

## **Agricultural biotechnology: great expectations but even greater disappointments**

Fouad Hamdan, Director  
Friends of the Earth Europe

Presentation made at Friends of Europe debate

### **“What should be the EU’s stance in the global debate on GMOs?”**

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We are here today to discuss the role of the EU in the debate on GMOs.

At the global level, it is generally accepted that poverty and food security issues are caused by a variety of factors and that there are no simple solutions. There is general consensus that pro-poor policies and commitments to public agricultural research, inclusive of small scale farmers, are urgent.

Mainstreaming environmental issues into EU and global development policies is now widely accepted, not only as a means to preserve biodiversity in its own right, but also because of the realization that economic development can only be achieved in a lasting manner if accompanied by environmental protection and social justice.

At the EU level, this is framed within the Lisbon Agenda.

#### **Firstly, a few points on how the performance of genetically modified crops:**

GMO proponents argue that agricultural biotechnology will increase productivity and profitability, preserve biodiversity, and improve nutrition, not only in industrialized nations but also in developing countries. So, what is the situation of GM crops in the world at the current time?

##### **1. Four crops, only 2 traits**

Virtually 100% of genetically modified crops in the world concern only 4 crops – soy, maize, oilseed rape and cotton – modified for just 2 traits. These two traits are for herbicide tolerance and insecticide resistance although the US Department of Agriculture (USDA) has in fact approved 70 distinct “events” for commercialization in the US alone.

##### **2. GM crops increases the use of pesticides, no change in yield**

We are told that pesticide use decreases with these crops thus helping the environment. However, independent scientific study indicates that pesticide use has increased overall with the adoption of GM crops, whilst the USDA recently stated that GM crop yield shows no increase in comparison to conventional crops and may even decrease.

##### **3. GM crops benefit big farms – not small farmers**

Farmer benefits are complex to measure as they depend on a number of factors, but there does appear to be consensus that GM crops bring a “convenience” factor by leading to a reduction in farm labour and increased flexibility for pesticide application. However, such benefits favour the consolidation of farming into ever bigger farms with less and less employment.

#### **4. Conventional breeding is enough**

We often hear that these GM crops are just first generation and that consumer benefits, and advantages for the developing world will be present in second generation GM crops. However, 2<sup>nd</sup> generation crops have just not materialized, proving to be more complex to develop than expected.

What is equally apparent is that modern conventional breeding, which can be accelerated by through our growing knowledge of plant genomes is better suited to deliver many of the new traits that we have been told are possible only through genetic modification.

Even biotech industry leaders have turned to modern non-GM techniques for new products, such as Monsanto's VISTIVE soybeans which are conventionally bred to have lower levels of linolenic acid. In fact, according to the research Director of Syngenta, "We have conducted many genetic engineering experiments for seed materials and plant protection and they have often failed. On the other hand, excellent results have frequently been achieved with the traditional approach to plant growing".

#### **Secondly, a few points on genetically modified farming in developing countries:**

**Bt cotton has failed to meet expectations:** The biotech industry claims that the use of GM crops has improved the livelihoods of millions of small farmers in China and India. In these countries, cotton is the main authorised crops so the benefits claimed refer mainly to cotton production. However, a recent Cornell University study has documented the financial losses suffered by Bt cotton farmers in China, mainly due to secondary pests. Furthermore, the International Cotton Advisory Committee (ICAC) has stated that the negative aspects of Bt cotton have not been properly covered in scientific publications. Wherever it has been grown, Bt cotton has improved neither the yields nor the quality of cotton fiber, nor has it addressed the main structural problems of agrarian crisis, nor the issues of low global cotton prices that farmers are struggling with.

**The failure of the GM sweet potato:** Attempts to genetically modify sweet potato in Africa for resistance to feathery mottle virus failed, after more than 10 million USD. It emerged that the virus was not a primary constraint on sweet potato production nor was it a significant cause of food insecurity, let alone famine.

**Food insecurity in Argentina:** Argentina was the bread basket of South America but has in the last years converted to producing animal feeds for EU livestock. Genetically modified soya is grown in Argentina on the world's largest soya plantations owned by a small number of corporate land owners. Is this a successful and sustainable model that the EU wants to promote?

**GM soy does not help Brazilian farmers overcome soy crisis:** Brazilian farmers are struggling as the soybean sector has been in crisis since 2004, due to various factors. One of the problems faced by farmers is the cost of agrochemicals against rust a fungal disease that has severely affected soybeans and against which neither the conventional nor the genetically modified soy are protected. Farmers blockaded roads last year in some regions demanding minimum price guarantees for their soya.

#### **Thirdly, at the European Union level:**

The EU is developing its role as a global player. Just yesterday, the Financial Times reported that the European Commission is to promote the EU as "an inspiration for global standard-setting in areas such as product safety, the environment, securities and corporate governance".

The challenge for Europe is to do this whilst ensuring that it maintains and increases its competitiveness and stimulates job creation at home. However, Industry and government figures show that agricultural biotechnology, including the development of GM crops and foods, has failed to live up to expectations and has failed to deliver on the Lisbon Agenda.

Even in the US, the extent of market concentration on the sector is blocking competitiveness. In the EU, 80% of jobs in the biotech sector are in health related areas, and the market is closed because consumers have consistently rejected GM food over the last ten years.

Twenty five years of research has resulted in only two GM traits being commercially available. The Agri biotech sector is uncompetitive, does not create jobs, and has few poor quality products: its alleged potential has just not materialised. The development of biotechnology has been created by a European political “climate” under pressure to ensure job creation and competitiveness and this is masking the reality of poor agri-biotechnology performance.

It is difficult to quantify exactly how much EU funding has been directed to food biotechnology, and a conservative figure for spending on GMO research is 400 million Euros for the period 1982-2007 with an average of 80 million Euros per year. This does not take funding by individual member states into account which was for example 47 million Euros and 61 million Euros for the UK and Germany in 2001 alone.

Furthermore, the political push for food biotechnology and EU research funding priorities, closely tied to big business interests, are side-lining agri-environmental farming sectors that are already delivering and that show further economic potential.

The challenges of hunger and poverty have well-known solutions, and can only be resolved through appropriate political will and sovereign actions.

### **Finally, what should be the EU's stance in the global debate on GMOs?**

So what role does the EU want to take on GM food and crops at the global level? That of a virtually unregulated market like that of the US with weak biosafety standards and supervision, which has resulted in criticism from scientists, damaging contamination incidents – rice, maize and pharma crops - not to mention the lack of public health measures and environmental protection?

The EU has the strictest biosafety regulations in the world. Let us not forget that, contrary to what the US and its partners would like us to think, this is allowed for under the WTO, as was confirmed in the recent ruling on the GMO dispute.

This year, the EU will adopt new targets on biotechnology, as part of its mid-term review of its 2002 Biotech Strategy. The failure of GM food and crops should be acknowledged when fixing new targets for the EU Biotech Strategy. In addition, the European Commission should carry out a policy-specific audit of its agri-biotech policies and research funding.

The EU also has a role to play in aiding developing countries to develop and implement similar strict biosafety regulations for public health and to safeguard biodiversity. Furthermore, EU policies and research priorities for competitive agriculture must take the potential shown by agri-environmental sectors into account both within the EU and with regards to developing countries.

**More Info:** <http://www.foeeurope.org/GMOs/Index.htm>

Fouad Hamdan, Director, Rue Blanche 15, 1050 Brussels, Belgium, [www.foeeurope.org](http://www.foeeurope.org),  
[fouad.hamdan@foeeurope.org](mailto:fouad.hamdan@foeeurope.org), Tel +32 2 5420183

Helen Holder, European Biotech Programme Coordinator, [helen.holder@foeeurope.org](mailto:helen.holder@foeeurope.org),  
Tel +32 2 5420182