

Rikolto and GMOs

A genetically modified organism (GMO) is an organism whose genome has been altered in order to favour the expression of desired physiological traits or the output of desired biological products. The primary applications of GMOs are in the areas of agriculture and biomedical research. In genetic modification, recombinant genetic technologies are employed to produce organisms whose genomes have been precisely altered at the molecular level, usually by the inclusion of genes from unrelated species of organisms that code for traits that would not be obtained easily through conventional selective breeding. Genetically modified foods were first approved for human consumption in the United States in 1995. Since their introduction, the opportunities and threats of the technology have sparked a heated debate across the globe.

Position of Rikolto

Is Rikolto for or against GMOs? We should avoid narrowing down the debate to the simplistic view that “GMOs are good” or “GMOs are bad”. The debate has been framed in this way for more than 15 years and this leads to a stalemate position with little place for nuance. Rikolto tries to seek the best possible solution to a given problem while avoiding negative consequences, including negative side-effects and adverse consequences for future generations. Since the application of GMOs is irreversible in time and space, it is our conviction that we have to be extremely cautious. Yet we do not position ourselves as being “against GMOs” in all circumstances. For the time being, we have not yet encountered a single GMO that offers the best answer to the complex challenges facing food production.

- Conventional breeding techniques have proved to be at least as effective as genetic engineering in increasing yields or developing resistant varieties;
- To date, GMOs have not been favourable for smallholder farmers: packages of seeds and pesticides are expensive. GMO seeds today are not suitable for the specific ecological and economic situations of smallholders around the globe;
- Current GMOs contribute to decreased biodiversity, reduced resilience of the farming system, more

mono-cropping and market domination by only a few companies;

- There is no solution for the contamination of non-GMO fields which are losing value: contamination of organic crops, non-GMO soy, etc;
- There is the problem of “super-weeds”, which are a risk to future crop protection;
- Consumers who ethically cannot live with GMOs should have the right to recognise products that contain GMO ingredients.

We are, however, aware of the potential of GMOs for future applications, so we acknowledge the importance of research led by public institutions. This kind of research requires a commitment to safety (contamination, human health, ecological impact) and to transparency (allowing public debate).

Implications for our work

Rikolto promotes an agro-ecological model, based on smallholder agriculture. As the report by the European Environmental Agency states: “Science-based agro-ecological methods are participatory in nature and designed to fit within the dynamics underpinning the multifunctional role of agriculture in producing food, enhancing biodiversity and other ecosystem services, and providing food security to communities.



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“Genetic engineering is an interesting technology. Through my research I want to understand what genes are doing. (...) If there would exist problems that could only be solved through genetic engineering, I would be totally in favour of gentechnology. That’s however not the case. All the results that we achieve here at the university via gentechnology, are also feasible without gentechnology.”

**Michel Haring,
Professor Plant Physiology
at the University of
Amsterdam**

(Groene Amsterdammer, 25/07/2013)

They are better suited to agricultural systems that aim to deliver sustainable food security than high external input approaches.”

In the current circumstances, Rikolto generally does not work with GMOs. This, of course, influences the choice of the value chains in which Rikolto will operate. The criteria to be taken into account when evaluating the possibility of working with GMOs are safety, lack of negative impact on the environment, accessibility and value for small-scale farmers. This also means that Rikolto can only work with GMO chains if there is a real prospect of transition to non-GMO.

In response to climate changes such as shortened rain seasons due to global warming, Rikolto in **West Africa** supports farmers in Burkina Faso by helping with the development of short-cycle varieties of crops, which require less water. As part of the Rainforest Alliance project in **Vietnam**, Rikolto was involved in supporting small-scale tea farmers in applying the Sustainable Agriculture Standard, under which the use of transgenic organisms is prohibited.

Facts and Figures

- Today we produce already enough food to feed everyone. World agriculture produces 17 percent more calories per person today than it did 30 years ago, despite a 70 percent population increase. This is enough to provide everyone in the world with at least 2,720 kilocalories (kcal) per person per day according to estimates of the FAO. Yet there are still some 842 million people undernourished, mainly in the developing world but also increasingly in the developed world. The principal problem is that many people in the world do not have sufficient land to grow, or income to purchase, enough food. Hence food security will not only come from producing more food, but also from how we produce and consume

it and from how well we can combat inequality.

- Currently, the majority of GE crops are grown for animal feed and biofuel. The main plants that are genetically modified are soybeans, cotton, rapeseed (canola) and corn and they are all modified to be herbicide resistant or to produce an insecticide. Despite 30 years of research and 20 years of commercialization these are the only two applications that are commercialized today.
- One of the big issues in the GMO-debate is the issue of patents. Patenting living organisms (such as GMO’s or seeds) is highly controversial. Companies defend the patenting of seeds as a driver for innovation. By patenting a GMO, they become “owner” of the gene construct, which means that farmers who want to use the GMO, need to buy the seed again and again. Seed saving is not allowed under patent law. Opponents of patents on plants and seeds state that patenting life will lead to a few companies monopolizing the global seed and food production. There’s several examples of farmers having to pay fines to Monsanto (or another big seed company) for having “used” patented seeds without paying for them. It is clear that this kind of practices is harmful for farmers in developing countries who rely heavily on re-using their seed and exchanging seed for free amongst each other. But patents are not only harmful in developing countries. Recent studies have shown that patents are more often blocking innovation than driving it.
- The institutional/economic framework of agriculture is such that the burden of cost is to be borne by the one who wants to avoid GMO’s, since contamination is mainstreamed. This is true for the farmer but also for other chain actors such as processors, transporters, etc... To develop a GM free-chain, those wanting to avoid GMO’s have to bear the costs. You don’t

have to be an economist to understand that a free market will give incentives to a GMO (or GMO contaminated) chain and disincentives to the GMO-free chain. Hence we cannot speak of “neutral choice”.

- There are two main environmental “costs” associated with GM crops: herbicide use and risk of contamination between transgenic and non-transgenic species. GMO’s are living organisms. Once you release them into nature, it is not possible to “call

them back”. Once GMO’s are cultivated in open air, the genetic information of genetically modified plants can transfer to the wild variety or to a neighbor’s field ... leading to “contamination” or the creation of “super weeds” that can only be controlled by even more toxic herbicides. In fact this is already happening today, with evident environmental degradation as a consequence.

Source

Full position:

<https://www.Rikolto-ngo.org/en/news/do-we-need-gmos-feed-our-planet-future>