

Anti-GMO themes are losing traction worldwide, suggests a new scientific paper

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The conversation around genetically modified organisms (GMOs) is becoming more positive, according to new Alliance for Science research analyzing traditional and social media trends on biotechnology.

The peer-reviewed study, published in the open-source academic journal *GM Crops & Food*, finds a significant drop in salience of the GMO issue between 2018 and 2020, suggesting a more favorable and less polarized conversation around the world.

"This seems like cautious good news for science," says study author Mark Lynas, research lead at the Alliance for Science (AfS). "Given the worldwide scientific consensus on the safety and utility of genetic modification, this suggests that misinformation about GMOs is losing its ability to persuade, even on social media."

"The data in the paper show a real shift toward a positive conversation and sentiment toward GMOs," adds co-author Joan Conrow, AfS managing editor. "This suggests that people are increasingly receptive toward technologies that can play a role in lessening the environmental impacts of agriculture, especially in regard to climate change."

The study looked at the number and tone of over 100,000 online and print articles published in English in top-ranked media between 2018 and 2020 as well as 1.7 million social media interactions.

It found that the overall tone of the GMO conversation has been surprisingly positive, averaging 73 percent favorable if neutral and positive reporting are combined, and appears to have become even more favorable over the period studied.

Though social media tends to be slightly more negative than traditional, that gap has narrowed, with the tone of the social media conversation improving from 62 percent favorable to 78 percent favorable by the end of 2020.

The study was conducted in partnership with Cision, a media monitoring and insights company, and used Cision's English-language media

database. Sentiment analysis was generated using automated [computer analysis](#) in real time, using Cision's natural language processing and custom dictionaries. A proportion was also subject to human validation.

"To date, this study represents one of the most comprehensive views of GMO perception within both [social media platforms](#) and general news media, leveraging over three years of continuous tracking and analysis conducted by our team at Cision," says co-author Jordan Adams, a Cision senior data analyst.

While the volume of traditional media coverage increased during the study period, social media coverage of the issue dropped more than 80 percent between January 2018 and December 2020, the period covered by the study. Since fewer people are posting about GMOs, it suggests the issue is becoming less salient, the authors conclude.

"Our data suggest that across all media environments, we seem to be moving toward a more favorable conversation on GMOs," Lynas says. "This is consistent with other measures of the 'debate' that appears to be waning in light of more urgent, real-world challenges, like addressing nutritional security in a changing climate."

The study also found that Monsanto (now part of Bayer) and its association with pesticides, notably [glyphosate](#), appears to strongly drive [negative perceptions](#) toward GMOs, even though the company is but one player in the GMO arena. Coverage of Monsanto/Bayer in both traditional and [social media](#) was consistently and considerably more negative than coverage of GMOs overall.

Additionally, "bot" accounts represented 10 percent of Twitter users engaged in GMO discussions between 2018 and 2020 and contributed 10 percent of the overall tweet volume. The analysis found that bots and cyborgs were substantially more negative in sentiment towards GMOs

than human accounts.

"This suggests that cyborgs and bots may be intentionally used by nefarious actors to sow dissent and make the GMO conversation appear more negative and polarized than it is," states the study.

While only English language media were analyzed, the research had a global focus.

"Positive favorability was observed in Africa, where countries are just beginning to adopt the technology," states the report. "The (GMO) conversation is generally favorable in the US, Africa and South Asia."

The Alliance for Science is a global communications initiative based at the Boyce Thompson Institute.

More information: Sarah Evanega et al, The state of the 'GMO' debate - toward an increasingly favorable and less polarized media conversation on ag-biotech?, *GM Crops & Food* (2022). [DOI: 10.1080/21645698.2022.2051243](https://doi.org/10.1080/21645698.2022.2051243)

Provided by Boyce Thompson Institute

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