

Bill Gates Foundation:

STOP 'biopirated' GMO banana feeding trials

Vanessa Amaral-Rogers | 17th February 2016



These red bananas are naturally red and high in beta carotene. So why the need to develop a patented GM banana that does the same job?

Photo: Choo Yut Shing via Flickr (CC BY-NC-SA).

The Gates Foundation has received a 57,000 strong petition denouncing its support for a 'biopirated' GM banana program in Africa, and calling on it to suspend a feeding trial on US students, writes Vanessa Amaral-Rogers. The banana threatens both the health of the students, say campaigners, and the future of African agriculture.

On Monday this week Iowa State University graduate students delivered 57,309 petition signatures to ISU's College of Agriculture and Life Sciences opposing human feeding trials for a genetically modified (GM) banana.

At the same time AGRA Watch members in Seattle, Washington delivered the same petition to the headquarters of the Bill and Melinda Gates Foundation, denouncing plans to introduce the GM banana to Uganda and other African countries.

The petition was initiated in response to an email sent to the ISU student body in April 2014 inviting young women (ages 18-40) to eat genetically modified bananas in return for a \$900 payment.

"Beta carotene is chemically related to compounds that are known to cause birth defects and other problems in humans at extremely low levels, and these toxic chemicals are possible if not likely by-products of the GM bananas."

It asks the University and the Gates Foundation to cease supporting the GMO banana study, including human feeding trials, and to change

the trajectory for this type of research conducted at public universities.

The GM bananas are based on the Cavendish variety that dominates international trade, enriched with beta carotene. This follows the model of the now notorious 'Golden Rice', and has the purported goal of reducing Vitamin A deficiency in Uganda and other parts of the world. The ISU study, funded by the Gates Foundation, examines the uptake of beta carotene from the bananas and its conversion into Vitamin A in the body.

Bridget Mugambe, a Ugandan campaigner with Alliance for Food Sovereignty in Africa, declared, "What is eluding the Gates Foundation is the existence of diverse alternative sources of Vitamin A rich foods that are easily planted and readily available in Uganda. The need for this Vitamin A rich GM banana is clearly assumed, and may sadly end up destroying a food that is at the very core of our social fabric."

Alleged 'biopiracy' - DNA from Papua New Guinea cultivar

This is not the first time that the Gates Foundation has caused a furore over their GM bananas. Over \$15 million have been used to develop these bananas with the aim of producing fruit with high levels of pre-Vitamin A, Iron and Vitamin E.

The genes for this GM banana are taken from an existing banana cultivar from Papua New Guinea, causing AGRA Watch to describe the project as "a clear example of biopiracy" -

because the indigenous peoples that have developed the cultivar over millennia of cultivation have neither consented to its use in the GMO nor do they receive any benefit.

In addition, there are already hundreds of banana cultivars that are naturally high in beta carotene and grown around the tropics in Africa, the Americas, Asia and the Pacific. Promotion of these existing cultivars could provide a simple answer to addressing the Vitamin A deficiency with no need to resort to genetic modification and the use of patented plant varieties.

Campaigners are also suspicious at the choice of the Cavendish banana, the cultivar which makes up 99% of current banana trade, for the project. The variety is highly susceptible to fungal and other infections, and may be need to be sprayed dozens of times with agrochemicals each growing season.

By contrast existing red banana cultivars are much more disease resistant and suitable for chemical-free smallholder cultivation. The concern is that the real intention of the carotene-enhanced Cavendish may be to secure lucrative export markets as the new 'superfood' for western consumers.

A coalition of over 100 US, African and international organizations expressed concerns in an Open Letter that the GM bananas will have an adverse affect on Ugandan agriculture, food security and food sovereignty. "The banana may have negative long-term impacts on Ugandan agriculture", says Magombe.

"Many banana varieties serves as staples in Ugandan diets. Ugandans have the right to have access to safe, nutritious, and culturally appropriate food."

GM bananas pose risks to students

Campaigners also point out that there has been no prior animal testing of this product, and the study is one of the first ever human feeding trials ever of a GMO. So participating ISU students would be consuming a product of unknown safety.

And the safety concern is not limited to students or activists. Among those concerned at the hazards of the experiment is Dr. David Schubert, a molecular biologist at the Salk Institute for Biological Studies:

"Beta carotene is chemically related to compounds that are known to cause birth defects and other problems in humans at extremely low levels, and these toxic chemicals are possible if not likely by-products of plants engineered to make large amounts of beta carotene.

"Since there is no required safety testing of the banana or any other GMO, doing a feeding trial in people, especially women, should not be allowed. It is both unethical and immoral, particularly because there are several naturally occurring varieties of banana that are safe and have higher levels of beta carotene than the GM varieties."

His comments make the idea of feeding the GM bananas to young women who might be pregnant or become pregnant during the course of the study appear especially unwise.

In addition, there is much about the study that is non-transparent: concerned ISU community members have yet to receive answers about the research design, risks, nature of the informed consent given by the subjects, and the generalizability of the study

The future of agriculture in Africa does not lie in GMOs

The demonstrations come on the heels of a widely-reported new critique of the Gates Foundation, commissioned by UK-based Global Justice Now, which accuses the organisation of sacrificing the small farmers that grow most of Africa's food to corporate interests.

In the report entitled 'Gated Development', the organization argues that "big business is directly benefitting, in particular in the fields of agriculture and health, as a result of the foundation's activities." The report goes on to claim that the foundation creates "a corporate merry-go-round where the [foundation] consistently acts in the interests of corporations".

Mariam Mayet, Director of African Centre for Biodiversity (South Africa) stated, "We in Africa vehemently oppose the introduction of GM crops plants into our food and farming systems that is being carried out in the name of the public good.

"Once again we would like to draw attention to the conclusions of the 400 global experts of the IAASTD report, who are under no illusion that the current obsession with yield and productivity (personified in the extreme by GMOs) is a panacea for a more ecologically sustainable and equitable food system."

The CREDO petition is a follow-up to a petition launched in 2015 by ISU graduate students who, in partnership with AGRA Watch, collected over 1,000 signatures, which were delivered in December. Signatures were collected in a partnership between ISU graduate students, AGRA Watch and CREDO Mobile.

Vanessa Amaral-Rogers is a freelance journalist writing mainly on environmental themes.

Also on The Ecologist: ['Why is Bill Gates backing GMO red banana biopiracy'](#) by Adam Breasley & Oliver Tickell.

Principal source: ['AGRA Watch'](https://cagj.org/agra-watch/). <https://cagj.org/agra-watch/>

