

Cancerous Crops? Populist Narratives, and the Politics of Misinformation



A woman holds a placard, "Poison – Stop GMO" in Lyon, France, May 23, 2015 ([Source](#)).

“Yes, GMOs are poison!” is a headline that echoed across Europe and beyond in 2012. These sentiments were primarily fueled by the publication of a [controversial paper](#) by biologist Gilles Eric Séralini in France. Séralini’s study linked *GM Maize NK 603* to cancer in lab rats, and was illustrated with images of these animals bearing monstrous tumours. The sensationalization of this paper was multifaceted – involving a [book](#), [an article by FRANCE 24](#), and a [film by Jean-Paul Jaud](#).

The paper was published, retracted and even [republished](#) amidst public turmoil. This multimedia blitz sparked a frenzy that overshadowed the study’s critical flaw – it relied on a small sample of inherently cancer-prone rats. It set off what [Brubaker](#) calls “a populist mood” amongst various demographics, characterised by “heightened distrust of expertise”. The ensuing anti-GMO outcry

further swept the paper's flaw under the rug, simultaneously igniting widespread panic and inviting extensive scientific commentary.

Why is this relevant?

The broader expert consensus on GMOs is largely favourable, with major scientific organisations such as the [World Health Organization](#), the [National Academy of Sciences](#), and the [American Medical Association](#) supporting its safety and benefits. The large-scale agreement on GMOs and the blowback from the scientific community on methodology, sample size and statistics analysis seemed to hold little weight. Séralini's alarming findings garnered extensive media coverage and sparked widespread fear and scepticism regarding GMOs. Systematic targeting of GMO crops led to instances like “destruction [...] of two fields by several hundred protesters calling themselves the ‘[volunteer reapers](#).’” Repeated incidents developed France as the “main battleground” for the issue, drawing broad concern that this damage sets back both European research and agriculture.



Jose Bove and other activists protest genetically modified crops in a field in France ([Source](#)).

We delve into the populist nature of the broader discourse on GMOs, catalysed by the dubious Séralini study and the consequent fallout. We examine the “[experiential and participatory challenges](#)” that arise at the intersection of the GMO crisis and populism. This helps highlight

the roots of the larger controversy. We understand why populists selectively adopt some studies while disregarding the broader technocratic consensus.

[Theory](#) on “politicisation of science” provides basis to the sensationalism surrounding the Séralini affair and its subsequent mediatisation. The endorsement of specific studies is embedded in the fragmented nature of science – it allows groups to selectively emphasise certain findings, leveraging them to advance their own agendas.

The Populist Challenge to GMO Acceptance

We draw on Brubaker’s concepts of experiential and participatory challenges to theoretically analyse the GMO crisis. To define the experiential challenge, Brubaker examines how populism is “suspicious of abstract and experience-distant forms of knowledge”, particularly over common sense and “personal experience”. This epistemic gap is evident within the GMO debate. We identify two stakeholders (populist actors) to lay out the experiential gap: consumers and peasants. This stakeholder analysis highlights the presence of a ‘bottoms-up’ or ‘grassroots’ strategy of populism, in contrast to the more common top-down, leader-centric approach.

First, consider the consumers of agri products. When GMO-based compounds were introduced into the European market, their initial reactions were straightforward. The “What’s in it for me?”, however, soon evolved into a more alarming [“GMOs are ticking time bombs.”](#) The benefits of GMOs, which are primarily indirect and geared towards the agricultural sector, remained elusive to the common people. The [World Health Organization](#) draws attention to this feature of GMOs, highlighting that they did not present any “apparent direct benefit” to the average consumer. They were not significantly cheaper, neither did they have a longer shelf life nor offer better taste. The widespread uncertainty around GMOs had an added implication – consumers who noted that these products were vaguely “bad,” remained largely unaware of what GMOs even were in the first place. Various individuals admit to [Jimmy Kimmel](#), “I know GMOs are bad, but I don’t know what they are.” This highlights the epistemic interlude, which Silver [terms](#) as a gap between “everyday experience” and expertise. Consumers struggled to reconcile the scientific benefits of GMOs with their own experience, understanding and expectations.



A man when asked about what were GMO's. He swore he was just going along with the “trend” ([Source](#)).

The second stakeholder we examine are peasants. Brubaker introduces a temporal dimension to the epistemic gap, linking the varied “urgency of expert warnings” to exponential differences. Expert warnings highlighted Covid-19's potential to escalate quickly, but rapid measures mitigate this risk, leading to a less severe outcome than anticipated. The GMO crisis follows this theoretical framework, but with a contrasted timeline. The active abandonment of GMOs creates adverse outcomes (prevents several sustainable benefits). However, as emphasised earlier, the benefits of GMOs are long-term and not immediately visible. Peasants, who might not experience these spread out impacts directly *or* swiftly, often perceive GMOs as offering no substantial advantages. This temporal gap reflects that the slow and gradual nature of GMO gains sharply contrasts the immediate and dramatic outcomes often expected by the actors involved.

Second, Brubaker distinguishes the participatory challenge as based on the “terrain of data”. He says that it is further fed into by the “hyperaccessibility” of expert knowledge. The Séralini paper was easily available and promoted actively – contributing to the “**glut of data**” against GMO crops and products. The phenomenon qualifies both implications of the participatory challenge that Brubaker sets out.

Brubaker first, examines the ease of “assessing expertise” in the status quo – making the rejection of scientific expertise simple. In the case of the GMO debate, the flawed Séralini study was all it took for peasants and consumers to reject the mounting pro-GMO consensus. Second, he discusses the “claiming and exercising” of expertise and connects semi and quasi-experts to populist claims. This is exemplified in the Séralini affair by several self-claimed “knowledgeable participants.” Corinne Lepage, former French Environment Minister, despite admitting that she is “not a scientist” [actively advocated](#) for the *disproven* Séralini paper. Similarly, Gwyneth Paltrow, American actress and lifestyle *guru* collected 200,000 signatures for an anti-GMO petition demanding mandatory labelling. This was heavily reported on and even appeared before US Senators – even as Gwyneth admits she is not an “expert”, drawing criticism from the scientific community. [HuffPost](#) condenses the issue, “Thanks, Gwyneth, but we’ll stick with scientific consensus on GMOs.”

Both participatory and experiential gaps serve to amplify the “Us vs Them”, anti-GMO rhetoric. These are attempts by political forces to tap into related narratives of the populist demographics. The “us” in this case is the populist demographic that we have identified earlier (peasants and consumers); the “them” refers to the pro-GMO community of experts and large corporations. GMOs favour large agro-corporates and transnational agro-elites. Peasants would have to rely on larger enterprises (prone to monopolisation) for functions as elementary as purchasing seeds. This indicates that GMOs, like any other developing technology, have implemental transitional costs – which are easier taken on by the elites.



An illustration by Sue Coe ([Source](#))

Science in the Crossfire: The Séralini Affair and Its Political Ripples

Gil Eyal, in his book “[The Crisis of Expertise](#)”, describes the “recursive crisis of legitimacy”, where the “scientization of politics” has led to the politicisation of science. These two processes reinforce each other, creating an unstable and crisis-inducing reality. Eyal’s analysis suggests that scientific findings can become compromised when the decisions of unelected experts, such as those setting “acceptable levels of safety”, are influenced by specific interests rather than objective truths.

Séralini’s study, while affiliated with the University of Caen’s Institute of Biology, also involved a range of controversial funding sources. Notably, the study received financial support from CRIIGEN, an anti-GMO organisation led by Corrine Lepage, mentioned above; as well as the Fondation Charles Léopold Mayer pour le progrès de l’homme, which funds various environmental and anti-globalization [initiatives](#). Many of these biased sources have confirmed their financial involvement, yet Séralini’s publication did not disclose any conflicts of interest.

The Séralini affair was also marked by unusual press censorship. Reporters were required to agree not to submit the publication for critical review before its official release, in a deviation

from standard [practice](#). A *Libération* journalist [Sylvestre](#) Huet criticised this approach on his blog, “Séralini’s team has knowingly organised the misinformation of the public [...] A deadly deal for the ethical obligations of journalism, since it demands: no counter-expertise, a confidential scientific article, with no possible criticism.”

It is important to note the key promotion strategies employed here. Séralini’s press conference, publicising the findings of his paper; extreme graphics included in media articles both point to an *aggravated* style of reportage. The French press almost unanimously aligned itself with this alarmist [vision](#), only accentuating the public’s latent GMO anxieties. [Moffitt and Tormey](#) examine how the “political” becomes “spectacular” through mediatisation (2014). This is aptly captured in the above methods of marketing Séralini’s findings.

CRIIGEN’s strategy was also to publicise the study relied heavily on dramatic and visually striking images, notably rats with large tumours. These images “aimed” to underscore the potential hazards of GMOs and the herbicide Roundup. There was one critical oversight in the presentation – an absence of photographs showing a control group of rats, not exposed to GMOs or herbicides. The inclusion of control groups is a basic requirement in scientific research to ensure unbiased, causal results. The images were followed by a highly sensational AFP report, which highlighted an exaggerated reaction from the French government, and was picked up widely by international [media](#).



An image discrediting the pictures taken in conclusion of the Seralini study ([Source](#)).

Soon after, the Séralini affair also reached the [Russian](#) media, which, with minimal critical analysis, used the controversy to advocate for protectionist policies against the WTO. In the [United States](#), Séralini's findings were exploited to fuel fears about GMOs, promoting them as dangerous and even comparing them to thalidomide. This scare-mongering also supported [Proposition 37](#), a California ballot initiative for mandatory GMO labelling, which ultimately failed. In [New Zealand](#) and [Australia](#), anti-GMO activists capitalised on the controversy, warning that national health was at risk and pressing their governments to act. In [Vietnam](#), the AFP report led to alarmist coverage in multiple media outlets. The [Kenyan](#) government, swayed by Séralini's study, imposed a ban on GMO imports, a measure that remains in effect to this day. The severity of the impacts is reflected in this *domino effect*, of actions against the “killer seeds.”

How Fragmented Science Fuels Selective Endorsement and Controversy

We now turn to what we believe is the more fundamental reason behind this interaction: the inherently fragmented nature of scientific discourse. To explain this, we borrow from [Ludwig's](#) definition of the ‘New Orthodoxy.’ Ludwig explains the diversity of scientific scholarship, attributing it to different “intellectual traditions and styles of reasoning.” We argue that this variety of opinions leads to differences, something Ludwig admits is “glossed over”. It is important to not overlook these and their resulting outcome, fragmentation. It not only fuels misunderstandings and mistrust but also creates fertile ground for populist narratives to thrive. The latter is not a connection that is new – varied literature connects cultivating populist rhetoric off of mistrust of institutions or groups of people.

Eyal argues that the current mistrust of experts is not a simple, one-sided phenomenon. Rather, it is a complex, dual dynamic. On one hand, there is an unprecedented reliance on science and expertise, while on the other, there is increased scepticism and dismissal of scientific findings and expert opinions. This dual dynamic, particularly the scepticism and dismissal of scientific findings, arises as a result of the fragmented nature of scientific discourse. Scientific discourse is often characterised by conflicting studies, debates, and a lack of consensus, which can confuse the public. This lack of a unified voice makes it easier for populist movements to cherry-pick data that supports their agenda, ignoring the broader scientific consensus. We contend that populist leaders and movements exploit this fragmentation by presenting themselves as the

champions of “common sense” against the elite scientists who seem to be constantly debating and disagreeing. They capitalise on the confusion and distrust that arise from the fragmented nature of science to promote their own narratives. This strategy is particularly effective when scientific debates intersect with deeply personal and emotional issues, such as food safety and health, as seen in the GMO controversy.

The global repercussions to the GMO crisis further advances this argument. In 2012, the U.N. [Food and Agricultural Organization](#) (FAO) reported that 868 million people were suffering from hunger and malnutrition. Addressing this issue requires matching the increase in demand with an appropriate increase in yield. Achieving this is a daunting task that necessitates ongoing scientific advancements and expertise, particularly in the development and management of GMOs. Despite this clear necessity, there is increased scepticism and dismissal of GMO-related discourse. Hence, understanding this fragmented nature of science is critical to navigate its development and discourse surrounding it.

What next?

As technology increasingly intertwines with our daily lives, the role of science and its integration into society becomes ever more crucial. Concurrently, populism as a political force is gaining unprecedented [prominence](#). It is essential to examine how these dynamics interact. It is also important to take away – when sensationalism meets selective science, public trust is the real casualty.

References

- Adams, M. (n.d.). Shock findings in new GMO study: Rats fed lifetime of GM corn grow horrifying tumors, 70% of females die early. *Natural News*. Retrieved from https://www.naturalnews.com/037249_GMO_study_cancer_tumors_organ_damage.html
- Almendrala, A. (2016, December 20). *Thanks, gwyneth, but we'll stick with scientific consensus on gmos*. HuffPost. https://www.huffpost.com/entry/thanks-gwyneth-but-well-stick-with-the-scientists-on-this-issue_n_55c23d5ee4b0f7f0bebb34a4
- Brubaker, R. (2020). Paradoxes of Populism during the Pandemic. *Thesis Eleven*, 072551362097080. <https://doi.org/10.1177/0725513620970804>
- Casassus, B. (2014, June 24). *Paper claiming GM link with Tumours republished*. Nature News. <https://www.nature.com/articles/nature.2014.15463>
- CORDIS, cordis. europa. eu. (2004, August 23). *GMO crops receive increasing support in France*. <https://cordis.europa.eu/article/id/22495-gmo-crops-receive-increasing-support-in-france>
- Douzelet, J., & Seralini, G.-É. (1970, January 1). *Jérôme Douzelet & Gilles-éric Seralini (eds.), the Monsanto Papers: Corruption of Science and grievous harm to public health*. PhilPapers. <https://philpapers.org/rec/DOUTMP-2>
- Editor, G. (2022, August 19). *Viewpoint: 6 debunked anti-GMO talking points activists should abandon for good*. Genetic Literacy Project. <https://geneticliteracyproject.org/2021/04/23/viewpoint-6-debunked-anti-gmo-talking-points-activists-should-abandon-for-good/>
- Entine, J. (2013). *Séralini Threatens Lawsuit In Wake Of Retraction Of Infamous GMO Cancer Rat Study*. Forbes. Retrieved from

- <https://www.forbes.com/sites/jonentine/2013/11/29/notorious-seralini-gmo-cancer-rat-study-retracted-ugly-legal-battle-looms/>
- Ernest. (2022, January 20). *GMO Ticking Time Bomb (2012)*. Recovering The Self.
<https://www.recoveringself.com/reviews/movies/gmo-ticking-time-bomb-2012>
- Eyal, G. (2019). *The Crisis of Expertise*. Polity.
- FAO, WFP and IFAD. 2012. The State of Food Insecurity in the World 2012. Economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition. Rome, FAO.
- Fedorinova, Y. (2012). Russia Suspends Import of Monsanto Corn on Health Concerns. *Bloomberg*. Retrieved from
<https://www.bloomberg.com/news/articles/2012-09-25/russia-suspends-import-of-monsanto-corn-on-health-concerns>
- France 24. (2012, September 20). *France to probe study linking GM corn to cancer*.
<https://www.france24.com/en/20120920-france-cancer-link-gm-corn-seralini-university-caen-anses-rats-tumours-monsanto-genetically-modified>
- GE Free NZ. (2012). Authorities Slow to Recall GE Maize Linked to Tumours. *Infonews NZ*. Retrieved from
<https://www.infonews.co.nz/news.cfm?&id=97399>
- Gillam, C. (n.d.). GM CROP DEBATE HEATS UP AS CALIFORNIA LABELING VOTE NEARS. *Reuters*. Retrieved from
<https://careygillam.com/articles/article/analysis-gm-crop-debate-heats-up-as-california-labeling-vote-nears>
- Guardian News and Media. (2012, May 22). *French ban of Monsanto GM maize rejected by EU*. The Guardian.

- <https://www.theguardian.com/environment/2012/may/22/french-ban-gm-maize-rejected>
- Gupta, S. (2023). The Global Rise of Populism and its Impact on Democracy [web log]. Retrieved from <https://juriscentre.com/2023/04/10/the-global-rise-of-populism-and-its-impact-on-democracy/>
- Ha Han, S. H. (2012). Warning about genetically modified foods. Retrieved from <https://tuoitre.vn/bao-dong-ve-thuc-pham-bien-doi-gen-512437.htm>
- IMDb.com. (2012, September 26). *Tous Cobayes?*. IMDb. <https://www.imdb.com/title/tt2411114/>
- Lloyd, L. (2016, May 19). *N.A.S. Study: G.M.O. crops safe for human consumption*. Food Business News. <https://www.foodbusinessnews.net/articles/7988-n-a-s-study-g-m-o-crops-safe-for-human-consumption>
- Ludwig, D. (2024). Science and Justice: Beyond the New Orthodoxy of Value-Laden Science. *Science and Humanism*.
- Malaurie, P. G. (2012, September 20). *Exclusif. Oui, Les OGM Sont des poisons !*. Le Nouvel Obs. <https://www.nouvelobs.com/sante/ogm-le-scandale/20120918.OBS2686/exclusif-oui-les-ogm-sont-des-poisons.html>
- Moffitt, B., & Tormey, S. (2013). Rethinking populism: Politics, Mediatisation and Political Style. *Political Studies*, 62(2), 381–397. <https://doi.org/10.1111/1467-9248.12032>
- Morton, A. (2012). French GM study raises red flags on both sides. *Brisbane Times*.

Policy finder. AMA. (n.d.).

<https://policysearch.ama-assn.org/policyfinder/detail/biotechnology?uri=%2FAMADoc%2FHOD.xml-0-4359.xml>

Séralini, G.-E., Clair, E., Mesnage, R., Gress, S., Defarge, N., Malatesta, M., Hennequin, D., & de Vendômois, J. S. (2014). Republished study: Long-term toxicity of a roundup herbicide and a Roundup-tolerant genetically modified maize. *Environmental Sciences Europe*, 26(1). <https://doi.org/10.1186/s12302-014-0014-5>

The séralini affair. (n.d.).

<https://www.fondapol.org/app/uploads/2020/06/165-laffaireseralini-gb-2019-09-25-w-3.pdf>

Willingham, E. (2012). Seralini Paper Influences Kenya Ban of GMO Imports [web log].

World Health Organization. (n.d.). *Food, genetically modified.* World Health Organization.

<https://www.who.int/news-room/questions-and-answers/item/food-genetic-ally-modified>

Www.gmoseralini.org, & Admin. (2013, January 10). *Corinne Lepage MEP on why the Séralini Study is “A bomb”:* Huffington post. GMO Seralini. <https://www.gmoseralini.org/huffington-post-corinne-lepage-mep-on-why-the-seralini-study-is-a-bomb/>

X.com. X (formerly Twitter). (n.d.).

<https://x.com/NateSilver538/status/1270697442481143809>

YouTube. (2014, October 9). *What’s a GMO?* YouTube.

<https://www.youtube.com/watch?v=EzEr23XJwFY>

Zaitchik, A. (2023, September 26). *The new colonialist food economy*. The Nation.

<https://www.thenation.com/article/world/new-colonialist-food-economy/>