

African agricultural scientists cite continent-wide double standard in embracing GM COVID vaccines while blocking GM crops

Most African countries are still in the early stages of COVID-19 vaccination dissemination, if they've begun imports of the shots at all.

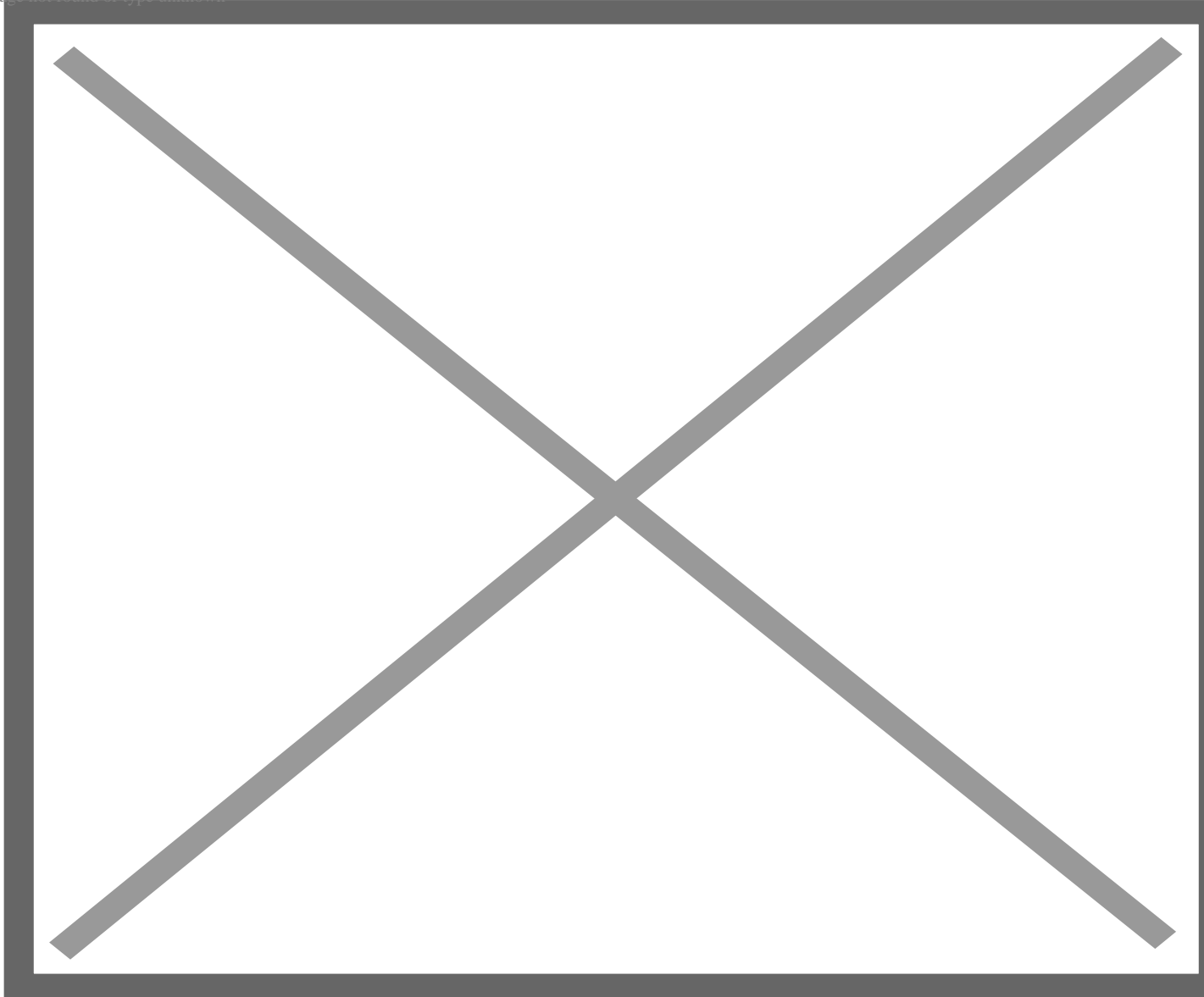
By June 2021, Uganda had acquired 1,039,000 doses of the AstraZeneca COVID-19, while Kenya received its 1,020,000 doses of the same vaccine in March. [South Africa](#) is about to get its first batch of the Johnson and Johnson vaccine, delayed because of the production halt at a plant in the US in April.

But the numbers are tiny relative to Africa's 1.3 billion population. Only about 1 percent of Africans have been fully vaccinated, and the prognosis even through next year remains grim. Rich nations have bought up most doses [long into the future](#).

Still, the enthusiasm for the vaccine, almost all of which are biotechnology based, remains intense among public health and government officials. But similar to the campaign against genetically modified crops, misinformation is rampant. About 68 percent of people surveyed expressed concerns around vaccine safety in a [15-country study](#) released in March by the Africa Centers for Disease Control and Prevention. Most of the misinformation is spread on social media.

"It's a kind of a balancing act of timing, accuracy, consistency, credibility, the skill to speak in a way that takes complex science and delivers it in a way that people can understand," [said](#) Dr. Marina Joubert, a senior science communication researcher at the Stellenbosch University in South Africa.

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Marina Joubert. Credit: Stellenbosch University

What about crops?

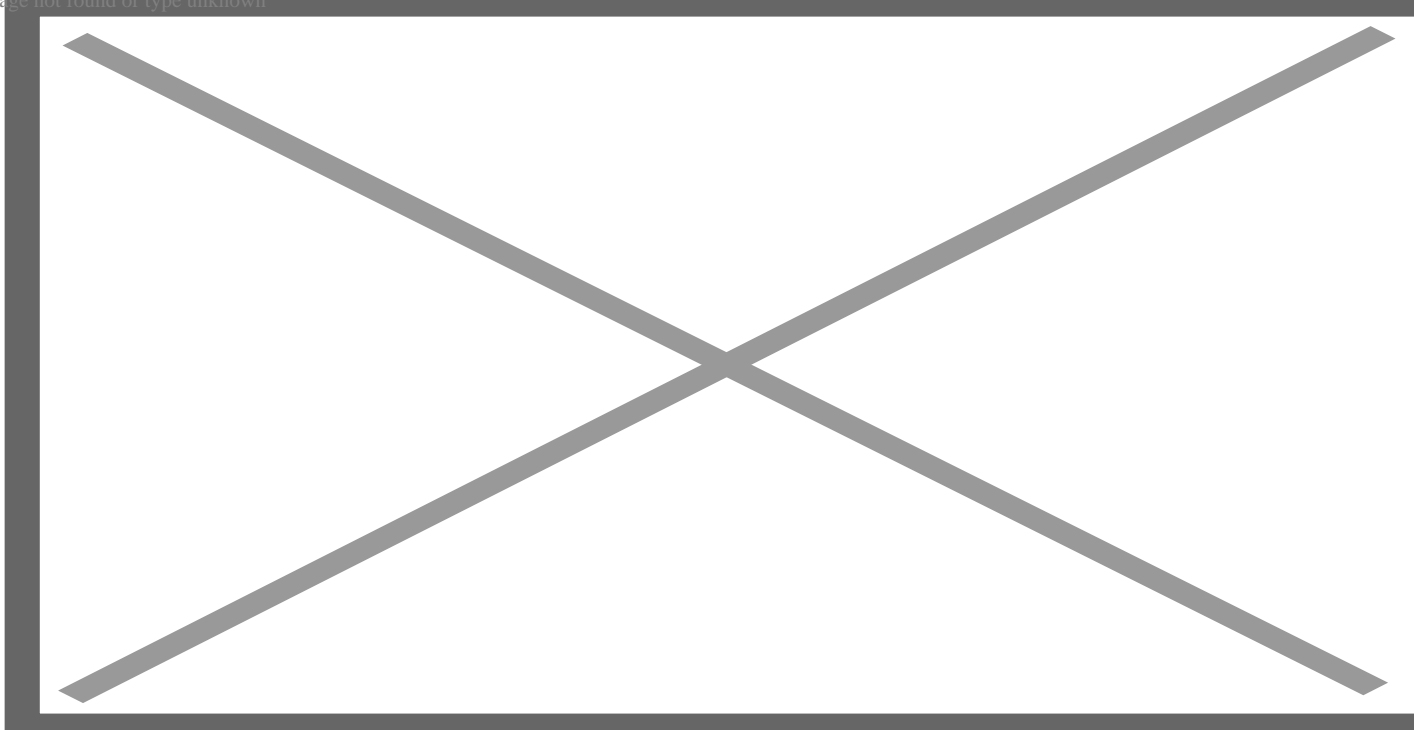
The aggressive and outspoken support for the science of vaccines, which is understandable considering the immediacy of the crisis, has perplexed many in the African agricultural scientific community. For years, agricultural scientists have pushed for breeding crops using modern biotechnology, meeting frequent roadblocks and regulations from their respective governments. To see these same African governments embracing the vaccine, a GM output developed utilizing almost identical technologies used to breed GM crop varieties such as [cassava](#), is jarring.

Only four out of 47 countries in Africa have legalized the growing of GM crops: South Africa, Burkina Faso, Sudan and more recently Nigeria. African governments continuously have opposed agricultural GM

products, insisting they are harmful to overall ecological and environmental health. This sudden shift in acceptance is both painful in its hypocrisy but nonetheless hopeful to agricultural scientists across the continent.

Dr. Andrew Kiggundu, Project Manager for [Virus Resistant Cassava for Africa at the Donald Danforth Plant Science Center](#), told me that the COVID-19 outbreak has facilitated discussions amongst scientists worldwide about the application of modern biotechnology.

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Dr. Andrew Kiggundu. Credit: Sunrise

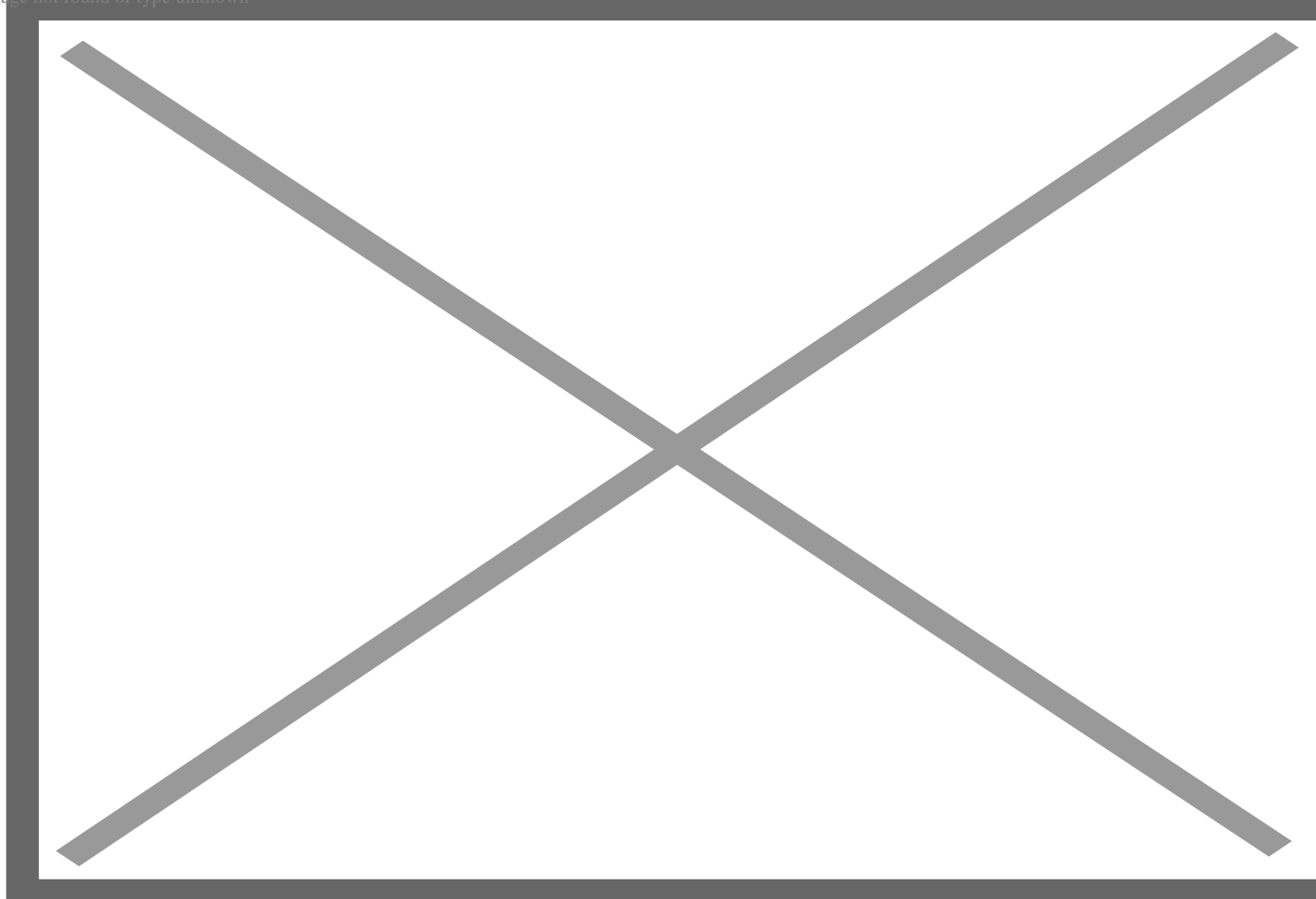
Given the pace and mortality rate of this new disease, Dr. Kiggundu argues, health scientists should be required to publicly share the gene editing technology that made the vaccination for COVID-19 possible. “Health professionals in Africa have not sensitized the public about the Astra Zeneca COVID-19 vaccine by telling them it is a GM vaccine,” he said. “This is the reason African governments are embracing it because they are not aware it is a GM vaccine. The public too is not aware.”

The duplicity comes up in scientific meetings all the time. While [presenting to](#) science journalists in Africa, Dr. Ihuoma Okwuoma, a plant biotechnologist and Chief Research Scientist at the National Root Crops Research Institute, addressed the use of gene editing in cassava breeding in Nigeria and Uganda. She also noted the hypocrisy of the African governments embracing the GM created COVID-19 vaccine during a global pandemic while ignoring the same technology for the less public starvation of the African populations.

African governments must continue to embrace biotechnology, not only for public health, but for public access to food, they believe. Passing laws for its safe use in agricultural on the heels of its success within the COVID-19 vaccine would send a clear message to the public: GM technology is safe in its many diverse and lifesaving forms, from vaccines to drought and disease resistant crops.

Furthering this conviction, NGOs known for their loud opposition to agricultural biotechnology, such as [ActionAid](#) and [Food Rights Alliance](#), have remained silent regarding the origins and use of the COVID-19 vaccines.

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Credit: ActionAid

There is a robust anti-vaccine movement, however, with clear links to anti-crop GM activists. Dr. Kiggundu cites Dr. Gregory Olupot, a soil scientist from Makerere University, a notorious anti-GM activist who has been embroiled in scandal over the years (read about his [forced withdrawal](#) of a bribery allegation).

New strategies

[John Odipio](#), a doctorate student at the National Crops Resources Research Institute, studies the breeding of cassava via gene editing and silencing. He notes that the biotechnology that created the

COVID-19 vaccine has been lauded globally by both crop GM critics and supporters — a glaring double standard.

In US, fast and effective COVID-19 testing kits based on gene editing have been developed and used after breakthrough application of the same CRISPR Cas9 technology for crop and animal improvement. Even in [the] EU, where the word GM evokes tensions, COVID vaccine passed to patients without the costly regulation that plant and animal biotechnology products have suffered.

The wide acceptance of biotechnology-derived COVID vaccines provides some hope to Odipio, who views the plant and animal products derived by the same scientists using the same technology as the logical step forward in food production.

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Dr. Jeremiah Gitau, Chair of the [COVID-19 Champions Response Team](#) at Kenyatta University Teaching Referral Hospital, notes that there are forty variants of the virus, emphasizing that governments throughout Africa must encourage their citizens to receive the vaccine.

He defined vaccination as a simple, safe, and effective way of protecting people against harmful diseases.

The same sentiments lie behind the push for biotechnology within the agricultural sector. Simple, safe, and effective growing methods behind food production are the only way forward. Hopefully, the precedent set with the approval of the GM sourced COVID-19 vaccine will ignite the GM-based agricultural flame.

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