

**IMPLEMENTATION OF THE EDUCATIONAL PROGRAM ABOUT
GENETICALLY MODIFIED PRODUCTS (GMP) BY
A LEONARDO DA VINCI PROJECT - "AGROHEALTH"**

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Abstract

The paper presents the activities, aims and objectives of "AGROHEALTH" – Leonardo da Vinci Project. Objective of the particular Project is the exploitation of the methodology and the results of the study: "Education about the needs of not Genetically Modified Products (GMPs) certification – Investigation for the structure of a certification system", as well as the assistance to the resolution of similar subjects which appear in 3 countries (Bulgaria, Cyprus and Romania), taking into consideration the particular environments of these countries. The briefing of farmers and consumers about Genetically Modified Organisms (GMOs) is another objective of the project.

Additionally, the project will help the increase of professional mobility, of those involved in the agricultural sector, as well as their professional profile. Finally, it will contribute to possible long-term production of improved or even new agricultural products.

Another objective of the project is the creation of a Genetically Modified Products (GMPs) Certification Structure, in each country, by a responsible Organization.

INTRODUCTION

The question of Genetically Modified Products (GMP) seriously concerns the EU, the national institutions, but also all those who are involved in the agricultural sector (producers, consumers, etc.).

Genetically modified organisms (GMOs) can be defined as organisms in which the genetic material (DNA) has been altered in a way that does not occur naturally by pairing or natural recombination (Regulation (EC) No 1829/2003). As an application of modern biotechnology, this technique allows selected individual genes to be transferred from one organism into another, also between non-related species.

According to EU legislation (Regulation (EC) No 1829/2003 and Regulation (EC) No 1830/2003 concerning the traceability and labelling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms), any responsible deployment of genetically modified (GM)

crops needs to comprise the whole technology development process. Specifically, this includes pre-release risk assessment, biosafety considerations, and post release monitoring.

According to the report elaborated by the Agro-Biotechnology Agency ISAAA (*International Service for the Acquisition of Agri-Biotech Applications, Cornell University New York*), in 2008, 107 mil. ha was cultivated in 22 countries from 6 continents (Africa, North America, South America, Asia, Europe and Australia) (figure 1).

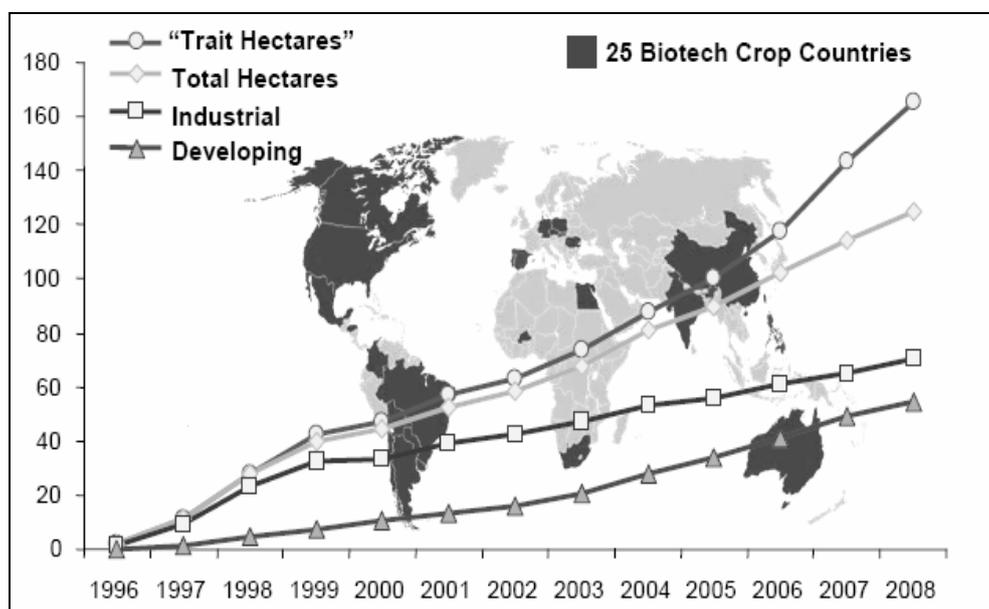


Fig. 1. GMOs cultivations statistic worldwide
(source: James Clivel, ISAAA, 2009)

In the last ten years this number has on average been augmenting over more than 10 million hectares per year. About half of the current GMO occupied area is for the account of the United States. Other main GM cultivating countries are Argentina, Brazil, Canada, India and China. Worldwide, four different types of GM crops are grown. These are soybeans, maize, cotton and rapeseed.

In Europe, in 2008 year, 108,000 ha were dedicated to Bt maize. Despite the cultivation in France in 2008, the GM cultivation area only slightly decreased compared to 2007 (110,000 hectares). In 2007, French farmers had grown GM maize on 21,000 hectares.

Romania has shown the largest increase in GMO acreage and currently grows GM maize on more than 7,000 hectares. This represents an increase of almost 20-fold in

comparison to 2007. Other countries with significant increases include Poland, which has increased to 3,000 hectares in 2008. Slovakia has more than doubled its GMO cultivation to 1,900 hectares. In 2008, the Czech Republic planted GM crops on 8,380 hectares (68% increase) and Germany cultivated GM crops on 3,173 hectares (39% increase). Portugal and Spain experienced increases of GMO acreage of 8% and 5%, cultivating on 4,851 and 79,269 hectares respectively.

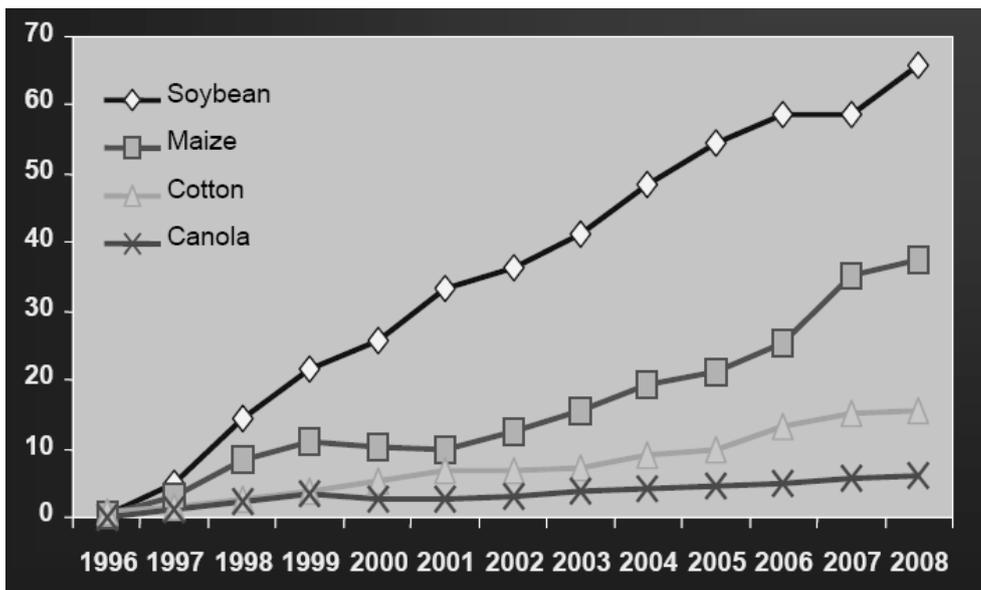


Fig. 2. The mains biotech crops at world level
(source: ISAAA, 2009)

According to Euro-barometer official pools from the latest years, over 70% from the EU consumers don't wish to consume genetically modified alimentary products. Also, over 95% from the interrogated people want to have the right to choose between a genetically modified product and one unmodified. Europeans are afraid ever more of the food artificiality, and they prefer ecological, natural products.

In this context, at present, all over the world exists so called GMO Free Zones. Currently, within the EU there exist at least 174 regions, over 4500 municipalities and other local entities, 10000 of farmers and food producers in Europe that have declared themselves "GMO-free", expressing their commitment not to allow the use of genetically modified organisms in the agriculture and food production in their territories. These include, for example, all cities and villages in Greece and Austria, and 90% of all land in Italy. In Romania, a number of 26 localities from the Bistrita Nasaud County declared themselves as GMO Free Zones.

MATERIAL AND METHODS

“AGROHEALT” project is an EU project funded under the Leonardo da Vinci Programme that it will help the increase of business mobility, of those involved in the agricultural sector, as well as the enhancement of their business profile. Finally, it will contribute to possible long-term production of improved or even new agricultural products.

The Consortium that will materialize the project is composed from 4 partners: Planning Group Ltd. from Greece, Obraztsov Chiflik from Bulgaria, Company of control and certification of Organic Products DIO Ltd. from Cyprus, University of Agronomic Sciences and Veterinary Medicine – Faculty of Agriculture (USAMVB-FA) from Romania.

RESULTS AND DISCUSSION

At present, the scientifically world discuss of the potential positive and negative effects of genetically modified organisms (GMOs). Arguments for GMOs are: recombinant DNA-modified crops have already increased crop yields and food production, and reduced the use of synthetic chemical pesticides in both industrialized and less developed countries; these advances are critical in a world where natural resources are finite and where hundreds of millions of people suffer from hunger and malnutrition; increased crop productivity, either through direct increase in yield or crops with greater tolerance to stresses; increased crop quality, through improvements in post harvest and processing quality and storage life, and improved nutritional quality (increases in available Vitamin A, Fe, Zn, I, and lysine); herbicide-resistance, to reduce labour costs in weed management and facilitate reduced tillage.

In this connection, it has been estimated that if half the maize, oilseed rape, sugar beet, and cotton grown in Europe were genetically modified to resist their pests, there would be a reduction of about 14.5 million kilograms of formulated pesticide product applied, a saving of approximately 20.5 million liters of diesel, and the prevention of the emission of 73,000 tones of carbon dioxide into the atmosphere.

In this sense, one of the objectives of the “AGROHEALT” project is the creation of the right conditions (Structure of a Certification System) in order for a Certification Organization with regard to the GMOs to be created in Bulgaria, Cyprus and Romania. In this way is ensured the continuity of the project that simultaneously constitutes the exploitation of all work.

Also, the aim of project is the exploitation of the methodology and the results of the study: “Education about the needs of no Genetically Modified Products certification – Investigation for the structure of a certification system”, as well as the assistance to the resolution of similar subjects which appear in the other 3 countries (Bulgaria, Cyprus, Romania), taking into consideration the particular

environments of each country. The briefing of farmers and consumers about GMOs consists of another project objective.

The others objectives of “AGROHEALT” project are: creation of a web site – <http://www.agrohealth.eu> which will consist of a briefing on Community initiatives (mainly for the Leonardo programme) regarding the agricultural sector as well as the developments in technological and institutional level in the aforementioned methodology (the supported languages will be Greek and English); production of Educational material (in printed and electronic form); implementation of educational programs for the instructors of the all partners; realisation of meetings with all actors involved in this area as well as the need for help resolving special subjects and application of the EU institutional frame regarding the GMOs (eg. which are the necessary measures that should be received, advisable cultivating distances, types of cultures and products, etc.).

The web-site will includes also a forum and a chat room for direct briefing concerning particular questions and will help at promoting the education, sensitization and research.

Another objective of the plan is the functionality and updates of the web site even afterwards the expiry of the programme. Additionally the creation of a CD-ROM and a DVD, which will contain audiovisual material as well as modern learning methods, constitutes an important aid in the transport and diffusion of acquired knowledge and experience.

The added value will emerge through the creation of a GMP Certification Structure, in each country, by a responsible Organization, as well as the researches, in each country, about the acceptance or not of the GMP from consumers and producers. The target groups are: farmers and members of cooperatives (not only GMP but also conventional cultivators or organic agricultures); the people who work in the agricultural sector and in the alteration of agricultural products. The existing needs concern the: briefing, in different level and depth per category, of cultivators (GMP, conventional and Organic agriculturists), manufacturers, retailers and consumers; education of all actors involved in GMOs; resolving of special subjects and application of the EU institutional frame regarding the GMOs; The results of this Plan will concern all the citizens, since everyone is interested in the food quality which he consumes and more generally is interested in his health.

During the project the consortium will create printed and electronic (CD-ROM, DVD) educational material, an informative video spot, a web site and will establish a market research in Bulgaria, Cyprus and Romania. The results of the project will be used for the briefing and sensitization of all actors involved in the agricultural production.

The project has great importance because of its European dimension and great interest to the conventional and Organic farmers (by presenting them ways of protecting their production) as well as to the consumers.

CONCLUSIONS

1. The results of “AGROHEALT” project will concern all the citizens, since everyone is interested in the food quality which he consumes and more generally is interested in his health.
2. The added value will emerge through the creation of a GMP Certification Structure, in each country, by a responsible Organization, as well as the researches, in each country, about the acceptance or not of the GMP from consumers and producers.
3. Strategies and best practices for coexistence of genetically modified crops with conventional and organic farming need to be developed and implemented at national or regional level, with the participation of farmers and other stakeholders and taking account of national and regional factors

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