Could 2018 mark the end of the anti-GMO movement?

Editor's note: This article is part one of a three-part series by Marc Brazeau on his 2018 predictions on food, farming and GMOs. Read part two and part three.

For people in the middle of the debates around biotech in agriculture (which tellingly don't extend into debates around biotech in medicine), the discussion tends to have a Groundhog's Day character to it, as the same zombie talking points continue to require a bullet to the head on nearly any given day. Zoom out a bit however and you can see that the shape of the battlefield has shifted dramatically. It's worth reviewing what has changed over the last few years.

Past is prologue

"What has changed?" food policy writer Beth Hoffman asked Stacey Malkin, who had run the campaign in California for a mandatory GMO label.

That is a Twitter exchange from 2013 in a piece where I tried to take stock of what *had* changed in the discussion between 2009 when the editorial board of Scientific American had called industry control over biotech research "chilling" and 2013 when the editorial board came out against mandatory GMO food labels.

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A lot had changed. Industry control over biotech research had changed; in fact, it had never been as chilling as the SciAm editorial had made it out to be. The EU had released a major report summarizing the findings[PDF] of the €300 million they had spent over two decades researching the impacts of biotech crops. Biofortified had created the GENERA database of the relevant research. Two major literature reviews had been added to the scientific literature. Nathanael Johnson has published his landmark series "Panic-Free GMOs". The Séralini rat study debacle had given the anti-GMO movement a huge black eye. a scandal that led Keith Kloor to add the anti-GMO movement to his science denial beat:

> I used to think that nothing rivaled the misinformation spewed by climate change skeptics and spinmeisters.
>
> Then I started paying attention to how anti-GMO campaigners have distorted the science on genetically modified foods. You might be surprised at how successful they've been and who has helped them pull it off.
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> I've found that fears are stoked by prominent environmental groups, supposed food-safety watchdogs, and influential food columnists; that dodgy science is laundered by well-respected scholars and propaganda is treated credulously by legendary journalists; and that progressive

> media outlets, which often decry the scurrilous rhetoric that warps the climate debate, serve up a comparable agitprop when it comes to GMOs.
>
> In short, I've learned that the emotionally charged, politicized discourse on GMOs is mired in the kind of fever swamps that have polluted climate science beyond recognition.

Environmentalist and former anti-GMO activist Mark Lynas gave his famous speech at the Oxford Farming Conference stating explicitly: His anti-GMO views had been a form of denialism. And the state initiative campaigns led to major scientific organizations [PDF] issuing consensus statements on GMOs. All this started to impact how the mainstream press covered the issue.

My take from that 2013 piece:

> But the number of journalists who understand GMO's reasonably well and are aware of the scientific consensus is greater as well. While many people get their news from specialized websites and blogs, most people still get their information from professional journalists and I believe the tide has already started to turn in that community. The number of writers turning to people like Pamela Ronald of UC Davis or Kevin Folta of the University of Florida for quotes and background is surely larger.
>
> I think the era of a quote from Andrew Kimbrell or Jeremy Rifkin balanced with a quote from a Monsanto spokesperson is behind us. And it's not good news in the long run for opponents of GMO's.

The most notable change since the labeling campaigns has been the way anti-biotech groups have more or less given up on the safety issue in mainstream venues. I really think those campaigns backfired insofar as they made journalists finally pay attention to the issue long enough to figure out that the safety issue was an empty vessel. All of which is to say that the landscape does change, even if it doesn't feel that way in the trenches.

Taking labeling off the table

Since 2013, the shifts have been a bit subtler, but steadier as well. One of the biggest but least recognized was the passage of the Safe and Accurate Food Labeling Act of 2015 (SAFE Act) or as opponents called it, The Deny Americans the Right to Know Act (DARK Act). The bill was passed with bipartisan support of Republicans and centrist Democrats and signed into law by President Obama. It preempted states from passing their own messy patchwork of mandatory labeling laws and laid out standards for voluntary labels, while requiring a GMO ingredient label for any GE ingredients that are materially different than their conventional counterparts.

While this bill was to almost no one's liking – for those that want their policy based on science, it went too far; for those that want a mandatory label, it didn't go far enough – what it did in the overall debate was end labeling as a political vehicle for anti-GMO activism and misinformation campaigns. It took away a

point of entry where the average consumer, who wasn't an anti-industrial agriculture ideologue, could be drawn into the debate.

This is little appreciated as a turning point, if one understands that controversies over science hinge on disagreements over values first and evidence second. That is, science becomes polarized when it comes into conflict with the values of a group. There are many, many non-polarized issues in science where nearly no one is questioning whether scientists understand their field well enough or whether they are telling the truth. It's only when an issue becomes polarized, that people start to cherry-pick facts and apply motivated reasoning in the face of strong evidence. Persuasion becomes an uphill battle.

Unlike climate change, which is a truly polarized issue, GMOs are not a polarizing issue outside of narrow circles. The average consumer has very little knowledge or investment in the issue. One survey that was made during the labeling campaigns in 2013 asked consumers about GMO labeling in a variety of ways in order to gauge knowledge, interest, and intensity on the issue. When asked if GMO ingredients should be labeled, 73% said 'Yes'. More tellingly, when asked the open-ended question, "What information would you like to see on food labels that is not already on there?" only 7% called for GMO labels unprompted. That would seem to put 66% of consumers in the "Sure, why not" camp. Yale researcher Dan Kahan who heads the Cultural Cognition Project has found in their polling that GMOs are NOT a polarized issue with the general public in the way that climate change is.

Kahan GMOs

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This is not what it feels like if you are active and *inside* the debate. But for most people, the GMO issue is not what Kahan would call a “polluted” science communication environment in the way that vaccination and climate change have become. It’s barely on most people’s radar. That’s why the “Vote NO” campaigns in California, Oregon, Washington, and Colorado were successful with a simple message of clean-cut farmers talking about the importance for their farms and narrators talking about added food costs. That message sidestepped the science entirely and overcame the completely intuitive message of “I have a right to know what’s in my food”. When most of the public’s opinion on GMO labeling is “Sure, why not?” all you need to do is answer “why not” halfway credibly.

After the state labeling campaigns were over, we saw a steep decline in people joining and engaging in the GMO Skepti-Forum, a large and active evidence-based Facebook forum I’ve been involved in since early 2013. Even bigger has been the drop off in critics of GMOs joining to “do battle” with advocates. But there has also been a big drop in fence sitters just wanting answers. The GMO issue is just not on very many people’s radar, and even less so since the state labeling battles ended.

Likewise, there was a huge drop off in interest in the annual March Against Monsanto demonstrations around the country after the labeling issue was taken off the table. To the point, where the march in my hometown of Portland, OR was canceled last year due to lack of interest. I've gotten reports of similardrop off and cancellations from friends in other cities.

This is a boon to advocates which I don't think many appreciate for the opening that it is. The lack of political salience creates opportunities for new products geared towards consumers like the Arctic Apple and Innate Potatoes to gain a foothold without the background static of politicized, polluted communication environment. Sadly, there is a move afoot by the ag lobbies to turn the labeling issue back into a political football with a lobbying effort to ban voluntary non-GMO labels on products where no GE analog exists. I think that's a tactical mistake.

Moving the goalposts

With the safety and labeling issues off the table, the anti-GMO movement has had to move the goalposts. The safety discussion over the last two years has moved almost completely to the safety of glyphosate, the active ingredient in Monsanto's herbicide RoundUp, and a concerted campaign to change the conversation from what the research evidence on GE crops and related herbicides shows to a conversation about who paid for the research and whether it's credible.

It should be noted that the safety of glyphosate is an adjacent issue to genetic engineering issues. While glyphosate resistance is a major biotech trait, used on hundreds of millions of acres, glyphosate is widely used in the production of many non-biotech crops including millions of acres of wheat – a staple crop which has not been genetically engineered for commercial use.

The anti-GMO movement had been somewhat adrift after their defeats in the quest for a mandatory GMO label that would allow them to organize boycotts. Then in the spring of 2015, the International Agency for Research in Cancer delivered a new political football in the form of their hazard assessment of glyphosate, designating it a probable carcinogen. This report was tailor-made for agitprop fear-mongering, because the general public doesn't understand the difference between a hazard assessment and a risk assessment. They didn't understand how little evidence was propping up the word "probable". But they did understand the word "carcinogen". And nobody hears nuance that they don't want to hear.

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The IARC essentially said that there was a bit of evidence that

at a high enough level of exposure, RoundUp could potentially lead to non-Hodgkins lymphoma based on a bit of data that showed increased rates in people who work applying RoundUp in the field. That data was pretty scant and other, better data showed otherwise, but that's the point of a hazard assessment.

The IARC assessment has since become the basis for a California lawsuit representing residents with non-Hodgkin's lymphoma who have been exposed to RoundUp. The outcome of that case will have a big impact on the narrative if a judge rules in the plaintiff's favor, but their lawyers have a steep hill to climb. (A dismissal, on the other hand, won't change the discussion a lick.)

However, the findings of IARC haven't weathered 2017 all that well. While a fair amount of commentary had pointed out that the IARC finding was an outlier, two blockbuster Reuters reports unveiled the reasons why: the process had been manipulated to downplay research that hadn't found evidence of carcinogenicity and gave too much weight to a few thin reeds that did. In June they reported that:

> "The scientist leading that review knew of fresh data showing no cancer link – but he never mentioned it and the agency did not take it into account." Then in October, "When the International Agency for Research on Cancer assessed the best-selling weedkiller glyphosate, significant changes were made between a draft of its report and the published version. The agency won't say who made the changes or why."

"The IARC says that glyphosate is a probable carcinogen" as an anti-GMO talking point has really taken a serious hit here. While it will circulate in anti-GMO circles forever, it shouldn't be inserted for context into mainstream reporting on various issues that crop with the herbicide. Meanwhile, the Monsanto Papers scandal, has produced a lot of smoke and little but smoldering embers in terms of fire.

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GMOs 2.0

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The final development putting the anti-GMO movement back on their heels this year in terms of mainstream credibility and traction is where the tech is going. CRISPR and

other gene editing techniques have been enthusiastically hailed by the mainstream press as exciting innovations with minimal nods to “balance” in the form of finding increasingly fringe organizations to offer some cautionary counterpoint.

Meanwhile, genetic engineering is being used in aspects of the Plant Meat 2.0 movement, putting environmental groups in a political bind if they want to oppose a technology that can help reduce excessive beef consumption among carnivores and make vegetarian’s lives easier. And then products for US and Canadian consumers like the Arctic Apple and Innate Potato cut against the narrative that GE crops only benefit farmers (as if that was a bad thing) or are only for selling more herbicide. In Bangladesh, Bt brinjal brings an example of a GE crop beyond reproach, helping smallholder farmers in a developing nation raise a key staple crop – and a vegetable no less – with far less insecticides.

A Communications infrastructure for advocates

Perhaps the most significant change, since 2013 is the development of an infrastructure and ecosystem of well-informed advocates who have a trove of resources to educate journalists, friends, and neighbors. I remember what the comments sections on any article related to GE looked like in 2012. There were only five or six regulars trying to answer questions and address misinformation. They were limited in what links and resources they could point people to. Nowadays, you see hundreds of different people (some of them I don’t even recognize!) who are well informed and able to direct people to articles or well-written blog posts on just about any topic that comes up.

It’s also no small thing that there is finally a major documentary on the subject that is not an anti-GMO gish gallop.

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Consider this web ad that Stonyfield Yogurt just put up on Facebook. Rather than organic and anti-GMO cheerleading, the comment section is an avalanche of commenters calling them out for science illiteracy, abusing the child actors, and promises of new individual boycotts. The volume was so overwhelming that it’s hard to find the handful of comments supportive of Stonyfield’s stance. That would have been unimaginable five years ago.

A lot of the conversation still has that Groundhog's Day aspect of different day, same old wrong talking points, but the battle is being fought on a whole new scale.

The end is nigh

To be clear, I'm not predicting the end of anti-GMO activism, but rather its ability to be taken seriously in mainstream venues. It's been building for the last four years or so, but I really think the anti-GMO is headed back to the fringe.

POSTSCRIPT: In soliciting feedback on a draft of this piece, one of my more annoying friends asked "So by the end of 2018? – and is there a way to quantify this? Like how do we hold you accountable – or say you nailed it?"

That's a good question and it tends to have an "I'll know it when I see it" aspect to it. Let me lay down a few markers that might give a more concrete way of judging this prediction – with the caveat that we may not have the necessary perspective until a few years from now to judge if it was really accurate.
1. Is the anti-GMO movement able to push a NEW angle or topic into the public debate?
2. Are they able to drive reporting by major media organizations the way US Right to Know has been able to with The New York Times over the last few years?
3. Are they able to muster significant grassroots mobilization as they did with March Against Monsanto in 2013 and 2104?
4. Are they able to put significant public policy changes on the ballot in states or in counties with significant agricultural economies?

[Editor's note: Marc wrote a follow-up to this article at his blog. Read it here.]

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