

COMMENTARY



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Kenya GMO Update: What Does Environmental Release Mean?

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Recently, Kenya's National Biosafety Authority (NBA) gave approval for environmental release of *Bt* Maize. This is a bold move for a country where genetically modified organisms (GMOs) discussions are heavily politicized, and in 2012, the Kenyan government issued a ban on GMO

imports due to unscientific and since-retracted claims linking GMOs to cancer. Scientists and researchers at Kenya Agricultural and Livestock Research Organization (KALRO) and the African Agricultural Technology Foundation (AATF) spearheaded efforts to push for *Bt* maize cultivation in Kenya. *Bt* maize is a plant that is protected from maize stalk borer pests, endemic to major maize producing areas of Kenya.

What does environmental release mean? Environmental release means that the GMO is released for field trials without confinement, freely growing and interacting with the natural environment. According to the NBA, "...the authority has granted a conditional approval only for environmental release for the purposes of conducting National Performance Trials (NPTs) and collecting compositional analysis data but **not for cultivation, importation or placing on the market** of the *Bt* maize."¹

The approval by Kenya's NBA will facilitate the study, research, demonstration and development of suitable varieties that will be available to farmers. National Performance Trials study the behavior of the GMO in an open environment and its interactions with other organisms and the environment. National Performance Trials are conducted by the Kenya Plant Health Inspectorate Service (KEPHIS).

Environmental release DOES NOT automatically mean commercial release. Genetically modified (*Bt*) maize is not currently on the supermarket shelves. Commercial release will follow, pending NPTs.

So what do Kenyan farmers stand to benefit from this? Actually, a lot! Most of African farmers depend on rainfall for food production. Inadequate and irregular rainfall poses a threat to food production in terms of poor harvests and also pest pressure. African Agricultural Technology Foundation led efforts to develop a drought tolerant (conventional) breed- Water Efficient Maize for Africa (WEMA). This variety is suitable for drought prone growing areas. Other observed benefits of WEMA are:

- Stress tolerance (water, extreme weather, disease)
- Short maturation time (90 days to mature and 125 days to harvest)
- High germination rate -100%.

In addition, KALRO went a step further in securing farmer incomes by developing WEMA *Bt* maize, which is protected from maize stalk borer infestation.

What is next? AATF and KALRO (the applicants) have to conduct an Environmental Impact Assessment (EIA) prior to establishment of NPT sites and submit this report to National Environment Management Authority (NEMA). Other conditions tied to this approval are: the applicants' compliance with other existing national laws and policies related to the approval; and provision of a biosafety stewardship program and monitoring roadmap to NBA for approval.¹

As you see, Kenya has able frameworks for GMO control and supervision. The NBA, KEPHIS, NEMA, and the Biosafety Law (2009) all complement each other's work in ensuring biosafety. Kenyans, therefore, should show some confidence in their able institutions in delivering safe technologies for food production.

Timeline summary of genetically modified (*Bt*) maize in Kenya:

- 2005- the first transgenic *Bt* maize seeds are planted in confined field trials.
- April 2015- KALRO and AATF submitted an application to NBA for environmental release of *Bt* maize.
- July 2015- the NBA put out an advertisement for the public to give comments on the application for first release of transgenic, genetically modified maize in Kenya.
- It has taken 10 years from first confined planting to approval to plant for environmental impact assessment.

References

1. National Biosafety Authority
http://www.biosafetykenya.go.ke/images/Public_Notice.pdf. Accessed on February 15, 2016.