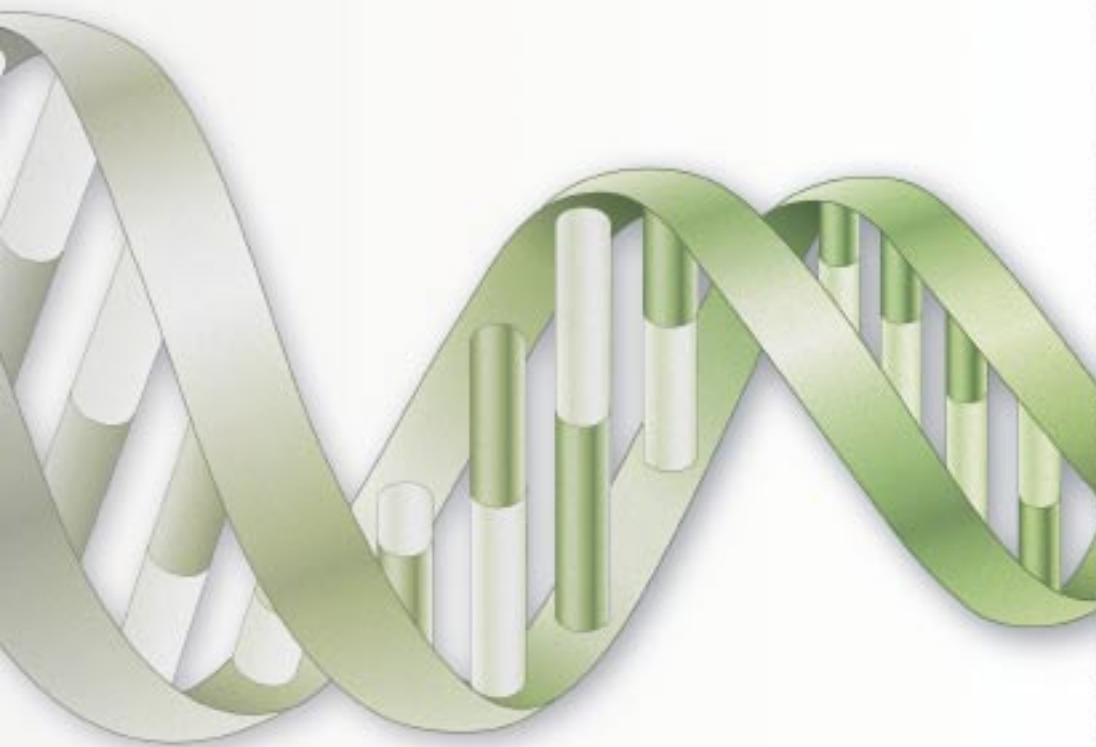


# Is the Market driving GMOs out of the region?

The Situation with Genetically Modified Organisms in Slovenia, Croatia and Serbia & Montenegro



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## Summary

*“It is interesting how proponents of GM plants are more concerned about the rights of multinationals to disseminate their seed than about our own possibilities in foreign markets.”* – Dr. Milica Hrustic, Head of Soybean Department at Institute of Field and Vegetable Crops, Novi Sad<sup>1</sup>

This report examines what role the market is playing in keeping genetically engineered (GE) crops and food out of Slovenia, Croatia and Serbia. Their main European Union (EU) export market has rejected GE food and in turn, in 2000 the EU introduced stringent regulations on GE food and feed, which require that GE products are labelled if they contain more than the regulatory threshold of 1% genetically modified organisms (GMOs) or products thereof. Most of the impetus for tightening of GMO laws in the EU has been market rejection of GMOs used in food and agriculture.

The report attempts to identify the points in the agri-food chain of these countries where GMO contamination may potentially occur, namely through import of conventional seeds contaminated with GMOs and commercial import of commodities from countries growing GE crops commercially. Additional sources of GMO-contamination in Serbia are through field trials, GE seed smuggling and US food aid.

The two main genetically engineered (GE) food and feed crops that have been commercialised are: **soybeans** (grown in US, Canada, Argentina and Romania) and **maize** (US and Canada).

The report examines imports of seeds and commodities of the two crops in the light of the national GMO regulatory frameworks and the institutional capacity to implement existing laws.

Despite the wars, Serbia & Montenegro was the first to establish a regulatory system for controlling GMOs in South-east Europe: a GMO law introduced in May 2001 backed up by four certified laboratories equipped to test for GMOs. However, its potential GMO-free status is hampered by smuggling of GE soybeans allegedly from Romania and field trials. In addition, GMOs are entering the country from US food donations to Kosovo.

Slovenia adopted a GMO law only in July 2002, but it has still to enter into force. A laboratory has been undertaking GMO testing since 2001 and has recently been certified. Despite Slovenia's moratorium on authorising releases of GMOs, the many years of legislative vacuum provided ideal opportunities for the (un)intentional yet not illegal import of GMOs in seed, food and feed into Slovenia.

Likewise in Croatia, that adopted a Nature Protection Law to regulate the deliberate release and commercialisation of GMOs only in September 2003. A Food Law which regulates placing of GE food and feed on the market, and its labelling was adopted only in July 2003. In September 2003, a national laboratory was opened for GMO testing.

Both Slovenia and Croatia have ratified the Cartagena Protocol on Biosafety, agreed in January 2000 which clarifies the issue of international trade in GMOs. The Protocol, signed by 103 countries world wide entered into force 11 September 2003 allows countries to apply the 'precautionary principle' and reject imports of GMOs if they think there is a safety risk. Serbia has not signed the Protocol.

The report examines the awareness of GMOs among the seed, food and feed industry. It presents a summary of the responses received from companies in these sectors to letters from NGOs in Slovenia, Croatia and Serbia<sup>2</sup> enquiring about their policies with respect to using and selling GE products.

Many seed distributors, food and feed processors and food retailers – especially in Slovenia and Croatia where awareness of GMOs is highest - claim not to be using or selling GMOs. Several companies have supported these statements with laboratory testing certificates, including the food processors Žito and Kolinska and supermarket chains Mercator and Interspar in Slovenia. In Croatia, food processors like Kraš, Podravka and Agrokor as well as the supermarket chain Getro provided the NGO, Green Action, with certificates of GMO-free. The claims of these companies to be avoiding GMOs is in response to the demands of the EU market, but also to increasing domestic concerns about growing and eating GE food, as evidenced by public opinion polls.

<sup>1</sup> “GM soya, yes or no?”, Milica Hrustic, “Dnevnik” November 2001

<sup>2</sup> Umanotera in Slovenia; Green Action/Zelena Akcija in Croatia and Green Network of Vojvodina/Zelena Mreza Vojvodine in Serbia



A common development in all three countries is that some seed, food and feed industry players, selling soybean and maize products and derivatives to the EU market, have put in place biosafety measures to ensure their products meet the 1% threshold for food labelling, demanded by EU legislation. For example, Sojaprotein in Vojvodina, Serbia which exports to the EU, has implemented quality control measures to ensure that their soya derivatives do not contain more than the EU 1% threshold. In Vojvodina, a major incentive for destroying illegal growing of GE soybeans is a potential contract to provide Norway with non-GE soybeans. In Croatia, transnational companies like Unilever and Nestlé demand GM-free certificates from their suppliers.

These examples demonstrate that the market is playing a role in keeping GMOs out of agricultural products destined for export from Slovenia, Croatia and Serbia. To a lesser extent, the market is also driving GMOs out of food destined for the domestic market – at least in Slovenia and Croatia. However, the ‘sink’ for GMOs, either imported or found illegally is animal feed. New EU regulations requiring full traceability and labelling of GMOs in food and feed will close this ‘escape route’ for GMOs used in feed.

The report concludes that although the market is a key player in avoiding (or at least tracing) GMOs, it can only play its role in the presence of a regulatory framework that is capable of being implemented. In other words, without the certified laboratories for detecting GMOs and government expertise and resources to undertake routine monitoring, the market alone struggles to keep GMOs out of the market. Without government capacity to enforce legislation, some companies will continue to exploit this vacuum, particularly if they are processing or selling products for the domestic market, where the EU market plays no role.

Another reason for government intervention in the market is the need to support the small domestic seed, food and feed producers, who do not have the resources to commission laboratory testing of their products for GMOs. The seed, food and feed companies and retailers that were able to supply NGOs with laboratory certificates in the survey were invariably the largest players in their sectors. For the smaller domestic companies to be able to make similar assurances and thus improve their domestic and export opportunities, the government needs to provide centralised monitoring of all relevant imports for GMOs. This includes: maize parent-lines, maize and soybean seeds, imports of commodity maize, soybean and oilseed rape. It is far easier to prevent the introduction of GMOs upstream at the border, than to try and trace GMOs down through the supply chain.

Moreover, traceability systems for both food and feed – as required by the new EU regulations – means that these countries will have to monitor products for GMOs to ensure correct labelling, initially for exports to the EU, but also for products on the domestic market, once they become EU members.

New EU regulations on Traceability & Labelling and Novel Food & Feed adopted in July 2003 are due to come into force on 7<sup>th</sup> November 2003.<sup>3</sup> Any country exporting food or feed to the EU will need to ensure that systems for tracing GMOs from field to fork are in place. Slovenia, which is due to become an EU Member State in May 2003 will also have to ensure traceability systems for GMOs in the domestic food and feed chain. Although the market will have to establish traceability and labelling systems, only the government can elaborate and put in place the regulatory framework.

The report concludes with recommendations to the seed, food and feed industry and to the governments in the region. It also provides advice to consumers and farmers.

<sup>3</sup> Environment Daily (ENDS) No. 1536, 22 October 2003



## 1. Background

All three countries were part of the former Yugoslavia. During the last decade, several factors contributed to the decline of the agricultural sector: the break-up of Yugoslavia, wars and the change to a market economy.

Agriculturally, the most important regions are Vojvodina in Serbia and Slavonija in Croatia, where maize and soybeans are grown. These regions are also important for seed breeding and production of maize and soybean seeds. Both Serbia and Croatia export maize seed to the rest of the region and Western Europe; in 2003, Serbia also exported soybean seeds to countries like Slovenia.

Serbia's agricultural potential and seed breeding activities make it attractive to biotech companies, who want to introduce their GE characteristics into domestic varieties. This and the proximity of Romania and Bulgaria where GE crops are grown, increase the potential for GMO contamination.

Serbia and Croatia both export commodity maize. All three countries import maize and soybean commodities for animal feed; Slovenia also for food.

In all three countries, there is some government support for remaining GMO-free and no country has allowed the commercial cultivation of GE crops. In November 2001, Croatia was threatened by the US government with action under WTO, if it went ahead and adopted an interim law banning GMOs for a temporary period. In Slovenia, in June 2003, the Ministers of Agriculture and Environment supported the signing of a declaration prepared by the associations of organic farmers in two southern provinces of Austria, North-east Italy and the Slovenian Union of Organic Farmers to create a bio-region, to grow organic food, free from GMOs. Serbia & Montenegro has had a policy of keeping its agriculture free from GMOs, has banned the import of whole grains (to prevent planting) and has had relatively strict controls on imports – at least on soymeal.

## 2. Introduction

*"The customer is where the real power lies. Supermarkets are not going to give shelf space to something that doesn't sell."* - David Southwell, British Retail Consortium, speaking about GE food, June 2003<sup>4</sup>

In 1994, for the first time ever, a genetically engineered (GE) plant was commercially grown. The introduction of the FlavrSavr tomato in the US was the beginning of a global change in agriculture - or so the biotech companies had planned. However, when the first harvest of GE soybeans and maize was about to be shipped to Europe in 1996, consumers there voiced an unforeseen opposition to this food. Consumers wanted to know what they were eating and demanded the labelling of GE food. In many countries of the EU, the introduction of genetically engineered food onto the market failed, and the major EU food producers and retailers now guarantee a GE-free food supply.<sup>5</sup> Corporate food processors, such as Nestlé and Unilever, and food retailers, such as the UK's Tesco and the French Carrefour, have made public commitments to source only GE-free ingredients in their products in several countries. By 2001, companies such as Stollwerck, Nestlé Hungaria, Danone, Kraft Hungaria, Frito Lay, McDonalds and Unilever operating in Hungary were also claiming that they are avoiding GMOs.

Only Spain, and to a very limited extent France and Germany, were growing GE maize 1997-1999. To date, the EU has approved the deliberate release of 18 GMOs (under Directive 90/220/EEC<sup>6</sup>), but their status is uncertain, given that national bans on some of these GMOs. Of the 18 GMOs approved in the EU, 10 are agricultural crops and include soybeans, maize and oilseed rape.<sup>7</sup> No GMO has been given authorisation for deliberate release in the EU since October 1998 and since June 1999 a de facto moratorium was imposed until

<sup>4</sup> "Supermarkets tell Blair: we won't stock GM", by Mark Townsend, The Observer, UK, June 8, 2003 at: <http://www.observer.co.uk/politics/story/0,6903,972904,00.html>

<sup>5</sup> In this report, 'GE-free food' or 'GM-free food' means food not containing any raw material derived from GE/GM plants.

<sup>6</sup> Revised Directive 90/220/EC on Deliberate Release of GMOs into the environment is now Directive 2001/18/EC

<sup>7</sup> The remaining GMOs approved by the EU include vaccines, carnations, a tobacco tolerant to bromoxynil and a test kit to detect antibiotic residues in milk.

new regulations on Traceability & Labelling and Novel Food & Feed are in place.<sup>8</sup> These were adopted in July 2003, but have still to enter into force. There are bans on certain GMOs and GE foodstuffs in China, Saudi Arabia, Thailand, Algeria and New Zealand and some regions of Brazil and Australia. Since 1999, there is an increasing awareness about the dangers of GE crops even in the US. In 2002, Monsanto, the US pioneer of GM crops, spent \$6 million on a campaign to defeat a GE food labelling initiative in the State of Oregon<sup>9</sup> and wheat farmers in the US are resisting the introduction of GE wheat.<sup>10</sup> A recent survey of US citizens showed that 92% want labels on GE food.<sup>11</sup>

The entry into force of the regulations on Traceability & Labelling and Novel Food & Feed in November 2003, and hence the possible lifting of the EU moratorium on GMOs have prompted heated debates in many Member States. In the UK, a 6-week government-sponsored debate in summer 2003 on the commercialisation of GMOs, called GM Nation? resulted in 675 public meetings, 2,9 million hits on the dedicated government website and over 36,500 questionnaires returned. The survey revealed:<sup>12</sup>

- 93% of the public believe that GM technology is driven by profit rather than public interest;
- 85% of the public think GM crops benefit producers, rather than ordinary people;
- 93% said that too little is known about the health effects of eating GM food, and
- just 2% were happy with GM foods in all circumstances.

In October 2003, the results of recent research published by the UK's Department for Environment, Food and Rural Affairs, found that insects carried pollen more than six times the distance previously known. It also found that one sowing of GM crops could contaminate non-GM and organic crops for more than 16 years.<sup>13</sup>

Then followed the results of the UK's 3-year GM farm scale evaluations of GM crops published October 16 2003. They show that wildlife suffered in GM beet and GM oilseed rape crops, which had far fewer insects and weeds compared with the non-GM controls. The results brought fresh demands for the UK government to keep so-called Frankenstein foods away from already sceptical shoppers.<sup>14</sup>

The impact of the trial results may well be felt not just in the UK. They could lead to a Europe-wide ban. The UK's environment minister, Elliot Morley, also appeared to suggest the evidence could halt the planting of GM crops throughout the EU: *"I don't think any European country can ignore these results."*<sup>15</sup>

Also in October, a survey of the main insurance underwriters in the UK, carried out by the group FARM, found that neither farmers considering growing GM crops or non-GM farmers seeking to protect their businesses from contamination by GM crops would be able to find anyone willing to give them insurance. Insurance company spokespeople compared GM crops to 'Thalidomide', 'Asbestos' and 'Acts of Terrorism'. All the companies surveyed felt that too little was known about the long term effects of growing these crops on human health and the environment to be able to offer any form of cover. One company spokesperson said, *"The worry is that GM could be like Thalidomide - only after some time would the full extent of the problems be seen."*<sup>16</sup>

<sup>8</sup> Full text of press release announcing the continuing moratorium issued by the European Commission, 13 July 2000 available: [www.europa.eu.int/comm/dgs/health\\_consumer/library/press/press62\\_en.html](http://www.europa.eu.int/comm/dgs/health_consumer/library/press/press62_en.html)

<sup>9</sup> *Monsanto battles effort to require labeling of genetically modified food*, by Bill Lambrecht, St. Louis Post-Dispatch, USA, 19 Sept 2002

<sup>10</sup> *Bill touted as protector of wheat farmers*, by Courtney Lowery, Billings Gazette, 6 Feb 2003

<sup>11</sup> *"US Consumers trust US farmers the most on food safety"*, @griculture on line at: [www.agriculture.com/default.sph/AgNews.class?FNC=goDetail\\_ANewsindex\\_html\\_\\_49413\\_\\_1](http://www.agriculture.com/default.sph/AgNews.class?FNC=goDetail_ANewsindex_html__49413__1)

<sup>12</sup> *"GM crops? No thanks"*, by Michael McCarthy, The Independent, UK, Sep 25, 2003 at: <http://news.independent.co.uk/uk/environment/story.jsp?story=446787>

<sup>13</sup> *"Curb on GM crop trials after insect pollution"*, By Robert Uhlig, Daily Telegraph (UK), 14 October 2003 at: <http://news.telegraph.co.uk/news/main.jhtml?view=DETAILS&xml=/news/2003/10/14/ngm14.xml>

<sup>14</sup> *"GM crop trials fuel demands for ban"*, by David Cullen, Reuters, 16 October, 2003 at: <http://www.reuters.co.uk/newsPackageArticle.jhtml?type=topNews&storyID=389051&section=news>

<sup>15</sup> <http://www.timesonline.co.uk/article/0,,2-857324,00.html>

<sup>16</sup> *"No-one will insure GM crops"*, FARM press release, 7 October 2002

In October, Monsanto, the American pioneer of GM, announced its intention to exit from its European cereal seed business.<sup>17</sup>

All this has been taking place against the backdrop of a possible trade war between the US and the EU. In May 2003, the US government filed a complaint with the WTO<sup>18</sup> against the European Union for its five-year ban on approving new biotech crops. According to the US Trade Representative Robert Zoellick, the European policy is illegal, harming the American economy, stunting the growth of the biotech industry and contributing to increased starvation in the developing world. Yet another setback for the biotech industry is the entry into force of the UN Cartagena Biosafety Protocol on 11 September 2003, which allows countries to apply the 'precautionary principle' and reject imports of GMOs if they think there is a safety risk.



Friends of the Earth's Bite Back campaign<sup>19</sup>

### 3. Regulatory oversight of GMOs

Since the early 90's, Slovenia has been harmonising its legislation with that in the EU and is due to become a new Member State in May 2004. Croatia and Serbia although not candidates for EU membership, are following EU policy.

#### International Obligations

Both Slovenia and Croatia have ratified the Cartagena Protocol on biosafety, which clarifies the issue of international trade in GMOs; Slovenia in September 2002 and Croatia in May 2002. Serbia & Montenegro has not signed the Cartagena Protocol. The Protocol, signed by 103 countries world wide came into force 11 September 2003. It allows countries to apply the 'precautionary principle'<sup>20</sup> and reject imports of GMOs if they think there is a safety risk.

<sup>17</sup> "GM food giant Monsanto starts retreat from Europe", by Valerie Elliott, The Times (UK), October 16, 2003 at: <http://www.timesonline.co.uk/article/0,,2-855996,00.html>

<sup>18</sup> World Trade Organisation

<sup>19</sup> <http://www.foeeurope.org/biteback/index.htm>

<sup>20</sup> The Cartagena Protocol on Biosafety states: "Lack of scientific certainty due to insufficient relevant scientific information . . . shall not prevent the Party of import, in order to avoid or minimise such potential adverse effects, from taking a decision, as appropriate, with regard to the import of the living modified organism in question."

Article 16 of the Cartagena Protocol on Biosafety opens the possibility of a world wide ban of certain GMOs: *“Parties shall cooperate with a view to:*

- (a) *Identifying living modified organisms or specific traits of living modified organisms that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health; and*
- (b) *Taking appropriate measures regarding the treatment of such living modified organisms or specific traits.*

## New EU regulations

*“...having GM on the farm could add to costs throughout the food chain. New European rules on labelling and traceability, to come into force later this year, will demand further careful separation of GM and non-GM crops, and a detailed paper trail from field to foodstore.”* – The Economist<sup>21</sup>

New EU regulations on Traceability & Labelling and Novel Food & Feed are due to come into force 7<sup>th</sup> November 2003.<sup>22</sup> Any country exporting food or feed to the EU will need to ensure that systems for tracing GMOs from field to fork are in place. Traceability provides the means to track the movement of GM products through the production and distribution chains and will facilitate monitoring of any environmental effects, accurate labelling and the recall of products if any unexpected adverse effects arise. The new regulations will require industry when using or handling GM products to transmit and retain information about the presence of GMOs in products throughout the commercial chain. Industry will therefore have to ensure that systems are in place to identify to whom and from whom GM products are made available. In addition, the new regulations reduce the threshold for GM labelling from 1% to 0,9%.<sup>23</sup>

Slovenia, which is due to become an EU Member State in May 2004 will have to ensure traceability systems for GMOs in the domestic food and feed chain. Companies exporting food from Croatia and Serbia to EU will also need to put in place traceability and labelling systems. Although the market will have to establish these systems, only the government can elaborate and put in place the regulatory framework.

## Slovenia

After years of legislative vacuum, **Slovenia** finally adopted a law on GMOs in July 2002, which requires the authorisation of releases of GMOs and their placing on the market. As in the EU, the law also mandates the labelling of food containing GMOs or GM derivatives if the GM content is above 1%. Mandatory labelling will be required from January 2004. Despite the adoption of the GMO law over a year ago, it is still not in force, because implementing regulations have still to be introduced. Moreover, the EU's new and more comprehensive regulations on Traceability & Labelling and Novel Food & Feed, adopted in July 2003 have still to be transposed.

In October 2003, a laboratory at the National Institute of Biology in Ljubljana finally received certification, although it has been performing tests on GMOs since 2001. Two other laboratories are also capable for testing the presence of GMOs: one at the Agricultural Institute which will in future mainly be testing seed purity; and the second at the Public health Institute, both in Ljubljana.

The Health and Agricultural Inspectorates are currently undertaking a monitoring programme of seed, food and feed on the Slovene market to get some idea of the degree of GMO contamination.

To date, no permits have been granted for the deliberate release of GMOs – either for field trials, commercial cultivation or placing on the market.

<sup>21</sup> 24 July 2003 at [http://www.economist.com/science/displaystory.cfm?story\\_id=1940321](http://www.economist.com/science/displaystory.cfm?story_id=1940321)

<sup>22</sup> Environment Daily (ENDS) No. 1536, 22 October 2003

<sup>23</sup> European Commission, Press Release IP/03/1056, “European legislative framework for GMOs is now in place”, Jul 22, 2003 at: [http://europa.eu.int/rapid/start/cgi/guesten.ksh?p\\_action=gettxt=gt&doc=IP/03/1056|0|RAPID&lg=EN](http://europa.eu.int/rapid/start/cgi/guesten.ksh?p_action=gettxt=gt&doc=IP/03/1056|0|RAPID&lg=EN)





### **Croatia**

Since 1999, when Croatia's Parliament decided to ban production of GMOs and limit imports of GE food, Croatia has been declaring itself as a country of natural food and a healthy tourist destination, free of GMOs.

In June 2001, four ministries agreed the text of a bill to ban the import, marketing, use and production of GMOs used in agriculture and their products, until a more specific regulatory framework is in place. However, this and a summer 2001 billboard campaign promoting Croatia as a GMO-free tourist destination provoked the US government to threaten Croatia with WTO action if it went ahead with the ban.

In July 2003, a new Food Law finally came into force requiring authorisation for all GE food and feed placed on the market. The Health Ministry has to keep a register of all GE food put on the market and the Agriculture Ministry has to maintain a register of all GE feed placed on the market. The Food law also requires the labelling of GE food and feed, but provides no threshold.

In September 2003, a laboratory for testing GMOs in food products was opened based at the National Institute of Public Health in Zagreb. The ministries of Health and Agriculture have agreed to use the EU threshold of 1% for labelling purposes.

The new Nature Protection Law agreed in September 2003 regulates the deliberate release of GMOs into the environment. It entered into force in late October. The new law bans the release of GMOs in protected areas and their buffer zones, in areas of organic farming and of importance to eco-tourism.

To date, no permits have been granted for the deliberate release of GMOs – either for field trials, commercial cultivation or placing on the market.

### **Serbia**

Serbia was the first country in SEE to introduce a GMO law, in May 2001. The implementation of the law is supported by four certified laboratories equipped to test for GMOs. However, the law has never been transposed at the republic level.

In January 2001, the Government passed a decree banning the free import of GMOs, requiring that any import require a permit. The decree was introduced to protect Serbia's agricultural crops and the food industry from the uncontrolled import of GE seed, propagating material and products derived from GMOs, until a comprehensive GMO law is in place. Serbia's policy of keeping its agriculture free of GMOs, despite shortages of food and feed, contradicts the propaganda of the biotech seed industry that GE food is needed to feed a hungry world.

In May 2001, a comprehensive law on GMOs came into force regulating the conditions for deliberate release of GMOs and their placing on the market. As part of the application for a permit, and to facilitate testing of the GMO and products thereof to ensure compliance with the permit, Art 7 of the GMO law requires that the applicant provide reference materials of the GMO intended for contained use, deliberate release or putting on the market to the authorised GMO-testing laboratory. Only after the laboratory has issued a satisfactory report will a time-limited permit be granted (Art 9). Moreover, the applicant must cover all the costs of testing GMOs and products thereof, even if ordered by the Federal Inspector. (Art. 23)

To ensure against the use of soybeans and maize for planting, only soymeal and maize meal can be imported. There is no threshold for GMO-contamination, so any level of contamination requires an import permit from the Federal Institute of Plant and Animal Genetics, based in the Federal Ministry for Economy and International Trade.

Another implementing regulation published in February 2003, sets the labelling threshold for GMOs at 0,9%.

The Register of permits granted for deliberate release of GMOs<sup>24</sup> reveals that, already in May 2001 (before the implementing regulations were in place) two permits were issued: one to Monsanto for marketing Roundup Ready (RR) soymeal valid for 10 years and the second for field trials of Monsanto's RR maize.

The GMO law assigned the Federal Ministry of Agriculture as the competent authority for GMOs but the Ministry was abolished in summer 2001. However, with the government restructuring that has been taking place since the creation of the new Union of Serbia & Montenegro in March 2003, the Federal Institute of Plant and Animal Genetics was also abolished. In spring 2003, they were replaced with a newly created Department for GMOs in the Section for Agricultural Resources, within the Serbian Ministry of Agriculture. However, the GMO law has never been transposed to the republic level, creating a legal vacuum whereby nobody is responsible for implementation of the GMO law.

One example of this institutional mess is the failure of the authorities to destroy the illegal cultivation of GE crops. In 2003, 1000 ha of illegal GE soybean fields were discovered, but only 80 ha were destroyed, because inspectors had no legislative basis to force the owners of the GE soybean fields to destroy the crops.<sup>25</sup>

#### 4. Potential sources of GMOs on the market

Until very recently, Slovenia and Croatia had no laws regulating GE food and agriculture. Thus, it is highly likely that GMOs are entering the country as imports of maize seed or in agricultural commodities, such as maize, soybeans, soybean lecithin or corn starch, destined for human food and animal feed. According to Miroslav Malešević, Director of the Institute of Field and Vegetable Crops (IFVC), Serbia is controlling only imports of soymeal, and seems to be ignoring other routes for GMO contamination.<sup>26</sup>

This section explores potential sources of GMO contamination of seed, food and feed.

Releases of GMOs into the environment can be directly into soils or via the food and feed chain. They can take place either deliberately or accidentally:

- Deliberate release of GMOs during experimental field trials, commercial cultivation of GE crops and when products, such as human food or animal containing GMOs e.g. GE maize in polenta, or derivatives of GMOs e.g. corn starch, soy lecithin, are put on the market.
- Accidental release of GMOs, if imported conventional seeds are contaminated with GMOs or foods on the market contain GMOs or their derivatives. Moreover, GMO-contaminated maize feed can contain viable maize grains that can germinate and grow in the open environment.

In Slovenia and Croatia potential routes of entry for GMOs are imports of seed and imports of commodities from GE crop-growing countries. Both Slovenia and Croatia import maize seed from USA and Canada, countries which grow GE maize commercially and where the potential for GMO-contaminated seed is very high.

<sup>24</sup> Official Gazette of FR Yugoslavia, No. 2/2003, 10 January 2003

<sup>25</sup> *GM Plants stronger than the State*, Dnevnik, Novi Sad, 6 September 2003

<sup>26</sup> Article by D. Urošević, "Dnevnik", 15 January 2003

Serbia is self-sufficient in maize and soybeans, using locally-produced varieties. Despite its capacity to monitor GMO imports, Serbia is focusing its efforts solely on monitoring soymeal imports. However, the cultivation of smuggled GE Roundup Ready (herbicide tolerant) soybeans allegedly from Romania and GMOs from U.S. food aid to Kosovo are proving to be the most serious routes of GMO contamination.

Field trials, which are another potential source of GMO contamination, are taking place in Serbia, but there are no authorised field trials in Slovenia or Croatia.

All three countries are net importers of animal feed, including soymeal. Slovenia and Croatia also import commodity maize for use in food and feed. GMOs and their derivatives can also be present in processed foods imported either directly from North America where the sale of GM food without labelling is allowed, or via third countries.

One problem with undertaking research on agricultural trade flows is that the country of origin does not necessarily mean the country of export. For example, The Netherlands is often cited as the country of origin of soybean and maize, because the port of Rotterdam serves as a transit point for many goods destined for Europe.

## 4.1 Imports of Seeds

### *Slovenia*

**The potential for GMO-contaminated seeds is highest in Slovenia**, which relies heavily on imports of maize seed. There is almost no maize seed production in Slovenia. The biggest maize seed company on the market is Pioneer, followed by two Slovene seed distributors Semenarna and Agrosaat. Data from the Statistics Office reveal that since 1998, Slovenia had been importing increasingly proportions of maize seed from countries where the cultivation of GE maize is widespread. In 2002, 11,5% of all maize seed imports were from the US, where in 2001 some 25% of all maize planted was GE maize.

Table 1: Imports of Maize Seed from US and Canada to Slovenia, as percentage of total maize seed import, by year

1998	1999	2001	2002
0,42%	5,58%	11,38%	15,77%

Evidence for GMO-contaminated maize seed is the results of food testing that revealed products on the market, including products of Slovene origin, which tested positive for GMOs. In 2000, the Consumers' Association of Slovenia sampled 20 products on the Slovene market: 8 tested positive for GMOs; two of which contained over 1% GMOs.

In the first half of 2003, import statistics show that Slovenia may be taking action: less than 2% of maize seeds were imported from North America and more is being imported from Central-Eastern and South-Eastern Europe: some 35% from Hungary, 16% from Croatia and 7,6% from Serbia. A fifth of all maize seed imports in the first half of 2003 came from Austria, through Pioneer. Austria has the strictest regulation on seed purity allowing only 0,1% GMO contamination in conventional seeds. In early 2003, Pioneer provided Umanotera with evidence from their reference laboratory in France, that seeds marketed in Slovenia and imported from Austria are non-GM.

The situation with soybean seed imports is even more alarming. In 2002 Slovenia imported 93% of seeds from US and Canada, where most of the soybeans grown are GE.<sup>27</sup> These seeds are highly likely to be contaminated with GMOs. Fortunately, the area under soybeans in Slovenia is very small and the potential for cross-pollination between GE and non-GE soybeans is less than for crops such as oilseed rape or maize.

<sup>27</sup> Data from the National Office of Statistics



### **Croatia**

*“All maize and sunflower hybrids planted and marketed in Croatia are bred and produced using only traditional plant breeding techniques, meaning these plants are GM-free” – Pioneer Hi-Bred International, Zagreb*

**Croatia breeds both maize and soybean seeds.** The BC Institute for Breeding and Production of Field Crops, based in Zagreb is the centre of maize seed breeding produced mainly for domestic use, but also for export to countries like Slovenia. Although the BC Institute claims that its seeds are GM free, its website states that the Institute: *“...is facing new challenges with the use of biotechnology in its maize breeding programmes.”*<sup>28</sup> Although the Institute does not clarify the problems it is experiencing with the use of biotech, these are likely to be caused by GMO-contaminated maize parent-lines – used to breed maize hybrids – imported from the US. Similar problems of GMO-contaminated maize parent-lines imported from the US for producing maize hybrids have been experienced in Hungary.

The key soybean breeding centre is the Soybean Department at the Institute of Agriculture in Osijek. Multiplication of seeds bred by the Institute is done by seed companies, who then sell the seed to farmers.

Pioneer is the main foreign seed company selling maize hybrids in Croatia. According to Pioneer’s marketing manager, Marko Jukic, some 95% of maize seeds sold by Pioneer in Croatia are produced domestically; the remainder is imported mainly from Italy and France. Since 2003, Monsanto is also marketing maize hybrid seeds in the country.

The smaller Croatian seed companies which do not import seeds believe that their seeds are GMO-free. They do not have the resources to commission laboratory testing for GMOs to verify if their seeds are indeed non-GM. Requests from the small seed companies to the larger, often foreign seed companies for certificates of GMO-free, are answered by quoting much higher prices for certified seed, which the small companies cannot afford.<sup>29</sup>

<sup>28</sup> [http://www.bc-institut.hr/kukuruz\\_e.html](http://www.bc-institut.hr/kukuruz_e.html)

<sup>29</sup> Responses from companies to Green Action’s questionnaire, spring 2003



### Maize seed imports to Croatia

Despite domestic seed production, Croatia still relies on imports of maize and soybean seeds. Most worrying are figures from the Central Statistics Office that show that maize seed imports are increasing exponentially.

Table 2: Imports of Maize Seed to Croatia

Year	Tonnes of maize seed imported
1999	262
2000	323
2001	1161
2002	1482

Even more alarming is the fact that during the 4-year period 1999-2002, the **import of maize seed from the US to Croatia increased over 500%**, albeit starting from a low base. For example, in 2002, almost one third of all seed imports (1482 t) was from the US, the remainder from Hungary (27,7%), Slovenia (27,6%) and Serbia (6%). Note, Slovenia may be a transit country for maize seed from Austria, where Pioneer has its European headquarters.

The increasing reliance on imported maize seed may in part be due to severe droughts in last few years. However, the more likely explanation for this increase is **market concentration, with the large foreign seed companies buying up the smaller Croatian seed companies.**

Table 3: Main countries exporting Maize Seed to Croatia, as percentage of total maize seed import, by year

Country	1999	2000	2001
Hungary	10,3%		40,4%
USA	6,49%	17,6%	25,4%
Canada	No import	12,7%	17,4%

Source: Central Bureau of Statistics (processed by Green Action, Feb 2003)

Soybean seed imported to Croatia is almost entirely from Hungary (99,9% in 2001), where there is routine testing of seeds for GMO contamination.

A more general problem around seeds concerns **the sale of unregistered plant varieties in Croatia, mainly by foreign seed companies.** A recent case involved a Dutch company selling a variety of tomato (non-GE) known as Sultan F-1, which is not registered on the National Seed List.<sup>30</sup>

### Serbia

**Serbia is self-sufficient in maize and soybean seeds.** The two main suppliers of seeds to Serbian farmers are the Institute of Field and Vegetable Crops (IFVC) in Novi Sad and the Institute for Maize in Zemun Polje.

However, the threats to Serbian seed purity stem primarily from **seed smuggling** and the fact that there is **no enforcement** mechanism for the federal GMO law at the republic level. Moreover, there are conflicting GMO policy aims between the Secretary of Agriculture in Vojvodina and the Republic (Serbian) Ministry of Agriculture, in Belgrade.

## 4.2 Seed smuggling to Serbia & Montenegro

*"There are signs that GM soybean seeds have entered the country by order and not by chance"* - Miroslav Malesevic, Director of the Institute of Field and Vegetable Crops, Novi Sad<sup>31</sup>

Since 1997, illegal GE soybeans have been found to be increasingly grown in Serbia, particularly in Vojvodina, despite the 2001 GMO law which imposes penalties on farmers growing GE plants illegally. In 2002, GE

<sup>30</sup> Programme on Croatian TV called "MERIDIJAN 16", early September 2003

<sup>31</sup> "GM soya, yes or no?", Milica Hrustic, "Dnevnik" November 2001

Roundup tolerant<sup>32</sup> soybeans were discovered to be illegally growing on some 20 ha, but the penalties on farmers were so small that they have failed to act as a deterrent.<sup>33</sup>

According to Mirjana Milosevic, the Director of National Seed Testing Laboratory, there are four centres where a GM soybeans seed material is being disseminated: Sabac, Sid, Kac and Lokve. Criminal prosecutions of 53 owners of GE soybean fields have been underway this year.<sup>34</sup>

**In 2003, agricultural inspectors found RR soybeans growing illegally on some 1000 ha.**<sup>35</sup> Most of the fields of illegal GE soybeans were found in Plandište, Kač, Žabalj, Šid and Šabac<sup>36</sup>. The initiative to stop the illegal growing of GE soybeans stems from the Provincial Government of Vojvodina which is negotiating **an agreement with Norway to export more than 20,000 tons of non-GE soybeans in 2003.**<sup>37</sup>

Despite some 1000 ha of illegal soybeans found by inspectors in 2003, only about 80 ha have been destroyed. A recent paper claims that this is due idleness of inspectors and judicial representatives, as well as the absence of regulations at the republic level. The report states: *“Having in mind .... that the future of Serbia, namely Vojvodina is agriculture, it is necessary that our legislation is synchronised with EU laws. Real results will only be achieved if we take measures to enlarge soybean production, by increasing seed production and by enforcing the law, more specifically – by stopping the production of GM crops (introducing a moratorium), as well as the import of GMO products.”*<sup>38</sup> (emphasis added)

Romania is almost exclusively cited as the source of the GMO contamination of soybeans grown in Vojvodina, with the Roundup Ready (RR) gene owned by Monsanto. Romanian government estimates put the 2002 area under GE soybeans at some 50,000 ha, out of a total area of some 100,000 ha under soybeans. However, farmers growing GE soybeans claim that up to 75% of Romanian soybeans are genetically engineered, because some farmers are saving the GE seeds for planting the following year, and buying generic glyphosate.<sup>39</sup>

### 4.3. Commodity Imports

Imports of commodity maize and soybeans for food and feed are another source of GMOs in the food and feed chain. All three countries are importing these commodities.

Despite growing awareness of GMOs among food and feed companies in these countries, it is highly likely that food and especially feed contains GMOs. The presence of GMOs in food has been confirmed in Slovenia, the only country (of the three) where actual food testing has been undertaken and the results made public. Out of 20 foods sampled in 2002, 8 tested positive for GMOs – two tested above 1%.

#### **Slovenia**

Slovenia imports most of its maize – primarily from Hungary (99,3% in first half of 2003), which has no commercial growing of GE maize and a routine monitoring programme for maize seed purity with respect to GMOs. Thus, Hungarian maize is highly likely to be non-GE.

**Soybeans imported for animal feed, however, are alleged to contain on average 20% GMOs** – a GMO content similar to that reported in feed in the EU.<sup>40</sup> According to the Chamber of Commerce, feed producers and users are required to demand certificates from their suppliers on the presence of GMOs and are also verify-

<sup>32</sup> Trade name Roundup Ready™ (RR)

<sup>33</sup> D. Urosevic, “Ko ce odgovarati za setvu genetski modifikovane soje u kackom atarul”, Dnevnik, 5 October 2002

<sup>34</sup> Interview between O. Radovanovic and Mirjana Milosevic on 20<sup>th</sup> October 2003

<sup>35</sup> Igor Kurjacki, Vojvodina Secretary for Agriculture, quoted in “Dnevnik”, 11 August 2003

<sup>36</sup> Interview between O. Radovanovic and Mirjana Milosevic, October 20, 2003.

<sup>37</sup> Phone call O. Radovanovic to Igor Kurjacki, Secretary of Agriculture, Autonomous Province of Vojvodina, October 19, 2003

<sup>38</sup> Paper: “The use of GMOs in the production of animal feed” by Igor Kurjacki and Dr. Miodrag Dimitrijevic presented at 10th Symposium of animal food technology »Safety and quality«, Vrnjacka Banja, organized by The Institute for Food, Faculty of Technology, Novi Sad, 20-24 October 2003

<sup>39</sup> “Romania – The Dumping Ground for Genetically Engineered Crops”, ANPED, Bioterra, Ecosens, FoEE, May 2003 at [http://www.anped.org/docs/GMOs/Report-FINAL\\_Rom.14May03.PDF](http://www.anped.org/docs/GMOs/Report-FINAL_Rom.14May03.PDF)

<sup>40</sup> Reply received from Chamber of Commerce, Feed Section Umanotera’s Questionnaire on the policy of the companies regarding the use of GMOs, 12<sup>th</sup> March 2003.



ing statements through laboratory testing. The high content of GMOs in feed is the result of a loophole in EU legislation on GMOs, where GMOs in feed could be imported with no authorisation and no labelling. This situation is set to change with the adoption of the EU Regulation on Traceability & Labelling and Novel Food & Feed in July 2003.

**Croatia**

Croatia is a net importer of food, hence there is the potential for imported processed food to contain GE or ingredients derived from GMOs.

Although the Croatian laboratory for testing GMOs has only just been established, the Government has been sending foodstuffs suspected of containing GMOs or GMO derivatives to a Swiss laboratory for testing. Additional GMO testing has been undertaken by the Medical Research Institute in Zagreb.

One example of a GMO product was soy sauce, imported to Croatia in 1999 by a fast food restaurant in Slavonski Brod. The import documents alerted customs inspectors to the potential presence of GMOs, who then informed the National Institute of Public Health. The GE soy sauce was returned to the exporter. According to Dr. Krunoslav Capak from the National Institute of Public Health, “*Nobody knows the number of such cases which remained undetected*”.<sup>41</sup>

Table 4: Imports of commodity maize to Croatia, by year and main countries of origin

Year	Amt imported in tonnes	Country Of Origin (% of total annual import)				
		Hungary	Austria	US	Argentina	Serbia
1999	39,170	99%		0,046%		
2000	15,629	40%	51,1%			
2001	205,214	51,6%	26,1%		13%	
2002	2,533	98,7%		0,04%		0,99%

Source: Central Bureau of Statistics

<sup>41</sup> Interview between Rodjena Kuhar, Zelena Akcija and Dr. Krunoslav Capak, 28 January 2003

Most of the maize imports are from countries which are not growing GE maize. However, the small amounts of maize imported from US are likely to be contaminated with GMOs. Moreover, in 2002, Croatia imported 0,16% of its maize from Bosnia. This maize is unlikely to have been grown in Bosnia, but its origin is probably US food aid to Bosnia.

Imports of commodity maize have been very erratic. The huge increase in imports in 2001 may be due to the severe drought in 2000 as well as imports going to a third country, and using Croatia for transit. The drop in imports in 2002 is due to a good maize harvest that year. However, in 2003 the import of maize has increased dramatically. Due to this year's drought, the import of maize in 2004 is expected to be even higher.

In 2002, Croatia exported almost 150,000 tonnes of maize, mainly to Greece (47%), Italy (35%) and Bosnia (15,5%).

### **Serbia & Montenegro**

There are several routes by which GMOs are being introduced via imports:

- commercial imports of soymeal
- food aid
- imports of Romanian soybeans for crushing in Serbia

### **Commercial Imports**

*"The position of the Federal Government is not to allow GM soybean cultivation, but to allow the use of GM soybean products. To prevent possible misuses, we have banned soybean grain imports."*<sup>42</sup>

Permits to import GE soymeal for animal feed have been issued by the government since the entry of the 2001 GMO law. To ensure against the use of whole soybeans and maize for planting, only soymeal and maize meal can be imported. Since the government restructuring in spring 2003, each shipment requires a permit from the Department for GMOs in Serbian Ministry of Agriculture.

Until 2000 whole soybeans could be imported. According to USDA<sup>43</sup> data, in 2000<sup>44</sup> 99% of all imported soybeans were from Hungary, a country that is not growing GE crops. However, in 1999 61% of imported soybeans came from Romania and 20% from US – both of which were growing GE (RR) soybeans in 1999.

Since 1997, Yugoslavia has imported some 470.000 tons of GE soymeal.<sup>45</sup> In period from January-December 2001, Serbia imported 145463 tons of GM soybean meal.<sup>46</sup>

Table 3: Main countries exporting soymeal to Serbia, by year

Country	1998	1999	2000	2001
Argentina	66%	48%	87%	37%
Brazil	22%	24%	10%	24%
US (food aid)				37%

Sources: USDA Foreign Agricultural Service, compilation of data by Green Network of Vojvodina (1998-2000); List of Importers of soymeal for 2001 from Institute of Plant and Animal Genetic Resources

### **Food Aid**

*"Those who accepted GM soybean meal from donations were being forced to do so"* – Milica Hrustic, Head of Soybean Department, Institute for Field and Vegetable Crops<sup>47</sup>

<sup>42</sup> Predrag Sladojevic, Deputy Director of the Federal Institute for Plant and Animal Genetic Resources, quoted in *Danaidean Gifts*, by Dragan Jovanovich, Weekly magazine NIN, Belgrade, April 2001

<sup>43</sup> Foreign Agricultural Service (FAS), 18 March 2003, GAIN Report #YI3003/2003

<sup>44</sup> Calendar year

<sup>45</sup> Predrag Sladojevic in Bulevar, 15 November 2002

<sup>46</sup> List of Importers of soymeal for 2001 from Institute of Plant and Animal Genetic Resources, March 2002

<sup>47</sup> Milica Hrustic quoted in *"Kacka soja, mutirana"*, NIN, Belgrade, 25 July 2003



Serbia has accepted donations of soybean meal several times in recent years. In 2001, Serbia received a USDA donation of 50,000 tons of soymeal that was promised to be GMO-free,<sup>48</sup> but after import it was revealed to contain a GE soya content of some 5%.<sup>49</sup> In July 2003, Serbia received another 20,000 tons of soymeal from U.S. as food aid. In July 2003, Serbia received another 20,000 tons of soymeal from U.S. as food aid.

In 2001, Yugoslavia rejected 2 or 3 applications for imports of GE maize: two were US donations: one was rejected by the Federal Minister of Agriculture, because it was whole maize kernels, capable of germinating. The second was a US donation of *Bt* maize to Montenegro in January 2001.<sup>50</sup>

#### Import of Romanian soybeans for crushing

During the last decade, oil mills in Serbia have been importing soybeans from neighbouring countries, mainly Romania and Hungary, under special contracts for processing into soymeal and oil and then re-exporting the products back to the original suppliers. This arrangement has enabled Serbian crushing plants to fully utilize their idle capacity. However, it has also meant that GE soybeans from Romania – where in 2002 some 50% - 75% of all soybeans grown were GE – pose a GMO-contamination threat to Serbia's own soybeans.

### 4.4 Field Trials

The release of GMOs into the environment during outdoor field trials presents threats of cross-pollination of the GE plants with their conventional counterparts as well as the germination of GE volunteers in the following year. At present, only Serbia is undertaking field trials of GE plants. There is no commercial cultivation of GE crops in any of these countries.

Due to the absence of a regulatory framework until 2002, **the Slovene** government decided not to allow any field trials until legislation was in force. Although a government report<sup>51</sup> anticipated five applications for field trials of GE plants in 2003, implementing regulations to enforce the 2002 GMO law were still not in place.

In **Croatia**, despite the absence of a GMO law, field trials of GE (LibertyLink) maize took place in 1997, without any authorisation. In 1999, Pioneer received authorisation from the Ministry of Agriculture to import GE maize seeds (Bt and Roundup tolerant) which were field trialled at the Faculty of Agriculture in Zagreb and Osijek. In 1999, there were six field trials of GE maize in Croatia undertaken on 50m<sup>2</sup> plots. In 2000, all the GE maize trials were destroyed.<sup>52</sup> Today, there are no field trials in Croatia and no GE crops are commercially grown.<sup>53</sup>

In **Serbia**, field trials with GE plants were being undertaken long before the introduction of the GMO Law in 2001. At that time, companies like Monsanto drew up contracts directly with research institutes in Serbia.<sup>54</sup> Examples of GE plants field trialled in Serbia include:<sup>55</sup>

- Pioneer's glufosinate ammonium-tolerant GE maize (Liberty Link) undertaken in 1998 and 1999 of by the Institute for Field and Vegetable Crops (IFVC) in Novi Sad;
- Monsanto's glyphosate-tolerant (Roundup Ready) maize and soybeans in 2001 conducted by the Institute for Maize Research in Zemun Polje; and
- Monsanto's RR soybeans and RR maize at IFVC, also in 2001.<sup>56</sup>

<sup>48</sup> According to EC Review of Agriculture Programme 2001: "Animal feed will be traditional feed component maize and soya bean meal, both GMO-free".

<sup>49</sup> Miodrag Dimitrijevic quoted in "U poklonu i - kukolj", Novosti, December 2001

<sup>50</sup> Ivana Dulic -Markovic, Director of the Federal Institute for Plant and Animal Genetic Resources, Belgrade, 19 March 2002; Biosafety Policy and Practice in Yugoslavia

<sup>51</sup> National report on the State of the Environment in Slovenia, 2001/2002, Ministry of Environment, Spatial Planning and Energy, Section 2.7: Biotechnology – Genetically modified organisms

<sup>52</sup> Interview between Rodjena Kuhar, Zelena Akcija and Prof Marijan Jost, geneticist and plant breeder, Krizevci, 20 January 2003

<sup>53</sup> Interview between Rodjena Kuhar and Dr. Snjezana Keresa, geneticist, Faculty of Agriculture, Zagreb, 29 January 2003

<sup>54</sup> Ivana Dulic Markovic, Federal Institute of Plant and Animal Genetics

<sup>55</sup> Interview between Iza Kruszewska and Ivana Dulic Markovic, Director of Dept of Plant and Animal Genetic Resources, Belgrade, 19 March 2002

<sup>56</sup> Goran Malidza and Goran Bekavac, "Suzbijanje korova u transgenom kukuruzu tolerantnom prema glufosinat-amonijumu i glifosatu", Naucni institute za ratarstvo i povrtarstvo, Proceedings from Conference: Food in the 21st Century, Subotica, Nov 14-17th 2001



According to the GMO Register, the IFVC's permit for field trials of RR maize was granted in 2001 for four years. A variety of GE herbicide tolerant maize developed by IFVC is also being trialled at the Institute.

Monsanto also applied for a permit to undertake field trials of insect-resistant *Bt* maize, but the Biosafety Committee rejected the application.<sup>57</sup>

Serbia's research institutions are interested in developing GE expertise, because according to a representative of the Institute of Maize: "We want to be prepared to export [GMO] seeds to countries where this technology is accepted, and we must not lose out."<sup>58</sup>

## 5. Market Awareness of GMOs

Surveys of the policies of companies in the food sector with respect to using and selling GMOs, undertaken by NGOs in Slovenia, Croatia and Serbia reveal surprisingly high awareness of GMOs. NGOs first conducted surveys in 2001 and repeated them in early 2003. Replies to letters from NGOs enquiring about the GMO policies of seed companies, food and feed processors and food retailers were compiled into three lists. Companies on the white list claimed that they do not use or sell GMOs and those on Croatia's green list provided certificates from their suppliers as evidence; companies on the black list either had no policies with respect to avoiding GMOs or failed to reply to the letters from NGOs.

These surveys and interviews with individual companies reveal that several companies are making considerable efforts to avoid using/selling GMOs.

### **Slovenia**

The findings of the survey conducted by Umanotera in early 2003 among the seed, food and feed industry and retailers show a relatively high awareness about the GM problem, especially among the larger companies.<sup>59</sup> The most important food producers in Slovenia like Žito, Kolinska (producing for Unilever), the bre-

<sup>57</sup> Ivana Dulic Markovic

<sup>58</sup> Interview between Natasa Djereg, Green Network of Vojvodina and Goran Drinic, Institute for Maize, Zemun Polje, 17<sup>th</sup> October 2003

<sup>59</sup> For full results visit: [www.umanotera.org](http://www.umanotera.org)

wery Laško, and fruit juice company Fructal, as well as retailers such as Mercator, Interspar, Era and TUŠ claim that they do not use GM ingredients in their own-brand products and that they conduct random laboratory checks on the ingredients to verify the claims of non-GM provided by suppliers. The seed company Pioneer also provided certificates as evidence that they do not sell GMO-contaminated seeds.

Interspar, the Austria food chain operating in Slovenia has introduced its own-brand organic products sold as Natur Pur, which are certified as GM-free. Some retailers are already including clauses in supply contracts requiring their suppliers to use only GM-free ingredients.

The biggest food producers provided Umanotera with copies of laboratory tests to show that they are randomly verifying the statements from suppliers about the presence of GMOs in ingredients. However the results should be treated with caution. Generally Slovenian food companies and retailers are avoiding the use of GMOs in their products. Their position reflects the low acceptance of GMOs among the Slovenian consumers. In a public opinion poll conducted in October 2002, over two-thirds of those interviewed (69.2%) who have heard about GMOs is against their cultivation in the fields and 73% would never buy food containing GMOs. Almost all interviewees (98.5%) support mandatory labelling of this type of food.<sup>60</sup>

Due to the lack of the labelling requirements and continuing legal vacuum, foreign companies in Slovenia may be operating double standards, which is likely to be confirmed by the results of testing currently being conducted by the Inspectorates for Health and Agriculture.

### Croatia

Already in 1999, Agrokor the largest food importer, processor and retailer in Croatia, was using certificates of purity to ensure that their products are GMO-free. Agrokor processes soybeans into lecithin. Although 80-90% of the soybeans used by Agrokor are grown in Croatia, the remaining 10-20% are imported. Following allegations by a Croatian journalist that its imported soybeans come from Argentina, Agrokor published a Brazilian certificate of GMO-purity of its soybeans in the press in spring 1999.<sup>61</sup> Agrokor is now ensuring that their supplies are GE-free and pressing the Ministry of Agriculture to introduce a law to regulate imports of GE foodstuffs.<sup>62</sup>

In early 2001, the Croatian NGO, Green Action undertook a survey of food importers and processors to find out their policy on using and selling GE food. Unilever replied that *"The suppliers of ingredients used in all of our food products present on the Croatian market are asked to prove 'PCR-negative' or GM-free certificates."*<sup>63</sup>

Nestlé responded: *"Nestlé also takes into account consumer acceptance of GMO's and ingredients derived thereof. Nestlé products marketed in Croatia are for the major part produced in European countries where supply of raw material ingredients is to the extent possible from Identity Preserved sources. There is however, a possibility that these ingredients may contain traces of GM material due to adventitious co-mingling during transport, storage and processing. These traces will always be below the threshold value laid down in the legislation of afore-said countries"*.<sup>64</sup>

Follow-up to this survey undertaken by Green Action in March 2002 revealed that companies are not only relying on GMO-free certificates, but also undertaking laboratory testing for GMOs. The Croatian importer/exporter, Atlantic Trade demands a certificate of GMO-free from its suppliers and undertakes GMO-testing at the Faculty of Food Technology and Biotechnology at the University of Zagreb.<sup>65</sup> Klara, a Croatian bread and



<sup>60</sup> Telephone survey on the attitude of the Slovenian consumers on GMOs carried out by EKODA Institute, October 2002.

<sup>61</sup> Interview with Croatian journalist, Zelko Zoricic, 25 October 1999

<sup>62</sup> Telephone conversation with Violeta Colic, Public Relations Department of Agrokor, 25 Oct 1999

<sup>63</sup> Letter to Green Action of 14 March 2001 from Unilever Country Manager, Marcho Kouumdjiev

<sup>64</sup> Letter to Green Action of 14 March 2001 from Nestlé Country Manager, Thomas Koenye

<sup>65</sup> Phone call from Green Action to Mrs. Novosel, Marketing Director, Atlantic Trade, 25 March 2002

biscuits producer, demands certificates of GMO-free from suppliers and uses the laboratory at the Institute of Medical Research for GMO-testing.<sup>66</sup>

The market is already responding to public rejection of GMOs. A public opinion poll conducted in January 2002 and published in the newspaper, *Vecernji List*, showed that 80,7% of Croatians support the draft law banning GMOs.

Green Action once again surveyed the market in April 2003, by sending letters to some 300 food and feed processors and seed producers in Croatia. 140 companies failed to reply and were blacklisted. Where companies responded with copies of certificates showing that they are not using GMOs, they were put on the green list. Green-listed companies include: the retailer Getro, the chocolate producer Kraš, and food processors Podravka and Agrokor. Companies that replied that they do not use GMOs, but provided no evidence were put on the white list. This list includes companies such as the Slovene supermarket chain Mercator and the seed company Pioneer. Most of the seed companies surveyed claimed to have a policy of selling only non-GE seeds, but they were unable to provide certificates to verify their claims. This is because their seed suppliers refused to provide them with certificates.<sup>67</sup>

### **Serbia & Montenegro**

Since 1998 Sojaprotein, the largest soya processing company in Eastern Europe and the Balkans, based in Becej in the province of Vojvodina, has controls in place to ensure a GMO-free soya protein line.

The first evidence of contamination of Serbian soybeans with Monsanto's Roundup tolerant variety was found in Sojaprotein in late 1997. In 1997, the company started sending soybean samples to the Interlabor laboratory in Belp, Switzerland, to check for GMOs. Nestle and other EU-based food processors are important buyers of its products. Because Yugoslavia was under trade sanctions at the time, Sojaprotein believes that the GMO-contamination was caused by GE soybeans smuggled from Romania. Also, there were reports about a field in Sabac in Serbia, growing Roundup tolerant soybeans.<sup>68</sup>

Sojaprotein's quality control programme relies on:

1. Seed Control - signing contracts with farmers to plant GMO-free soybeans and advising them on which seed distributors to buy from.
2. Field inspections during growing season - testing with Roundup and using strip tests.
3. Harvesting and delivering to silos - instructing farmers on how to avoid co-mingling from harvest, through to transport and storage. Before buying soybeans from the farmers, every consignment is checked with strip tests. When transferring the soybeans to State silos around Vojvodina, random sampling is undertaken using PCR.
4. Storage in silos: instructing companies delivering to the State silos on cleaning of silos between consignments;
5. Production of soya products - quality control programmes in the factory in Becej.

Despite these rather rigorous controls, in 2002 some 5% of soybeans arriving at the Becej processing plant were found to be genetically engineered. The GE soybeans are stored in dedicated silos and milled into animal feed. However, Sojaprotein has to bear the costs of biosafety measures to maintain a GMO-free line for its EU customers. These additional costs are not reflected in the 5% premium on GMO-free soybean products.<sup>69</sup>

In early 2003, the Serb NGO, Green Network of Vojvodina contacted 16 companies, including food producers and seed distributors. Of the eight replies received, all claimed not to use GMOs and were put on the white list. The Institute for Field and Vegetable Crops which breeds maize and soybeans was among those that replied and provided a certificate verifying their non-GM status.<sup>70</sup>

<sup>66</sup> Phone call from Green Action to Mr. Kovacevic, Director of Marketing, Klara, 26 March 2002

<sup>67</sup> For Green Action's Green, White and Black lists visit: [www.zelena-akcija.hr](http://www.zelena-akcija.hr)

<sup>68</sup> Vukica Molnar, Sojaprotein in Becej, Quality Control Manager, interviewed 22 March 2002

<sup>69</sup> Vukica Molnar, Quality Control Manager, Sojaprotein, Becej, interviewed 22 March 2002

<sup>70</sup> For black and white list see: <http://www.zelenamreza.org.yu/akcije/page.php?a=1&s=liste>



## 7. Conclusions

There is already widespread dissemination of GE maize and GE soybeans in the region. The sources of contamination are imports of potentially GMO-contaminated parent-lines and seed, smuggling of GE seed to Serbia, commercial imports and food aid of agricultural commodities for food and feed. Also, field trials of GE maize and soybeans in Serbia present a potential source of GMO-contamination of neighbouring fields and the following year's harvest.

The market is playing a role in avoiding GMOs. A survey of the seed, food and feed industry revealed that many companies – especially in Slovenia and Croatia where awareness of GMOs is highest - claim not to be using or selling GMOs and can support the claims with laboratory certificates. Examples include the food processors Žito and Kolinska and supermarket chains Mercator and Interspar in Slovenia and the food companies Kraš, Podravka and Agrokor as well as the supermarket chain Getro in Croatia. The claims of these companies to be avoiding GMOs is in response to the demands of the EU market, but also to increasing domestic concerns about growing and eating GE food, as evidenced by public opinion polls.

Some seed, food and feed industry players, selling soybean and maize products and derivatives to the EU market, have put in place biosafety measures to ensure their products meet the 1% threshold for food labelling, demanded by EU legislation. Examples include Sojaprotein in Vojvodina and the Croatian companies Atlantic Trade and Klara. In Vojvodina, a major incentive for destroying illegal growing of GE soybeans is a possible contract to provide Norway with non-GE soybeans.

These examples demonstrate that the market is playing a role in keeping GMOs out of agricultural products destined for export from Slovenia, Croatia and Serbia. To a lesser extent, the market is also driving GMOs out of food destined for the domestic market – at least in Slovenia and Croatia. However, the 'sink' for GMOs, either imported or found illegally is animal feed.

Although the market is a key player in avoiding (or at least tracing) GMOs, it can only play its role in the presence of a regulatory framework that is capable of being implemented. In other words, without the certified laboratories for detecting GMOs and government expertise and resources to undertake routine monitoring, the market alone struggles to keep GMOs out of the market. Without government capacity to enforce legislation some companies will continue to exploit this vacuum, particularly if they are processing or selling products for the domestic market, where the EU market plays no role.

The EU's new regulations on Traceability & Labelling and Novel Food & Feed coming into force 7<sup>th</sup> November 2003, will require full traceability of GMOs throughout the food chain from the farm to the table and will provide consumers with comprehensive information by labelling all food and feed consisting of, containing or produced from a GMOs. The new regulations will extend the EU's current labelling requirements to cover food such as soya and maize oil produced from GM soya or GM maize, and food ingredients produced from GMOs, such as biscuits with maize oil from GM maize. The new regulations also reduce the GMO threshold for labelling purposes from 1% to 0,9%. The industry will therefore have to ensure that systems are in place to identify to whom and from whom GM products are made available.

Another reason for government intervention in the market is the need to support the small domestic seed, food and feed producers, who do not have the resources to commission laboratory testing of their products for GMOs. The seed, food and feed companies and retailers that were able to supply NGOs with laboratory certificates in the survey were invariably the largest players in their sectors. For the smaller domestic companies to be able to make similar assurances and thus improve their domestic and export opportunities, the government needs to provide centralised monitoring of all relevant imports for GMOs. This includes: maize parent-lines, maize and soybean seeds, imports of commodity maize, soybean and oilseed rape. It is far easier to prevent the introduction of GMOs upstream at the border, than to try and trace GMOs down through though the supply chain.

Moreover, traceability systems for both food and feed – as required by the new EU regulations – means that these countries will have to monitor products for GMOs to ensure correct labelling, initially for exports to the EU, but also for products on the domestic market, once they become EU members.

## 6. Recommendations

The market will need to put in place traceability and labelling systems for both food and feed, if they want to export to EU markets. In Slovenia, which becomes as a new Member State as of May 2003, these systems must also embrace products on the domestic market.

Furthermore, national legislation requiring labelling of GM food if they contain more a certain threshold of GMOs will also require traceability to ensure correct labelling of products.

Industry is currently preparing for implementing traceability systems for GMOs in food and feed. For example, The International Retail Network (EHI) is co-ordinating a Working Group on Traceability of GM and Non-GM bringing together retailers, manufacturers and service providers, with the aim of preparing a guidance document with explanations and recommendations for the supply chain to enable them to fulfil the new EU requirements.<sup>71</sup>

Although the market is a key player in avoiding (or at least tracing) GMOs, it can only play its role in the presence of a regulatory framework that is capable of being implemented.

For these reasons, Umanotera, Green Action and Green Network of Vojvodina make the following recommendations both to industry and governments:

### **Demands to the Seed, Food and Feed Industry:**

1. Avoid GMOs in your product by requiring that suppliers provide laboratory analysis showing that their products and ingredients are non-GM;
2. Conduct random testing of products to verify the statements and certificates provided by suppliers;
3. Influence your representatives in international forums, such as the FAO-WHO<sup>72</sup> Codex Alimentarius and Cartagena Protocol on Biosafety, so that they no longer hinder, but support requirements for identification and labelling of bulk agricultural commodities, including seeds, food and feed. The food industry must not enter into coalitions with the biotech industry.

### **Demands to Governments:**

1. Implement strict border controls on all imported products likely to contain GMOs, including seed material, agricultural commodities, food and feed;
2. Adopt and enforce a regulation on seed purity establishing a 0,1% threshold of GMO contamination in conventional non-GM seeds, as adopted Austria;
3. Undertake routine monitoring of GMOs on the market to enforce authorisation and labelling laws;
4. Ensure full public access to information on releases of GMOs into the environment and food chain and public participation in decision-making on GMOs;
5. At the first meeting of the Conference of Parties to the Cartagena Protocol,<sup>73</sup> support the development of unambiguous provisions under Article 18 of the Protocol to guarantee an international regime for the clear identification of each single GMO in bulk commodities.

The market can only play its role in avoiding GMOs when the public, as consumers and farmers, can make an informed choice. Thus, we provide the following advice:

### **Advice to Consumers:**

1. Demand enforcement of labelling requirements, so that you can choose to avoid buying GE food;
2. Support GE-free agriculture by buying organic products;
3. Join a consumer group and encourage them to campaign for GE-free organic food and farming.

### **Advice to Farmers:**

1. When buying maize, soybean or rape seeds, ask your supplier to verify that the seeds are non-GM;
2. If you cannot get assurances that the seeds are non-GM, switch to other suppliers, if that is possible.
3. Lobby the government to adopt and implement seed purity standards establishing a 0,1% threshold of GMO contamination in conventional non-GM seeds;

<sup>71</sup> For more information on WG on GMOs, contact Dr. Sylvia Pfaff, EuroHandelsinstitut (EHI) at: [spfaff@ehi.org](mailto:spfaff@ehi.org) or visit website: [http://www.ehi.org/gb\\_index.html](http://www.ehi.org/gb_index.html)

<sup>72</sup> FAO: UN Food and Agriculture Organisation; WHO: UN World Health Organisation

<sup>73</sup> This meeting takes place in Kuala Lumpur, Malaysia, 23 - 27 February 2004

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**Project title: Market campaign for GMO-free SEE**

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**National coordinator for Croatia:** Jagoda Munić, *Zelena akcija*

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**Green Network of Vojvodina**

The Green Network of Vojvodina is independent, non-government and non-profit organization. It was registered on September 2001 and it is seated in Novi Sad, Serbia and Montenegro.

The Green Network of Vojvodina promotes and supports environmental protection and sustainable development on local, regional, national and international level. We also promote tolerance and democracy with the aim of peaceful settlement of conflicts. One of our priorities, apart from the "green activities" is to develop awareness among the peoples of Vojvodina of the need of peaceful coexistence of all the nations, ethnic groups and confessions. In our view the rich and diversified spectrum of nations and confessions in Vojvodina is a prominent civilizational and cultural legacy and merit.

The general objectives of the Green Network of Vojvodina, as formulated in the Statute are:

- To promote environmental awareness of the general public, authorities and companies
- To promote information system/ media
- To work on education of young people
- To promote ideas on human and environmental rights
- To promote environmental/clean/renewable technologies
- Networking

Our strategy is to work on the possibilities for people (especially young/women) in Vojvodina to have opportunity to change their lives and to accept the ideas of sustainability as a solution of development. Sustainable development/agriculture for Vojvodina means to preserve natural resources/land in good condition for the future generations and to use more traditional and healthy way in production (organic food production, old crafts, renewable energies, segregation of waste, "green tourism").

In the same time our strategy is to make a pressure to the decision bodies to accept proposed reforms and to recognize sustainable agriculture and rural development as a priority for Vojvodina.

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**Umanotera**

Umanotera, The Slovenian Foundation for Sustainable Development was founded in 1994 as an independent foundation. Its main objective is to bring the principles of sustainable development to practice through the promotion of sustainability principles as defined by Agenda 21, to raise public awareness on the environmental issues and to improve public participation in the environmental decision making. We also participate in the EU accession debate and its implications on the environment in the candidate countries.

In 1999 we prepared an open letter calling for a moratorium on GMO use and deliberate release in the environment in partnership with three other NGOs. It was sent to the Government, without a response. Due to the financial constraints we were unable to carry on our activities in this area until 2001. Since then, Umanotera is the leading NGO campaigning for GM free Slovenia which also coordinates work of NGO coalition for GM free Slovenia which consist of 16 organisations and individuals. More information on relevant activities is available at [www.umanotera.org](http://www.umanotera.org).

Umanotera

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**Green Action**

GREEN ACTION (GA) is a nongovernmental, nonprofit association of citizens for the environmental protection, established in 1990, with headquarters in Zagreb. GA is actively involved in the problem area of the environmental protection on local, national and global level. Activity of GA is based on volunteer work with the support of a small professional team. The aim of GA activity is the protection of environment and nature, as well as the promotion of sustainable development. The greatest attention is given to the activities which are oriented on stimulation the participation of the public in making decisions concerning the environment, and on the improvement of the quality of life in Croatia. GA is not associated with any political party.

GA encourages changes through projects, campaigns and non-violent direct actions. It also conveys information, experience and competence in the area of environmental protection to other associations, individuals, communities and schools in Croatia and abroad. Green Action is the member of the world's largest network of associations for the environmental protection - Friends of the Earth, and partner of the WWF (World Wide Fund for Nature) in Croatia.

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