

Kenyan farmers clamor for GMO maize seed after visiting demonstration site

Impressed by the high yields realized in open field trials, Kenyan farmers are urging their government to speed up the process of allowing them to access genetically modified Bt maize.

“I have seen today that when I will be able to plant Bt maize, it will improve my yields and help me fight pests and diseases,” said John Kamau, a farmer from Muranga County, who visited a demonstration plot that compared Bt maize to conventional non-Bt varieties. “With enough beans and maize, we cannot go hungry again, and it will also be easier to sell the crop.”



Farmer John Kamau inspects an ear of Bt maize at the Thika test plot. Credit: Alliance for Science/Verenardo Meeme

The excited farmers said the bountiful returns from Bt maize, which has been genetically modified to resist insect pests, reminded them of decades long gone when their parents and grandparents harvested large amounts of the crop from their fields.

The farmers expressed great interest in trying the Bt maize after visiting a Kenya Agriculture and Livestock Research Organization (KALRO) National Performance Trial (NPT) site in Thika, Muranga County, which is part of the TELA maize project. The NPTs were planted last October.

“This is quite encouraging,” observed Dr. Mwimali Murenga, KALRO senior principal research scientist. “As they see the maize, they want the seed like yesterday.”

“When my maize is good, it makes me feel joy,” said Njeri Kinuthia, a 60-year-old mother of four and maize farmer in Muranga County who visited the Thika site this week. “I have learned that with my small one acre of land, I can plant maize for my domestic consumption and get a surplus to sell. What has been stopping us is the lack of knowledge that there exists a maize variety that slows our challenges. With technology, we can produce more maize and find surplus.”

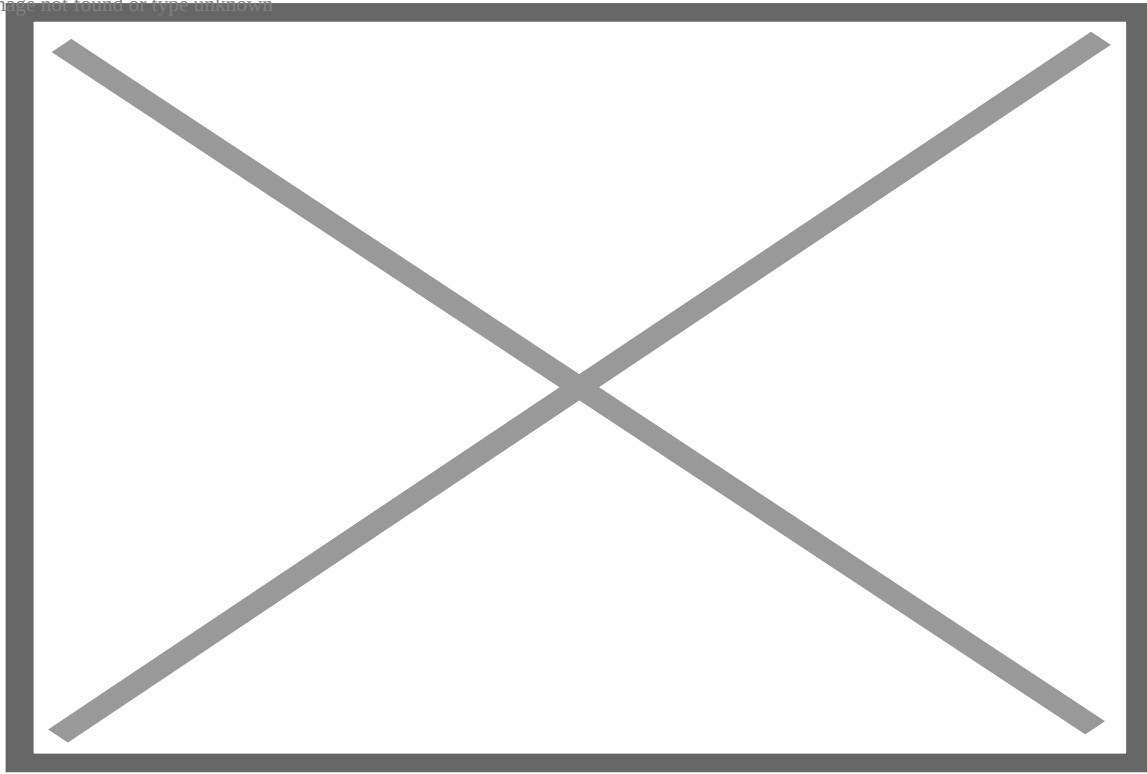
Kinuthia shared the scientists’ description of how Bt maize is developed from soil-dwelling bacteria, which corroborates with local farmers’ indigenous knowledge of using the soil to tame the destructive stem borer pest.

“My eyes are now open,” she told the Alliance for Science. “Initially, I used to hear about GMOs on the radio, but today I have seen real GMOs. I will reach out to more farmers to tell them what I have learned. I thought GMOs are chemicals that harm people, but today I have seen it is a crop just like any other. I thought that GMOs are imports from far away, sealed in a paper with some labels on it. But today, I am surprised to see that GMOs can grow in our own soil just like any other maize.”

“The untruths some people talk about GMOs is a lie, it is just a myth,” noted Jane Wambui, a maize farmer in Kiambu County, after seeing the Bt maize crop for herself.

“I am very happy today,” Kinuthia said. “For so long, we have grappled with low yields. We did not know that KALRO scientists have developed varieties that address our troubles with persistent pests and diseases. I ask the government to educate more people so that they can see what I have seen because farmers in rural areas are not exposed to the knowledge that there are crops out there with such high yields.”

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A farmer talks to plant scientist James Karanja about Bt maize. Credit: Alliance for Science/Verenardo Meeme

Wambui was similarly impressed, especially after experiencing low yields growing conventional varieties. “We are told to put at least three seeds in one hole so that in case some fail, we may be lucky that one may yield something. My request is for us to be allowed to access Bt maize before the rains start for the next planting season, hopefully by the beginning of March. If it was available here today, I would have bought the seed to go and plant in my three-acre farm.”

Wambui described Bt maize as “smart, healthy, with strong stems, good yields and with ears that do not open up quickly to allow toxins such as aflatoxins to spread in the maize. Maize has many enemies, including the fall armyworm, stem borers and aflatoxin. Previously we found the fall armyworm on leaves but these days we also find them in the stems and even during harvesting.

“With Bt technology, I don’t see such pests,” she added. “It is not like the current maize crop in my farm — discolored and badly ruined by stem borers. I could not afford chemicals, which are so expensive and often result in more losses, so I used ash and soil to tame the pests. Thankfully, today I have seen that with Bt maize, I do not need to use chemicals. I am anxious for the government to allow us to cultivate the crop.”

“Farmers are very ready,” Murenga said. “The government should give farmers a chance to use the tech to protect their yields from losses from stem borers and fall armyworm. The solution is already here with us.”

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James Karanja, principal investigator of the TELA maize project, said the Kenya Plant Health Inspectorate Service (KEPHIS) is collecting and analyzing the data before making recommendations based on the efficacy of the technology in comparison to the non-Bt and commercial varieties. The NPTs will be harvested in March for KEPHIS to present a report in April.

If KEPHIS recommends the variety for commercialization, it will be up to the Kenya National Biosafety Authority (NBA) to grant commercial approval and issue a license allowing seed companies to distribute seeds to farmers. If the NBA approves the crop, farmers should be able to access the seed by August, Karanja said.

The TELA maize project builds on progress made from a decade of breeding work under the Water Efficient maize for Africa (WEMA) project. TELA is derived from the Latin word *tutela*, which means protection or shield. The WEMA project also developed non-GM drought-tolerant hybrid varieties of maize. KALRO is the lead agency on the project in Kenya.

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