GMO social media battleground: Scientists and farmers using activist tactics to push back on disinformation deluge

Social media has fundamentally changed how we communicate with each other. Much has been written about the negative consequences of this development, but the widespread use of platforms like Twitter and Facebook has allowed scientists and farmers to bypass traditional gatekeepers and interact directly with the public. Nowhere is this more apparent than in the discussion surrounding crop biotechnology, “GMOs” in common parlance.

Crop biotech innovations like CRISPR gene editing have permitted a substantial reduction in the time and money required to breed new plant varieties, creating competition for established firms and allowing developing countries to address their specific food security concerns. Farmers and agricultural scientists are using social networks to share credible information about advances like CRISPR and dispel the endless myths about the technology that proliferate online.

Farmers demand access to better crops—on social media

While gene-edited crops are poised to help farmers reduce yield losses and improve the quality and nutrient content of their products, the public’s perception of the technology will ultimately decide if and how it will be used to battle hunger worldwide. Consumer fear of transgenic (GMO) technology, expressed largely on social media, stifled important farming innovations in years past, and a repeat with gene editing is possible.

Hoping to prevent that scenario, farmers are joining the virtual debate. They are a relatively small online constituency, but organizations such as The Global Farmer Network (GFN) help amplify the voices of farmers on essential issues like trade, technology, and sustainable farming. GFN members have successfully communicated with the public through social media, paving the way for others. One such example is Ruramiso Mashumba, an African smallholder farmer and chairperson of the Zimbabwe Farmers Union. Ruramiso has been very active in demanding access to improved seeds to help growers adapt to today’s challenges.

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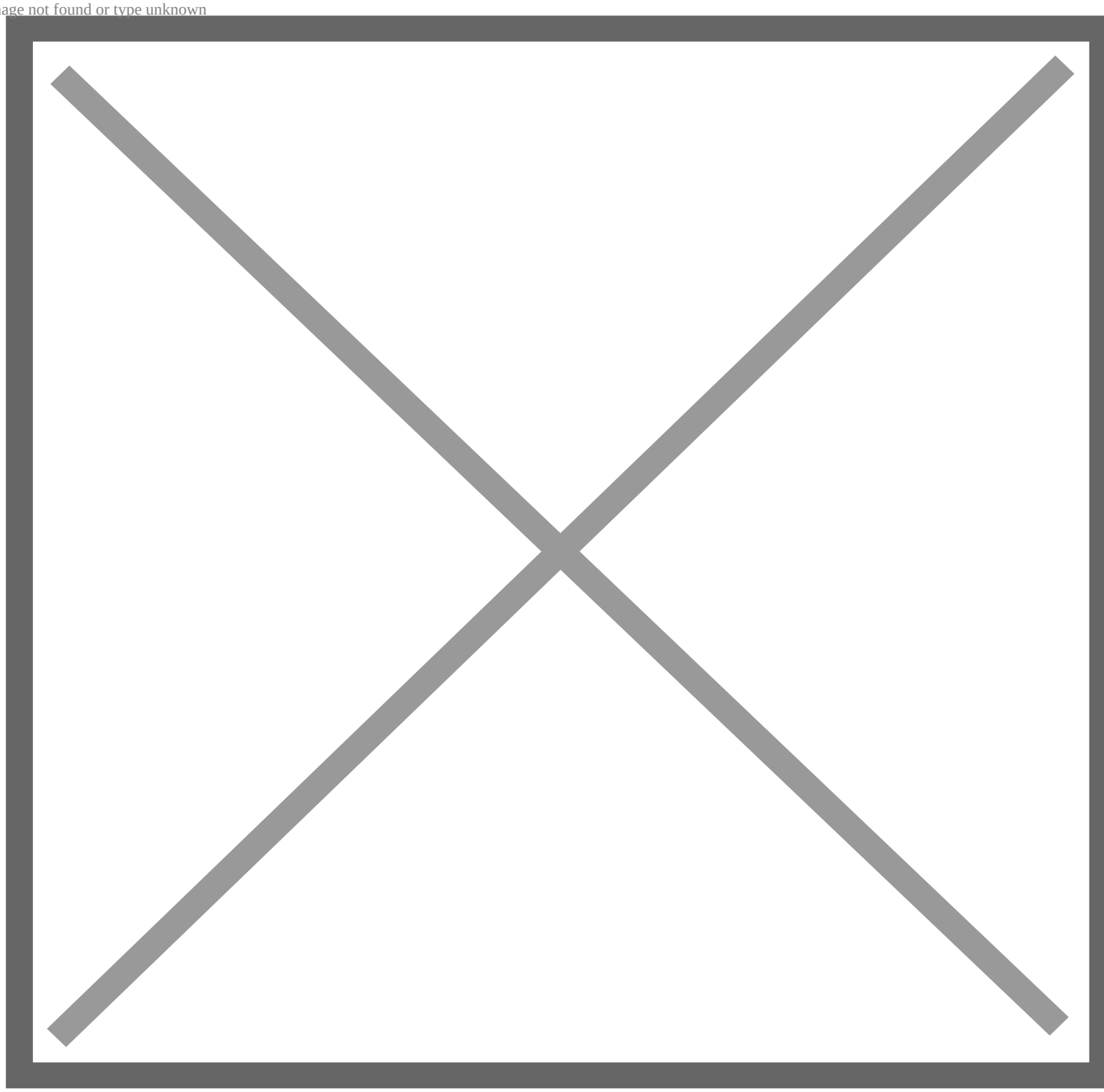

Ruramiso Mashumba. Credit: Stop Hunger

Additionally, through its @World_Farmers Twitter account, GFN gives farmers around the globe a chance to communicate with the rest of the world. 205 farmers from 53 countries have connected and shared the importance of access to all available tools, such as gene-edited crops, through this online forum.

Scientists change public perceptions, one Tweet at a time

Over the last 25 years, the discussion about GMOs in agriculture has been led by anti-technology activists. Now, scientists are successfully battling misinformation online. The growing debate over the benefits and risks of CRISPR-Cas-9 is increasingly happening on social media, and the evidence suggests that academics will have a long-term impact on public opinion and ultimately influence policy decisions.

One of the agricultural scientists leading this effort is University of Florida geneticist Kevin Folta. With almost 25K followers on Twitter, he responds directly to users who share misinformation. Folta also hosts the Talking Biotech Podcast, a platform he utilizes to promote the work of experts from a variety of disciplines. Cornell University's Sarah Evanega has led the Alliance for Science, a nonprofit that likewise gives academics a chance to combat anti-biotech myths and, more recently, conspiracy theories and disinformation surrounding the pandemic, vaccines, climate change, and synthetic biology.

Sarah Evanega. Credit: Council for Agricultural Science and Technology

Why online science outreach is vital

As Evanega has explained, “misinformation became a buzzword with COVID, but in plant science, we’ve been dealing with misinformation for decades.” Fortunately, social media has empowered a younger generation of scientists and science advocates to effectively communicate about important food production innovations.

But the fight doesn’t stop at agriculture. As biologist Mary Mangan has pointed out, during this pandemic, everyone’s Facebook and Twitter feeds have been bombarded by waves of anti-GMO or anti-vaccine nonsense, and sometimes a combination of both. This is a serious problem, she noted, but “evidence suggests that people will sometimes reject misinformation when they see others corrected for trying to spread that same misinformation.”

Credible information effectively inhibits the spread of pseudoscience for various science topics across multiple social media platforms. For the first time in many years, experts have a chance to get ahead of misinformation campaigns, which could make all the difference in the gene-editing debate.

“The life ring we need to keep science literacy afloat right now may be in our hands,” Mangan has written . “Or at least at our fingertips.”

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