lose confidence and interest.

Last month, there were two examples of this in a single week. On September 19, the French researcher Gilles-Eric Séralini attempted to fuel public opposition to genetically modified foods by [showing the public](#) how GM corn, with and without the pesticide Roundup, caused huge tumors and early death in 200 rats that had consumed it over two years.

Supplying an abundance of [pictures of rats with tumors the size of ping-pong balls](#), Séralini certainly captured the public's attention. France's health, ecology, and agriculture ministers promised a prompt investigation and threatened to ban imports of Monsanto's GM corn to the European Union. Russia actually did block imports of Monsanto corn.

But Séralini's research posed many problematic issues. For starters, the Sprague-Dawley strain of rats that he used is naturally prone to tumors. Studies of Sprague-Dawley rats show that [88-96% of those that serve as experimental controls](#) develop tumors before they reach two years of age. But the public saw only pictures of tumorous rats that had consumed GM corn and Roundup. If the public had seen the similarly grotesque tumors that grow on untreated rats, officials most likely would not have acted so hastily.

Séralini used only 20 rats as a control group to be fed ordinary corn with no Roundup. Of these, five died within two years, which is unusual, because studies of thousands of untreated Sprague-Dawley rats show that [about half should have died in that period](#). Using his low death rate as a base, Séralini claimed – with no statistical analysis – that the higher death rate (just below 40%) for the remaining 180 rats fed with GM corn and Roundup was suspicious.

Moreover, Séralini's results contradict the [latest meta-study](#) of 24 long-term studies (up to two years and five generations), which found that the data do “not suggest any health hazards” and display “no statistically significant differences” between GM and conventional food.



Bjørn Lomborg

Bjørn Lomborg, an adjunct professor at the Copenhagen Business School, founded and directs the Copenhagen Consensus Center, which seeks to study environmental problems and solutions using the best available analytical methods. He is the author of *The Skeptical Environmentalist* and *Cool It*, the basis of an eponymous documentary film.

Oddly, Séralini permitted access to his paper to only a select group of reporters, and demanded that they sign a confidentiality agreement preventing them from interviewing other experts about the research before publication. But, while the first round of articles read like press releases, the scientific community has since spoken out forcefully. The European Food Safety Authority, for example, has now concluded that the [“design, reporting, and analysis of the study, as outlined in the paper, are inadequate.”](#)

The study was partly funded by CRIIGEN, a group that campaigns against biotechnology. CRIIGEN’s scientific board is headed by none other than Séralini, who has also just released a book (in French) and a documentary film decrying GM food.

This debacle matters because many GM crops provide tangible benefits for people and the environment. They enable farmers to produce higher yields with fewer inputs (such as pesticides), so that more food can be produced from existing farmland. That, in turn, implies [less human encroachment into natural ecosystems](#), enabling greater biodiversity. But, of course, Séralini’s pictures of cancer-addled rats munching GM corn have instead been burned into the public imagination.

The Séralini fiasco was only a week old when, on September 26, the Climate Vulnerability Forum, a group of countries led by Bangladesh, launched the second edition of its *Global Vulnerability Monitor*. Headlines about the launch were truly alarming: Over the next 18 years, global warming would kill 100 million people and cost the economy upwards of \$6.7 trillion annually.

These public messages were highly misleading – and clearly intended to shock and disturb. The vast majority of deaths discussed in the report did not actually result from global warming. Outdoor air pollution – caused by fossil-fuel combustion, not by global warming – contributed to 30% of all deaths cited in the study. And 60% of the total deaths reflect the burning of biomass (such as animal dung and crop residues) for cooking and heating, which has no relation to either fossil fuels or global warming.

In total, the study exaggerated more than 12-fold the number of deaths that could possibly be attributed to climate change, and it more than quadrupled the potential economic costs, simply to grab attention. But it will be used as a cudgel by those who claim that electric cars or solar panels – technologies that will make only a marginal contribution, given their huge incremental costs – are the solution to climate change.

The technologies that can really make a difference quickly and at lower cost are scrubbers that clean smokestack emissions, catalytic converters that reduce tailpipe emissions, and many others. By focusing purely on cutting CO₂, we neglect to help many more people, much faster, and less expensively.

Likewise, overcoming the burden of indoor air pollution will happen only when people can use kerosene, propane, and grid-based electricity. If the *Global Vulnerability Monitor’s* recommendation to cut back on fossil fuels were taken seriously, the result would be slower economic growth and continued reliance on dung, cardboard, and other low-grade fuels, thereby prolonging the suffering that results from indoor air pollution.

When confronted with their exaggerations, the authors claimed that [“if you reduce hazardous air pollution, it is difficult to not also reduce warming emissions.”](#) But, for both indoor and outdoor air pollution, the opposite is more likely true: lower carbon emissions would mean *more* air pollution

deaths.

When scare tactics replace scientific debate, whether about GM crops or climate change, nothing good can come of it. We all deserve better.

This article is available online at:

<http://www.project-syndicate.org/commentary/the-questionable-science-behind-genetically-modified-food-and-climate-change-by-bj-rn-lomborg>

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