"AGROHEALT" – A LEONARDO DA VINCI PROJECT FOR EDUCATION ABOUT THE NEEDS OF A CERTIFICATION SYSTEM FOR NO GENETICALLY MODIFIED PRODUCTS (GMP)

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"AGROHEALT" este un proiect internaţional finanţat prin programul European Leonardo da Vinci, care îşi propune să exploateze metodologia şi rezultatele studiilor educaţionale referitoare la necesitatea unui sistem de certificare a produselor alimentare vare provin din culturi agricole modificate genetic, luând în considerare condiţiile concrete din fiecare ţară parteneră la proiet (Grecia, Bulgaria, România şi Cipru). Proiectul are ca scop implementarea unui program educaţional despre organismele modificate genetic, prin realizarea de întâlniri cu toţi factorii implicaţi în acest domeniu şi prin crearea unui web-site htpp://www.agrohealt.eu care va cuprinde informaţii în legătură cu acest subiect în limbile engleză, greacă şi română.

***Key words**: "AGROHEALT" project, education, GMP, certification system*

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.

Therefore, in many countries, special efforts have been undertaken to offer objective information on biotechnology and especially on GMOs to society. Recent trends include dialogue forms where information is not uni-directionally given, but where stakeholders can express their views.

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.

Specific recommendations for GM crop release include:

- The need for environmental goals to encompass the maintenance and protection of basic natural resources such as soil, water, and biodiversity.
- Inclusion of potential hazards associated with GM cropping in the context of impacts associated with all agricultural practices.
- Involvement of stakeholders like environmental organizations, farmer groups, and community organizations in this process.

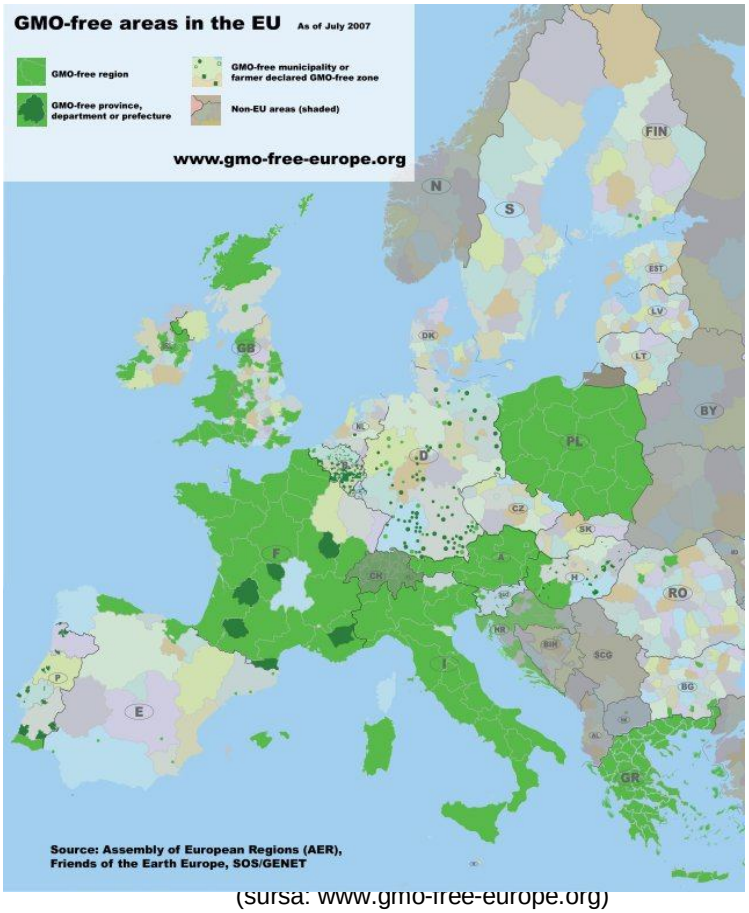
According to the International Service for the Acquisition of Agri-biotech Applications (ISAAA), 102 million hectares of GMOs were grown worldwide. In the last ten years this number has on average been augmenting over more then 10 million hectares per year. About half of the current GMO occupied area 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.

While the main bulk of GMO crops are destined for animal feed, however a portion of GM products are for direct human consumption as well. It can be estimated that around 110.000 hectares of GM maize were grown in EU in 2007. There are currently no other types of GM crops approved for cultivation in the EU.

Spain is far out the leading GM cultivator in the EU growing 62.000 hectares. The other part was for the account of France, Portugal, the Czech Republic, and Germany. In 2007 in Portugal there were 4500 hectares of GM maize grown. That meant an increase of almost 400% in comparison to the previous year.

GM soybeans continue to predominate on an area basis, with an increase of nearly 13% to represent 55% of soybeans grown. There was a growth in the area planted to GM maize, with an increase of 25% to a total 11% of the global maize area. Canola followed with 20% growth for a total of 16% area globally. GM cotton was up 6% to 21% of the global area. Within the next five years, ISAAA predicts that 10 million farmers in over 25 countries will plant 100 million ha of GM crops. The global market value of GM crops was approximately USD $4.5 billion in 2003.

All over the world exist 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.



(sursa: www.gmo-free-europe.org)

MATERIALS 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 materialise 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 DISCUSSIONS

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.

Globally, bioengineered varieties are now grown on more than 165 million acres (67.7 million hectares) in 18 countries, such as Argentina, Australia, Brazil, Canada, China, India, Mexico, the Philippines, South Africa, and the United States, according to the International Service for the Acquisition of Agri-Biotech Applications (ISAAA). Nearly one-quarter of that acreage is farmed by some 6 million resource-poor farmers in less developed countries.

Despite heavy applications of pesticides, especially in Europe, there is an estimated global loss of $244 billion in crops per year, and the applications of these chemicals have serious negative consequences for the environment.

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 tonnes 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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6. *** *Regulation (EC) no 1829/2003 of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed.*