USDA Foreign Agricultural Service
GAIN Report
Global Agriculture Information Network
Template Version 2.09

Voluntary Report - public distribution

Date: 11/25/2003

GAIN Report Number: EZ3015

Czech Republic

Biotechnology

Biotechnology from a Czech Perspective

2003

Approved by:
Sarah Hanson
U.S. Embassy

Prepared by:
Dr. Drobnik

Report Highlights:
This report was prepared by a participant in the Cochran Program who is a leading biotechnology expert in the Czech Republic. It provides his perspective on the development of EU barriers to biotech trade.

Includes PSD Changes: No
Includes Trade Matrix: No
Unscheduled Report
Vienna [AU1]
[EZ]

Position of the EU in GMO case

The EU position in the GMO case results from the situation on the world agrarian market, especially between its two poles – USA and Europe. The USA have developed a highly effective agricultural production, because they did not have to respect the landscape or the history, and they have used the capacity of the industry to absorb the workforce released in concentration and rationalization of the agricultural production.

Europe has less suitable natural conditions, agricultural production and eating habits deeply embedded in the national traditions, it requires maintenance of the landscape and social structures of the country, from which the workforce should not leave. Under these conditions, Europe cannot achieve the effective agricultural production of the USA.

WTO instruments – Trade-related Environmental Measures (TREMs), Agreement on Technical Barriers to Trade ("Standards Code"), and Agreement on Application of Sanitary and Phytosanitary Measures (SPS), which is especially important for agricultural products, do not comprise the above-mentioned reasons for lower effectiveness of the European agriculture, so they cannot be used for import regulation.

That is why the EU has resorted to GMO as an instrument for protection against cheap import from the American continent, because GMO were massively introduced into the agriculture right there. EU has based the evaluation of safety of new cultivars not on their characteristics, but on the method of their improvement. From various methods of improvement, only transgenosis has been separated as so risky that it needs a special legal regulation (1) (numbers in brackets – see the Annexe). Together with some developing countries, which also wish to protect their agriculture against cheap import, the EU has enforced a similar principle in the so-called Cartagena Protocol, which is derived from the agreement on biological diversity (2).

That was a political decision, which has no scientific substantiation, because in fact, the most risky method is improvement by damage of DNA by radiation or chemicals, in which an unknown number of unknown and unnatural genes and mutated proteins emerges (3). The next most risky method is remote hybridisation and first after that, GMO would come. However, as radiation mutants and remote hybrids are widely used by European farmers, their risk is politically evaluated, as acceptable and not even health tests are required. On the other hand, the legislation, which aims exclusively at GMO, clearly separates the overseas production.

The European distrust in GM products has many roots. At the beginning, there is the inappropriate policy of the companies that develop GMO; they have not offered any crops with clear advantages for the consumer. Another reason is the failure of the politicians and the control in many cases relating to safety of food, and especially BSE. A no less important role is played by the (lack of) knowledge of the public, and the related (lack of) education, which is especially pitiful in the sphere of plant breeding and genetics (4).

In their effort to protect the European farming with its natural as well as unnecessary handicaps, the European politicians, in connection with various movements, have encouraged this distrust of citizens in the new breeding method, which fact resulted in what the commissioner David Byrne (health and consumer protection) calls "GMO psychosis" (5). The system of testing and evaluation of risks has been getting increasingly complicated and stricter, which fact has persuaded the public that GMOs are really dangerous, and has

cancelled the only advantage, which the current GM crops could have for the consumer – a lower price.

Many organizations and political parties have been using this psychosis for their purposes and the organic (ecological) farmers have used it to gain a comparative advantage (6). However, this has brought about such social atmosphere, which hinders the development of biotechnology in Europe, and threatens that Europe will fall through even behind some countries, which are regarded as developing. As a result of this, both companies and specialists are leaving Europe (7). The EU officials are aware of it, and they have started adopting measures for a change (8).

In doing so, they cannot go as far as opening the European market to the overseas import. They have thus developed two safeguards (9): (a) marking of foods and feeds that have ever had anything in common with GMOs, without containing even one atom of GM material, and (b) obligation of the crop supplier to mark it, if the crop contains more than 0.9% of the transgenic component. They know very well that with the existing psychosis, the marking will reduce the demand for GMOs virtually to zero, and that the overseas producers regard the approved GM cultivars as common and they thus do not monitor their shares and cannot comply with the marking obligations at all, or only with high costs, which eliminate their advantage of a lower price. As more and more developing countries turn to using GMOs, the provisions of the Cartagena protocol are turning against them (10).

The WTO rules (especially SPS) allow marking of product only if there is a scientifically grounded reason, either in a different use (e.g. nutritional) value or in specific proven health effects. If there are no such reasons, and that's the case of marking according to the new EU rules, the marking is regarded as a discriminating measure. The result of the dispute is hard to guess, because the misdemeanours of the USA are a part of the game, and the whole affair has a wider political context.

Annexe 1

(1)

The regulation of GMO use has been developing since the first warning from the scientists, regarding the possible risks of working with recombinant DNA (rDNA), published in so-called Berg's letter [1]. In the USA, many civil initiatives against rDNA work have been established. The National Institute of Health (NIH) has established an "Advisory Committee on rDNA work" and published the Guidelines for working with rDNA. These were based on a democratic principle, because each change in the Guidelines has to be published 30 days in advance, and open to public discussion. The scientist held the floor, and since 1984, the focus has thus moved from the feel or risk to the confidence in the new technology. The result was the decision not to secure the safety of biotechnologies by special regulations, but using the existing legislative means [2].

In Europe, Berg's letter has gained largest acceptance in the United Kingdom, where GMAC (Genetic Manipulation Advisory Group) was established. The member states of the European Community have elaborated their own independent guidelines for working with recombinant DNA. In the guidelines, they proceeded from the conclusions of the work of

[1] Berg, P. et al. (1974): Potential biohazard of recombinant DNA molecules. Science 185, 303

[2] Federal Register (1986): Office of Science and Technology Policy, Coordinated Framework for Regulations of Biotechnology: Announcement of Policy and Notice for Public Comment, pp- 23302 23393

many scientific institutions, e.g. the European Science Foundation (ESF) or the European Molecular Biology Organization (EMBO) [3].

The Research Directorate of the European Commission (DG XII), after consultations with various expert organizations, suggested in 1978 elaborating a Directive (guideline) on the measures against the conjectural risk of working with recombinant DNA [4]. The proposals IX and XII for the directive were discussed by the economic and social committee, which cast doubt on the necessity of the directive in its report of June 1979. As a result of this, the original proposal for directive was changed to a Recommendation [5].

Based on EMBO's comments, the general assembly of the European Science Foundation (ESF) agreed in October 1976 on a recommendation relating to rDNA work, and established the Coordination Committee on recombinant DNA. In 1981, this Committee released a statement on the fact that the harmonization of the national regulation rules had taken place, and that there was "no other reason for a formal cooperation". It further stated that the "extensive information supports the opinion that the work with recombinant DNA as such does not bring any substantial risk". This corresponded to the fact that the scientific community had withdrawn the moratorium requested in Berg's letter.

The North Atlantic Assembly [6] held the opinion that the gain from the recombinant DNA technologies prevailed over the risks.

The Commission paper published in October 1983[7] states: "...based on our experience...we will present general or specific proposals for establishment of a regulation framework..."

The discussion on the draft directive and its change to a mere recommendation divided the Parliament. The reporter was an Italian communist Domenico Ceravolo. He promoted a stricter procedure, but the liberals were afraid of the fate of the further development of biotechnologies in Europe, and supported the Commission proposal for a recommendation. In 1984, the Council of Ministers of the European Council passed a text, which was practically identical with the recommendation. It stated that the risk had been overrated, and left it to the member states (12 at that time) to stipulate, which risk categories were subject to notification.

For the regulatory issues, the European Committee on Regulatory Aspects of Biotechnology (ECRAB) was established, and prepared a document[8], which says: "...it is neither necessary nor desirable to compile a uniform set of guidelines, which would cover all aspects of biotechnology."

At the same time, a member of the German Greens, member of parliament Friedrich Wilhelm Graf zu Baringdorf, submitted a report "on his own initiative". He criticized mainly the "agriculture industrialization" and especially the genetic engineering.

---

[3] These were Ad Hoc Committee on rDNA Research, established in 1976 at the European Science Foundation (ESF), and Standing Advisory Committee on Recombinant DNA, established by the European Molecular Biology Organization (EMBO).
[4] Proposal for a Council Directive establishing safety measures against the conjectural risk associated with recombinant DNA work.
[5] Draft Council Recommendation, concerning the registration of recombinant DNA (Deoxyribonucleic Acid) work, COM (80) 467, 28 July
[6] NAA – connection between NATO and parliaments
[7] A European Approach to Regulations Affecting Biotechnology.
[8] Safety and regulation in biotechnology, ECRAB 1986

Until 1985, the Commission documents on biotechnologies were composed by DG XII in cooperation with DG III and DG VI. Since 1985, representatives of DG XI (the environment, in which representatives of the Green Party prevailed) have participated in BSC meetings, and the Biotechnology Regulation Inter-service Committee (BRIC) was established. The progress in biotechnologies, especially the introduction of transgenic plants into farming, has aroused actions of the environmentalists and journalists, persuading the uninformed public against the biotechnology. This reflected in the attitude of DG XI and subsequently of BRIC. The concurrence of discussions on biotechnology safety and on disposal of dangerous chemicals was unfortunate. These problems are absolutely different, because the dangerousness of chemicals is obvious, while in case of biotechnology it is hypothetical, as not damage has ever been proved. Unfortunately, in proposal of biotechnology regulation, the same pattern as in case of chemical substances was followed.

BRIC met ten times between November 1986 and May 1988, and issued the statement, in which it proposed two guidelines (directives): on contained use of genetically modified micro-organisms[9] and on release of genetically modified organisms into the environment[10].

The Directives were issued on 23rd April 1990, and they obliged the member states to reflect them into the national legislation "not later than on 23rd October 1991".

Before the Directives were issued, the term "genetic modification" meant "hereditary change", i.e. any change, for example mutation both natural and caused by irradiation. The Directives have identified this term solely with the recombinant DNA technique, and excluded all other interventions, including radiation mutagenesis.

The important regulation is the provision of Article 16 of the Directive 90/220/EEC, which allows that a member state limited or forbid sale of an approved GMO, if there is a reason to believe that the sale could endanger the public health of the environment. Such measure, together with the related reasons, must be reported to the Commission, which will decide on the further procedure within three months. Exactly this Article was breached by the states, which imposed moratorium on putting GMO into practice in 1998. These were: Belgium, France, Luxembourg, Germany, Austria and Greece. Their ministers still refused to cancel the moratorium during the negotiations in February 2003[11].

(2)

Delegates from 178 countries attended the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in June 1992. One of the topics was also the issue of modern biotechnologies and their consequences for the environment and the humans. Paragraph 16 of the Agenda 21[12] states that biotechnology can significantly contribute to the sustainable development by improving the situation in nutrition, health service and environment protection. In this agenda, the participants undertake to cooperate on the issues of biotechnologies safety, emphasizing the fact that it will involve primarily sharing of experience, creation of personnel capacities, and an international agreement on the safety principles.

---

[9] Council directive 90/219/EEC of 23 April 1990 on contained use of genetically modified micro-organisms. Off.I.Eur. Commun. L117, 8 May 1990

[10] Council Directive 90/220/EEC of 23 April 1990 on deliberate release into the environment of genetically modified organisms. Off.I.Eur.Commun. L117, 8 May 1990

[11] Cordis RTD News; Feb 24, 2003 (Sent by M.Kueper, m.kueper@gmx.de) http://dbs.cordis.lu/news/en/home.html

[12] with the title Environmentally Sound Management of Biotechnology

The Conference of Parties (which is a body, in which the individual CBD signatories are represented by their ministers) stipulated[13] that the signatories should establish a national centre for biological safety, and appointed[14] a working group on biological safety (Open-Ended ad hoc Working Group on Biosafety), which prepared, after a series of difficult negotiations, a protocol to CBD on biological safety exclusively relating to LMO (Living modified organisms = GMO). It was in fact prepared in Cartagena (Columbia), so although it was signed first in Montreal, it is called "Cartagena protocol".

This protocol introduces, among others, the Advance Information Agreement (AIA), representing the exchange of information between the exporting and importing partner, which enables the importing party to assess the risk. Article 10, however, entitles the importing party to refuse the import without giving any scientifically substantiated reasons. However, this is contrary to the WTO rules, and that is why many states have not ratified the Cartagena protocol. CR and EU have ratified it.

(3)
The guidelines Codex Alimentarius[15] have a rational point of view:

"All of the methods used for breeding or manipulating plant traits, including self- and cross-pollination, the generation of hybrids or haploid breeding, mutational breeding (including X-rays or chemicals) and advanced biotechnologies (including protoplast fusion and/or recombinant DNA technology), have the potential to generate unanticipated effects in plants."

(4)
Based on the order and grant of EU, Eurobarometer carries out a detail survey of the public relationship to the biotechnologies by personal interviewing every three years. A sample of approximately 1000 respondents from each member state is evaluated. Here we state a few examples[16].

Proportion of correct answers in %

	In year	1996	1999	2002
1	Normal tomato has no genes, the modified one has genes	35	35	36
2	If we eat GM fruits, our genes become modified as well	48	42	49
3	Genetically modified animals are always larger	36	34	38
4	It is not possible to transfer an animal gene to a plant	27	26	26
5	More than a half of human genes is identical with the chimpanzee genes	51	48	52

Confidence:
They work properly – YES x NO

[13] based on Article 8(g) Section 3 of CBD
[14] based on Article 19 Section 3 of CBD
[15] Nature – Biotechnology (www.nature.com) By Alexander G. Haslberger, July 2003 Vol. 21 No. 7 pp. 739-741
[16] George Gaskell, Nick Allum and Sally Stares (Methodology Institute, London School of Economics. London WC2A 2AE, UK): Eurobarometer 58.0, second edition, 21 March 2003. European Commission Research Directorate Report, Tab. 6, page 21

Results in % 1999/2002

Segment of the society	YES	NO
The government in regulation of biotechnology	45/46	29/26
The industry developing new biotechnological products	30/41	38/27
The media informing on biotechnology	59/59	18/16
The universities and scientists researching biotechnology	-/70	-/11
The environmentalists conducting a campaign against biotechnology	58/59	18/17

(5)
In his speech[17], commissioner David Byrne said:

"Let me now contrast the road and smoking death tolls with another policy area within my remit Genetically Modified Organisms (GMOs). To my knowledge, nobody has died from eating a GMO. Animals and humans have been eating GMO feed and food for years in the US without any obvious problems. The only exception being StarLink which was used in food when it should not have been. But here in Europe we have been suffering from what might be called "GMO psychosis".

Despite our scientific advisors having given the green light for growing and marketing GMO plants and foods, our Member States have blocked new authorisations since 1998. This is, I believe, an untenable position.

What has struck me is the extent to which this debate is polarised. On both sides of the argument, key players have resorted to scare-mongering tactics, gross exaggerations and unsubstantiated claims.

I feel passionately that we need to get away from the emotional, the irrational and the bullying tactics if substantial progress is to be made. There are irrational fears of GM food in the EU and equally irrational fears in the US about how we in Europe are approaching the issue."

(6)
Organic (ecological) farming is defined as follows[18]:

Organic farming uses the environment's own systems for controlling pests and diseases in growing crops and rearing livestock and avoids the use of synthetic pesticides, herbicides, synthetic fertilisers, growth promoters and gene manipulation, as well as the prophylactic use of antibiotics and the zootechnical use of hormones.

In relation to GMO, Article 6 of the cited Regulation stipulates the following:

Genetically modified organisms and/or any product derived from such organisms must not be used, with the exception of veterinary medicinal products.

[17] SPEECH/01/565 David BYRNE European Commissioner for Health and Consumer Protection "Risk versus benefit" European Voice Conference "Farm to Fork" Brussels, 22 November 2001
[18] Council Regulation (EEC) No. 2092/91 of 24 June 1991 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs. OJ L 198, 22/09/1991 P. 0001 0015

The reasons why use of GMOs is banned are explained as follows:

The ban on the use of GMOs was introduced by Council Regulation (EC) No. 1804/1999[19], amending Regulation EEC No. 2092/91, on the following grounds: Genetically modified organisms and products derived therefrom and not compatible with organic production method; in order to maintain consumer confidence in organic production, GMO and parts thereof and products derived therefrom should not be used in products labelled as from organic production (Recital 10).

This implies that the reasons for the ban are commercial, because they aim at maintaining consumer confidence. So it is not the fact that GMOs would collide with the ecological or health objectives of ecological farming.

Due to commercial reasons, however, the ecological farmers interpret the ban on GMO use as a requirement for zero content of transgenes in their products, and this interpretation is used by some organizations as a pressure argument. However, this shift is rather illogical and impracticable: an ecological farmer must not use e.g. lead salt, but the standard allows e.g. up to 0.3 mg Pb/kg for oat flakes. If zero content of lead was required of ecological farmers, they would not sell anything of their production.

The Commission working paper thus adds the following:

The risk of the presence of GM crops in non-GM farming systems cannot be completely excluded during cultivation, harvest, transport, storage and processing. The main sources of "admixtures" are seed impurities, cross-pollination, volunteers and harvesting-storage practices. The issue becomes more pressing when GM crops are cultivated on a larger scale in the EU.[20]

The zero limit is technically impracticable as well ("zero" depends on the momentary sensitivity of the analytical methods), and the realist representatives, for example the chairman of Bundes Ökologische Lebensmittelwirtschaft (BÖLW), see

http://www.bio-scope-org/disp_doc.cfm?id=C9328A284EB74B0DA400127E3F60B567

Dr. Felix Prinz zu Löwenstein, suggest the limit of 0.5%; the Swiss court has even permitted up to 1% of transgenic admixture for the products of ecological farming.

As the ecological farming is practicable for Europe, which has overproduction of foodstuffs, and convenient for the nature, if reasonable applied, there is a political will to maintain and expand it. In addition to that, the organic farmers want to have a comparative advantage as the exclusive suppliers for the (considerably large) part of the population, which suffers from that "GMO psychosis". The particular marketing share is reported by the recent Eurobarometer survey[21]: 50% of respondents would not buy GM foodstuff under no circumstances (63% in Greece, 32% in the United Kingdom), which represents the market share for ecological farmers, if it is "guaranteed by law" that their products do not contain

[19] Council Regulation (EC) No. 1804/1999 of 19 July 1999 supplementing Regulation (EEC) No. 2092/91 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs to include livestock production. OJ L 222, 24/08/1999 P. 0001-0028. In the Czech Republic it is Act no. 368/1992 Coll.

[20] Commission staff working paper "Analysis of the possibility of European Action Plan for organic food and farming", Brussels, 12.12.2002, SEC (2002) 1368

[21] Ref. 12, Picture 6, Page 36

GMO. The solution is being sought in the rules of so-called coexistence of three types of farming: conventional, organic and GMO-based.

Commissioner Franz Fischler explains the substance of the coexistence (5th March 2003):

"Co-existence raises questions which have to be addressed. It is important to be clear about the rules and the legal framework, be it on a national or EU level. Let there be no mistake: Co-existence is about economic and legal questions, not about risks or food safety, because only authorised GMOs can be cultivated in the EU. The application of co-existence measures is not new. Already in conventional farming, seed producers, for example, have a great deal of experience of implementing farm management practices to ensure seed purity standards. The next step will be to extensively discuss the different opinions with member states and stakeholders. Then the Commission will quickly bring forward guidelines."

The respective recommended guidelines were issued by the Commission on 23rd June[22]. Paragraph 2.2.3 states:

Presently, Council Regulation (EC) No. 1139/98 (1), as last amended by Commission Regulation (EC) NO. 49/2000 (2), defines a labelling threshold for food of 1%. Future labelling threshold covering both food and fee are established in the Regulation on GM Food and Feed. These labelling thresholds would apply to conventional and organic farming alike. No legal thresholds exist for the adventitious presence of non-GMOs in GMOs. For seed of GM varieties, the general crop-specific requirements for purity standards in seed production apply.

(7)

The Commission has analysed the situation in biotechnological research and in industry. It has observed[23] that since the moratorium, the number of field trials has dropped by 76%, and 39% of respondents have cancelled their research in the area of GMO in the last 4 years.

Commissioner Busquin commented on this situation as follows:

"People in Europe are becoming increasingly aware of biotechnology applications and their benefits. We must continue to champion a rational and informed debate on biotechnology so that Europeans are able to make informed decisions. Without sound scientific evidence, the debate will always be distorted. There is a perceived lack of scientific and other information, and the increasingly sceptic climate is scaring European biotech companies and research centre away. If we do not reverse the trend now, we will be unable to reap the benefits of the life science revolution and become dependent on technologies developed elsewhere. Now that strict EU legislation in this field is finally in place, there is not ground for unjustified fears and prejudice."

(8)

[22] COMMISSION RECOMMENDATION of 23 July 2003 on guidelines for the development of national strategies and best practices to ensure the coexistence of genetically modified crops with conventional and organic farming. 29.7.2003 L 189/36 Official Journal of the European Union EN

[23] IP/03/387 Brussels, 14 March 2003

The foundation was the framework document on support of modern science[24], which has become the basis for part 6 of the framework program "Science and Society". The analysis of the risk of Europe lagging behind in modern biotechnology was carried out first by commissioner Philippe Busquin, who is responsible for research. He railed against destruction of trial field by the "activists" of some movements[25]:

"This is an example of ignorance and prejudice leading to illegal acts of violence, that in the long run can only deny society the benefits that scientific progress bill bring about. This kind of research is key to overcoming suspicion sand uncertainty about such crops. If we do not invest enough in GMO research, our ability to innovate and assess potential risks could be hampered. Ultimately, European citizens will be the losers."

It was important that the moratorium declared by some member states was opposed by Margot Wallström[26], responsible for the environment policy:

"In the presence of this deadlock, the research activity has been progressively reduced and the firms have basically abstained from submitting additional demands for new authorizations… At the same time, the products which have been placed on the market on the basis of the old rules benefit from a privileged treatment with respect to new and probably netter tested products."

Later (during the Commission discussion on 11th April 2003), she was much more resolute:

"I urge Member States to quickly bring their national legislation into line with the new agreed EU framework for regulating the release of GMOs into the environment. Failure to implement the new rules within the next two months could prompt the EU executive to file a lawsuit against all rebelling parties at the European Court of Justice."

The Commission warning was addressed to Belgium, France, Finland, Ireland, Italy, Luxembourg, Germany, Netherlands, Portugal, Austria, Greece and Spain. The Commission threatened with the European Court of Justice, if they would not backtrack on the moratorium.[27]

The opinion of the farm commissioner Franz Fischler is important as well:[28]

We have to stop making decisions on such a difficult issue as biotechnology on a purely emotional basis. It is high time that Europe finds a way to address questions regarding the potential health or environmental risks of gene-altered products."

The parliament has adopted a resolution on withdrawal of the moratorium, and has refused most of the modifying proposals of the Green Parties[29]:

[24] Science, society and the citizens in Europe COMMISSION WORKING DOCUMENT Brussels, 24.10.2000
[25] DN: IP/02/557 Date: 17/04/2002
[26] Margot Wallström Speaking at a stakeholders' workshop on implementing the new regulatory framework (Directive 2001/18/EC) on 19 November
[27] IP/03/313 Brussels, 5 March 2003
[28] EU Farm Commissioner Franz Fischler said in a speech at a Belgian agricultural trade fair, Associated Press, February 13, 2002
[29] EU Parliament, 11-22-2002

"The Members of the European Parliament (MEP) say it is important to inform the public that biotechnology offer opportunities in various fields from health to agriculture and from industry to alternative energy resources. They call on the Commission to launch a "B-Europe" policy in the field of biotechnology. … On the issue of food the Parliament strongly supports the view that the existing de-facto moratorium on GM foods in force since 1998 should cease, in order to promote innovation. … The Parliament states that biotechnology can contribute towards finding genuine solutions to environmental problems, sustainable development and food sufficiency. MEPs stress the need to ensure that consumers receive reliable information about GMOs so that they can choose a product on the basis of prior information and can acquire confidence in GMO products and technology."

(9)

New Regulations are being discussed in various EU bodies based on the proposals of 7th March 2003[30]. Their substance is the following rule: every raw material for foods or feeds, which contains more than 0.9% of the transgenic component, must be marked "Contains genetically modified crop" and at the same time furnished with a document stating the information on the respective genetic modification. Everything that will be produced from this raw material, regardless of whether the respective product contains any material traces (nucleic acid or protein) of genetic modification, must be marked "Made from genetically modified crop". So for example, a three-times distilled plum brandy made from transgenic plum resistant to plum poxvirus, must be marked in this way. At the same time, the certificate characterizing the original modified crop will pass through the whole production chain. The Parliament will bring some modifications in the concepts[31], but the substance will undoubtedly remain the same.

(10)

The dynamics of GM crops cultivation is larger in the developing countries than it is in the industrial countries (see Table 10-1)[32], even under the conditions, when the principal disincentive is the fear of losing the European market, because these countries are bound to export more than the industrial countries are.

Country	YEAR Million ha		GROWTH	
	2001	2002	Absolute Mil. ha	Relative %
USA	35.7	39.0	+3.3	+9
Canada	3.2	3.5	+0.3	+9
Australia	0.2	0.1	-0.1	--
Argentina	11.8	13.5	+1.7	+14
China	1.5	2.1	+0.6	+40

[30] REGULATION (EC) No/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, on genetically modified food and feed. Interinstitutional File: 2001/0173 (COD)

REGULATION (EC) No/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, concerning the traceability and labelling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms and amending Directive 2001/18/EC. Interinstitutional File: 2001/0180 (COD)

[31] European Parliament (Rapporteur: Antonios Trakatellis): Draft Recommendation for second reading on the Council common position for adopting a European Parliament and Council regulation on traceability and labelling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms and mending Directive 2001/18/EC (15798/1/2002 – C5-0131/2003 – 2001/0180(COD))

[32] Clive James: Global status of Commercialised Transgenic Crops: 2002. ISAAA Briefs No. 27, 2002

South Africa	0.2	0.3	+0.1	--
Industrial countries in total	39.1	42.7	+3.6	+9
Developing countries in total	13.5	16.0	+2.5	+19

Table 10-1
Dynamics of GM crops cultivation between years 2001 and 2002