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What Kenyans Need To Know About The GMOs

THURSDAY, 04 AUGUST 2011 00:17 BY PROFESSOR MARION MUTUGI



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The ongoing GMO debate is healthy. Kenyans need information regarding the GMO maize that will (is?) imported into the country for their consumption. Genetically Modified Organisms (GMO) are living things that are products of biotechnology. Like any other technology, biotechnology is the application of science for the improvement of products and processes for the benefit of human kind.

Biotechnology is a tool that can be used to do different things to different targets and thus is neither good nor bad. A tool like a panga has no moral value. You can use it to harvest a banana and you can use it to chop someone's head. So like the panga, the moral value of biotechnology depends on its use.

There are many good biotechnology uses. It has been used for instance in the development and production of drugs and vaccines that have saved the lives of many. There also have been terrible uses of biotechnology where hazardous organisms have been developed, mass produced and released as weapons of war. Thus, in order to make informed decisions in regard to GMO maize that we shall eat, we need specific details.

GMO biotechnology is a tool used to hasten the breeding process that has been used from time immemorial. Unlike the traditional methods, this technology directly targets DNA; the genetic makeup of a living thing; the very recipe or formula of the living thing that not only permanently determines how this thing will be, its future generations as well. This technology has been used to produce crops such as soya, cotton and maize that are for instance resistant to pests and weeds.

On the flip side, there are documented instances where such GMO products have undesirable traits like allergic reactions to consumers; birth defects in successive generations; incorporation of these traits into non target organisms; unintended entry into the food chain; and general upset of environmental equilibrium. There are internationally set recognized procedures of determining whether products of research can be safely released.

These "good research practices" (GRP) require that products are first tested in test tubes (in vitro) even before exposure to living things. After this, safety of the product is established first in small animals (mice, guinea pigs) and then primates (monkeys, baboons). It is only when the safety of such product is thus ensured that limited and controlled trials in humans are conducted.

This is followed by larger trials in different groups of people further ensure the safety of the product. The last step in the GRP process is post market surveillance whereby after release, the product is followed for several generations to ensure its safety.

Among the safety GRP concerns are effect on vital organs such as the heart, lungs, kidney and liver; mutagenicity (ability to alter DNA), carcinogenicity (ability to cause cancer); teratogenicity (ability to affect the unborn child). Any research product that does not pass these tests in rodents, primates or human trials is not suitable for release into the market.

Now back to GMO maize. To enable us to make informed decisions we need to know the following. First, what is the specific genetic modification incorporated into the maize that we are to consume. What gene has been inserted into the common (kawaida) maize that we know? Secondly, who are the manufacturers of this gene? This will help us determine the history of the company in respect to its adherence to GRPs. Thirdly, in what country is this maize grown? This will inform on the stringency in that country in respect to enforcement of GRP regulations. The fourth and very important question involves determination of whether this maize is consumed by humans in the country where the technology is registered as well as the country it is consumed. This information will help us decide of whether this is a case of dumping. It is important to remember that the owners of the GMO technology are businessmen whose major motivation is profit.

In this regard, the international GMO debate pits American versus European technology producers. Kenya that does not produce GMO products for sale and thus enters this debate as a consumer of this technology is interested in safety.

Current debate so far has been by politicians, businessmen and NGOs who have not dwelt with specific matters of safety. This leaves one with suspicion that their interest can only be profits. Could it be that some have vested interests in respect to profits that will accrue from importation of this maize?

To get the right answers, you must ask the right questions. The debaters so far have not asked or answered the relevant questions in respect to GRP of GMO maize. In order to make informed decisions regarding GMO maize, Kenyans should be informed by safety considerations that are addressed by scientists with expertise in this field. These are scientists in various institutions in the country as well as in parastatals with mandates in these areas.

For instance, what is the response of the National Biosafety Authority (NBC), KARI, KEPHIS, KEBS in regard to these four questions. Is the genetic modification in the maize as is declared by the manufacturer or are there other modifications? (KARI, KEPHIS, KEBS).

Suppose we plant this maize or it is eaten by livestock, what will the impact be on the food chain and the environment? (NEMA). Do these laboratories have the competence in respect to equipment and expertise to determine this? (KENAS). Is the legal framework to evaluate GMO entry into Kenya adequate? (National Council of Science and Technology, Parliamentary Committees on Agriculture, health).

What is the legal position of the company that produced the genetic modification in its country of origin and country of maize production (Trade ministry, Kenya's representation in the country of origin and at the ITO). This what Kenyans deserve to know before they decide to eat or not to eat GMO maize. Please tell us.

Prof Marion Mutugi is the Professor of Genetics at Jomo Kenyatta University of Agriculture and Technology.

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