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135 EAAE Seminar Challenges for the Global Agricultural Trade Regime after Doha

## WTO LAW AND GENETICALLY MODIFIED PRODUCTS

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*Abstract:* The paper discusses the mechanisms by which World Trade Organization (WTO) influence the diffusion of genetically modified (GM) products. We have analyzed the connection between the international trade of GM products and the three WTO Agreements: the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), the Sanitary and Phytosanitary (SPS) Agreement and the General Agreement on Trade in Services (GATS). It can be concluded that the mechanisms of the WTO organization are often used as instruments of threat to nations seeking to ban imports of GM food. In failing to acknowledge and support the precautionary principle, the WTO may have further weakened its authority to make decisions affecting the human health and environment and, in so doing, lessened its legitimacy in the world arena.

Keywords: WTO, GM products, TRIPS, SPS, GATS

## **INTRODUCTION**

Genetically modified organisms (GMOs) and foods produced from themgenetically modified (GM) food is highly politicized issues observing the health, economic and environmental aspects. Between 1996 and 2012 the global area planted with GM crops increased by 100 fold, in 2012 covering some 170.3 million hectares (James, 2012). From the very beginning US are major producer of GM crops, with 69.5 million hectares, which produce 95% of the nation's sugar beets, 94% of the soybeans, 90% of the cotton and 88% of the feed corn<sup>1</sup>. In US cross contamination has been widespread because there is not a segregated system for GM and non-GM crops. The concept of "substantial equivalence" as applied by the Food and Drug Administration (FDA) does not

<sup>&</sup>lt;sup>1</sup>Genetically modified crops had bumper year in 2011. USA Today, August 2, 2012.

recognize any inherent risk depending on the source of the product. US law does not require labeling, segregating, or monitoring of these crops. Europe has not followed the lead of the US on GM food policy. The products of biotechnology are considered to be inherently different from traditionally developed crops. With its precautionary approach, the EU has one of the strictest regulatory frameworks for GM foods and seeds in the world. In fact, Europe is in a constant tension on the issue of GMOs cultivation, increasing the surface occasionally, sometimes approves new GMO, then bans the production, etc. As of 2012, just one GM crops have been cultivated in Europe- MON 810 maize. That compares to more than 90 GM varieties approved for cultivation in the US. Five countries Spain, Portugal, Czechia, Slovakia and Romania produce GM maize on 129.071 hectares, with Spain growing 90% of the total maize surface. The commercial cultivation for Amflora potato was discontinued in 2012. The commercialization and further development of this project has been completely stopped and there is no intention to resume cultivation in the future (BASF, 2013). Eight countries – Austria, Bulgaria, France, Germany, Greece, Hungary, Luxembourg and Poland - have adopted provisions that allow them to block the cultivation of GM crops on their territory. European fears over new food have included possible health concerns, worries about damaging traditional agricultural practices and a strong feeling on the part of some that the food is "unnatural."

A controversy over GM food arose in 2000 when it was discovered that some food aid donations contained GMOs and grew increasingly in 2002, when several Southern African countries refused GM food aid during a food crisis. The World Food Programme (WFP) and the US Agency for International Development (USAID) had sent shipments of food aid containing GMOs amounting to 3.5 million tonnes per year<sup>2</sup>. Often, such shipments were in contrast of the national regulations in the recipient country. Ecuador was the first known developing country to receive food aid in a shipment of 30.000 metric tonnes (MT) of bulk soya paste (FoEI, 2003). In the same year, 2000, some GMOs being found in food aid in Sudan and India; in year of 2001, GM soy was found in food aid shipments in Columbia and Uganda; in year of 2002 such shipments was found in Bolivia, Nicaragua and Guatemala. In response to the serious food shortage in Zambia, Zimbabwe, Malawi, Swaziland, Mozambique and Lesotho, US sent 500,000 tonnes of maize in whole kernel in the summer and fall of 2002, as food aid. When the countries discovered that the aid contained approximately 75 percent of GMOs (WFP, 2002), some of them said they would not accepted it, some said they would accept it if it was milled and labeled first, some asked strict monitoring (ISIM, 2004). The US refused to mill the maize before sending it and blamed Europe of being responsible for the African rejection.

<sup>&</sup>lt;sup>2</sup> Rejected GM food dumped on the poor. The Independent, June 18, 2000; UN is slipping modified food into aid. New Scientist, September 19, 2002

GMO issue again became extremely relevant to current debate on food aid which push has come via World Trade Organization (WTO) Doha Round in 2003th and 2004th, when the other countries have put pressure on the US, as the principal donor country, to move away from in-kind food aid. The EU has argued that the US in-kind food aid programs are distorting trade in recipient countries and countries selling those commodities. WTO members agreed in 2004 that some changes should be placed on in-kind food as to ensure that is not market-distorting (Clapp, 2009). The great power of lobby groups in America could be visible due to the US Congress rejection of Bush administration proposal that one-quarter of U.S. food aid should be cash-based. The principal reason why the US continues to insist on giving its food aid in-kind, rather than in form of cash may be the inability to find export market for its GM maize. A second reason is to subsidize the production and sale of GM crops more broadly (Clapp, 2004).

## **1. THE SITUATION IN SERBIA**

Similarly to other, mentioned above, developing countries a controversy over GM food in the Federal Republic of Yugoslavia (FRY) arose in 2001 when it was discovered that 50.000 tons of GM soybeans imported as food aid contained GMOs. FRY has twice refused the US aid of whole soybeans and corn. However, Serbian border repeatedly has been absorbent for entry of smuggled GM seeds. One of the main uncontrolled GM sources is the territory of Kosovo and Metohia, which has repeatedly received a large amount of US food aid (Papic Brankov, 2013). As a result of the Biotech Law adopted in June 2009, Serbia does not produce GMO crops and there is no biotechnology varieties permitted for imports to Serbia. According to this law, biotechnology crops are only allowed for laboratory work, research and field tests. After almost two years of long pressure from representatives of different countries, in December of 2010, Serbia completed the work on preparing amendments to the very restrictive Law on GMO. Still it is not certain when the new amendments to GMO Law will be adopted by the Parliament. The amendments will allow to import and to grow GMO crops and products, but only under very strict control of the state. Our previous research on the consumer attitudes toward GM food in Serbia has shown strong negative public reaction to GMOs. The results showed that the only 19.7% of respondents has tendency to buy GM food if it is the same taste as traditional one, but cheaper (Papic Brankov et al., 2013a). Rejection of GM food is mostly associated with possible adverse effects on human health, together with moral and ethical issues and distrust in companies which produce GM food (Papic Brankov et al., 2013b). The debate on GMOs grew increasingly when talking about Serbia joining the WTO. Current Minister of Foreign and Domestic Trade and Telecommunications has repeatedly expressed the view that Serbia's membership in the WTO "does not necessarily

mean that GMO will be introduced in the country"<sup>3</sup>, as well as "The dilemma over the production of GM foods in Serbia as a condition for acceding to the WTO is being set up as a false dilemma for which lack of knowledge, mystification, bad faith and particular interests are reasons"<sup>4</sup>. On the other side some group and opposition leaders make claims that membership in the WTO automatically mean acceptance of GMO<sup>5</sup>. Official document of the US Embassy in Belgrade says "Resrictive low on GMOs is continuing to be one of the main obstacles for the Serbian future accession to the WTO" (USDA, 2012).

Following the aforementioned debate, in the light of Serbia's candidacy for the membership in the WTO, the aim of this study was to explore the implication of the WTO's laws on GMOs diffusion. Second aim of this work was to contribute to the creation of the Serbian policy on GMOs.

## 2. THE MOST IMPORTANT WTO AGREEMENTS IN CORRELATION WITH GMOS

Creation of the WTO, in 1995, meant establishment of the only global international organization dealing with the rules of trade between nations. All three key agreements establishing WTO: the General Agreement on Tariffs and Trade (GATT), the General Agreement on Trade in Services (GATS) and Trade-Related Aspects of Intellectual Property Rights (TRIPS), can be linked to GMOs.

#### 2.1. SPS and TBT

Out of nineteen agreements negotiated as part of the Uruguay Round of Trade Agreements, two explicitly address non-tariff barriers to trade. These are the Agreement on Sanitary and Phytosanitary Measures (SPS Agreement) and the Agreement on Technical Barriers to Trade (TBT Agreement). As tariff rates were lowered following Uruguay Round conducted within the framework of the GATT non-tariff barriers have become of increasing concern.

SPS Agreement, itself does not establish international standards for GMOs, but establishes rules that limit the ability of states to adopt trade-restrictive regulations without "scientific justification". Member States are required by Article 2.2. to "ensure that any sanitary or phytosanitary measure ... is based on scientific principles and is not maintained without sufficient scientific evidence". The same Article also states that measures "only to extent necessary to protect human, animal or plant life or health". This means that the measure may not be

<sup>&</sup>lt;sup>3</sup> WTO membership "does not imply introduction of GMOs". *Tanjug*, March 26, 2013.

<sup>&</sup>lt;sup>4</sup> "Niko ne traži da prihvatimo GMO". *Tanjug*, November 6, 2012.

<sup>&</sup>lt;sup>5</sup> Dveri zahtevaju da Skupština proglasi Srbiju za državu bez GMO. *Politika*, January 20, 1013.

more trade restrictive than necessary, althouth member states may determine own level of protection. The only exception is given in paragraph 7 of the Article 5 , where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures...". This paragraph may be considered as precautionary approach. This article discribes "insufficient" information, what means little or no reliable information". In this way specifically is stated that scientific uncertaintly is not included in this (Bernasconi-Osterwalder et al., 2006). Article 5.1 states that measures must be based on a risk assessment. Risk assessment is defined in Article 4 of Annex A "The evaluation of the likelihood of entry, establishment or spread of a pest or disease within the territory of an importing Member according to the sanitary or phytosanitary measures which might be applied, and of the associated potential biological and economic consequences; or the evaluation of the potential for adverse effects on human or animal health arising from the presence of additives, contaminants, toxins or disease-causing organisms in food, beverages or feedstuffs". This definicion is unclear, not cover all possible risks including socio-economic risks and does not discribe who will bear the costs for the risk assessment, importer or member state have to prove that the risk with a certain GMO are too large. SPS deal with food safety, while TBT cover consumer safety, health, environmental protection and labeling that may impact trade. The Organization for Economic Co-operation and Development (OECD) reported in 2003 that the main focus of the TBT work on trade barriers since 1995 are food labeling. Given continued disagreement on labeling, this focus is likely to continue (Smitch, E., 2009). According to Center for Science in the Public Interest (CSPI)<sup>6</sup> food labels as an essential source of information for consumers to enable them to have effective control and choice over what they eat, is illegal under SPS and TBT Agreements. Mandatory labeling requirement, even if it does not treat imports differently than domestic products, is not permitted if it is maintained "without sufficient scientific evidence" (Article 2 SPS Agreement) or if it restricts international trade more than is "necessary to fulfill a legitimate objective, taking account of the risks non-fulfillment [of that objective] would create" (Article 2 TBT agreement). In the same time "Members shall ensure that such measures are not more trade-restrictive than required to achieve their appropriate level of sanitary or phytosanitary protection, taking into account technical and economic feasibility" (Article 5 SPS Agreement).

In applying the SPS and TBT Agreements, the WTO extensively relies on decisions by the Codex Alimentarius Commission (Article 3 of the SPS Agreement and Article 2 of the TBT Agreement). The Codex standards have been seen by most legal experts as "semi-binding" on WTO members (Victor, 1997). A national standard that provides a greater level of protection than

<sup>&</sup>lt;sup>6</sup> The Impact of the TBT and SPS Agreements on Food Labeling and Safety Regulations. CSPI International: http://cspinet.org/reports/codex/wtospsbt.htm

Codex is a "trade barrier" which "could be seen as illegitimate protectionist measures and become the subject of trade disputes and targets for WTO authorized and potentially costly trade retaliation, especially for smaller economies or more trade-dependent sectors" (Smithe, 2009). Influence of corporations on the committee's work is undeniable, in each meetings of the Codex Committee on Food Labelling industry representatives make up a significant share in relation to the total number of participants (National Food Alliance, 1993; Sklair, 2002; Consumer International, 2006). Codex discussion of the GMO labelling began in October 1994 and so far there is no consensus. U.S. and Canada are constantly resist labelling GMOs.

#### **2.2. TRIPS**

The TRIPS was negotiated at the end of the Uruguay Round. The agreement obliges member states to patenting biotech inventions (products and processes) and plant varieties and for the first time provides a legal means for the protection of intellectual property rights. Patent protection in this field gives the corporations unprecedented control over research and development as well as over whole food chain. As a consequence the sale of seeds has become dominated globally by Monsanto, DuPont and Syngenta (Howard, 2009). More than 80% of the land planted with major field crops in the US contained transgenic traits owned or licensed by Monsanto (Fernandez-Cornejo, 2008). Farmers have to pay a licensing fee and sign a contract with biotech company if they wish to use patented seed. The licenses prohibit the traditional practice of saving seed, require farmers to follow designated farmer practices and sell in specific market. In this way it is possible by company to artificially raise seed prices. Besides the patenting protects the companies' rights of existing GM production, the company's strategy is the protection of future production. For instance, company Pharming, owns patents on transgenic cows, the milk from the transgenic cow, and the milk from any mammal that has its engineered genes. Although not yet approved commercial production of transgenic animals, these patents were acquired more than thirteen years ago. In addition to corporate monopoly position, a particular problem that the patenting has issued is a threat to native species and varieties (Paul et al., 2004; Eaton et al., 2009). Developing countries accuse developed countries, arguing that they steal their traditional knowledge and varieties.

TRIPS came into force six months after Convention on Biological Diversity (CBD). The convention recognized for the first time in international law that the conservation of biological diversity is "a common concern of humankind" and describes equal sharing of resources and access to technology, precautionary approach and valuation of traditional knowledge. Because of the substantial differences two agreements regulating trade with GMOs: TRIPS and CBD are in conflict. 192 countries and the EU are parties to the Convention. The US has

signed but not ratified the treaty, and is unlikely to now that they have passed into law the Monsanto Protection Act<sup>7</sup> of 2013. The TRIPS-CBD relationship has yet to be resolved. Developing countries seek to amend TRIPS so that it will support the objectives of the CBD. Seventeen countries, so-called megadiverse countries, which represent between 60 and 70 percent of the biodiversity of the planet wants to stops commercialization of their biological and traditional knowledge resources. By contrast, the U.S. prefers contract law to more global regulation (Clapp, 2009).

#### 2.3. GATS

Adoption of the voluntary agreements GATS (countries negotiate what services they open for liberalization) has facilitated collaboration between universities and industry. Many research institutions host industry-funded programs. Industry in turn uses the existing infrastructure of universities and receives intellectual capital and reputation. This collaboration is one of the major reasons for a rapid growth of life science. For example in the period 2006-2010, University of Illinois Crop Sciences has received donation of US\$18.7 million from Monsanto, Syngenta, SmithBucklin & Associates which makes 44% share of departments grants; Iowa State University Agronomy received US\$19.5 million or 48% of departments grants from Dow, Monsanto and Iowa Soybean Association; 52% (US\$3.7 million) of Iowa State University Entomology grants came from Syngenta and Bayer; Monsanto, Cotton Inc. and Pioneer Hi-Bred donated Texas A&M Soil and Crop Sciences with US\$13.0 million (56% grants) (Food & Water Watch, 2012).

High levels of industrial support may be associated with less academic activity, because faculty members who have research relationships with industry are more likely to restrict their communication with colleagues (Blumenthal et al., 1996). The research results will remain secret until obtaining patent protection. According to World Intellectual Property Organization (WIPO) data, in 2012 US universities were the most prolific international patent filers among higher education institutions worldwide, while the US with 48.596 filings (26.7%) remains as in previous years the largest user of the Patent Cooperation Treaty (PCT). Observing technological fields' biotechnology holds 15th place in the PCT system. High income countries accounting 89.7% of total patent applications in 2010, upper middle-income countries accounted for 9.4% (four-fifths of this share is due to China), while lower middle income countries accounted for only1% and lower income for 0% (WIPO, 2012).

<sup>&</sup>lt;sup>7</sup>By this act if a biotech crop has already been approved (or deregulated) by the USDA and a court reverses that approval, the provision directs the Secretary of Agriculture to grant temporary deregulation status at the request of a grower or seed producer, to allow growers to continue the cultivation of the crop while legal challenges to the safety of those crops are underway.

#### **3. SOME EXAMPLES OF WTO THREAT**

#### 3.1. EU *de facto* moratorium

France and Greece originally called for a *de facto* EU moratorium on approvals of GMOs in June 1999. It came into effect a bit later, when they won the backing of Italy, Denmark, Luxembourg, Belgium and Austria. A period of six years unofficial EU moratorium (1998-2004) in which the EU authorized no GMOs sparked strong protests from the US. The moratorium on imports of GMOs has meant a significant loss of markets for US grain, expressed as US\$300 million per year in sales of maize to Europe (Brack, 2003). The EU model of precautionary approach is also being followed somewhat in Japan and South Korea, other important markets for the US. In addition, China, which develops its own GM crops, has imposed a temporary GMO regulatory structure as it develops permanent new rules for approval and labeling (Ahearn, 2007). The U.S. government has focused its efforts on trying to break down the barriers overseas and open international markets to its GMOs, thus, the US Congress supported the Administration "in its efforts within the [WTO] to end the EU's protectionist and discriminatory trade practices of the past five years regarding agriculture biotechnology" (Strauss, 2008). With support of Argentina and Canada the US finally launched the formal compliant with the WTO in the May 2003 challenging the ban as an impediment to trade (Brack et al., 2003). On May 10, 2006, the Panel issued a final ruling that appeared to favor the US biotechnology companies over the precautionary regulations of the EU by finding several trade violations in its general moratorium and failure to approve specific biotech products. The Panel found that the EC "general de facto moratorium" on GMOs approval led to "undue delays" in the completion of EC approval procedures in violation of its trade obligations8. The Panel dismissed other the US accusations, among them, that the moratorium was illegal, non-transparent and that did not take into account the interests of developing countries. The Panel found the EU bans on GMOs failures to meet its obligation under SPS Agreement. Risk Assessments presented by some Member States to justify their bans were not considered to meet requirements of "risk assessment" laid out in SPS Agreement. The Panel relied upon six individual experts to determine such central issues as whether the delay in approvals was justified pending scientific study and whether risk assessments were adequate under the SPS Agreement. Its indicate WTO recognition that there are scientific issues involved rather than simply trade; moreover, perhaps the Panel in this respect acknowledged its limitation in scientific knowledge to assess these issues (Strauss, 2008). The Panel did not resolve the central issue in

<sup>&</sup>lt;sup>8</sup> WTO, Panel Reports, Action by the Dispute Settlement Body, European Communities - Measures Affecting the Approval and Marketing of Biotech Products, WT/DS291, WT/DS292, and WT/DS293 (November 29, 2006).

the dispute over GM food, whether it is safe and whether there is scientific justification for its restriction. Also the Panel did not rule on other key issues: whether GM products are "like" their conventional counterparts or not and the right of the EC to have its own pre-marketing authorization system or its risk assessment process for GMOs. Moreover, the Panel rejected EC request to consider rules of international environmental law (the CBD and the Cartagena Protocol on Biosafety- Biosafety Protocol). EC request was in line with the Vienna Convention on the Law of Treaties, Article 31(3)(c)- "any relevant rules of international law applicable in the relations between the parties" shall be considered in interpreting a given treaty.<sup>9</sup> Because the treaties were not binding on all member countries to the dispute, (US did not ratify the CBD, without ratifying the CBD it could not sign the Biosafety Protocol) the Panel held that it was not required to take those treaties into account. The Biosafety Protocol, as the only international regulatory instrument established to protect biological diversity from the risks of biotechnology incorporates a precautionary approach which is compatible with the Rio Declaration on Environment and Development<sup>10</sup> (Principle 15) "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation".

#### **3.2.** Bans in the rest of the world

The others countries attempting to take measures like bans, also have been threatened when certain WTO member sees it as a "barrier" to trade. Sri Lanka was first country in the world which officially banned the import of GMOs in 2001. But, Sri Lanka dropped its plans to adopt a GM moratorium when the US threatened a WTO action<sup>11</sup>. The Agricultural Counselor from the US Embassy in India threatened to challenge the ban at the WTO, claiming it would cost Sri Lanka US\$190 million in penalties if they refuse to lift ban (FoEI, 2001). Eight years later, its agriculture minister said "GM food is being consumed by everyone althout officially it is not allowed in Sri Lanka...We do not officially permit it but unofficially it has got into market..."<sup>12</sup>.

In 2001 the Bolivian intention to one-year ban on the import of GMOs had caused Argentina reaction using WTO as a threat. Bolivia was forced to revoke the Ministry resolution and its previous commitments to extend it over a longer

<sup>&</sup>lt;sup>9</sup> Vienna Convention on the Law of Treaties, art. 31(3)(c), May 23, 1969, 1155 U.N.T.S. 331, 8 I.L.M. 679 (entered into force January 2, 1980).

<sup>&</sup>lt;sup>10</sup> Report of the UN Conference on environment and development. Rio de Janeiro, 3-14 June 1992.

<sup>&</sup>lt;sup>11</sup> Sri Lanka's GM food ban delayed indefinitely. *Times of India*, September 3, 2001.

<sup>&</sup>lt;sup>12</sup> Sri Lanka favours GM food: agriculture minister. Lanka Business Online, 3 Jul, 2009.

period of time (FoEI, 2006). In that way one of leading champion of the battle against GMOs switched sides<sup>13</sup>. In 2012 Bolivia as mega biotech country has planted 1.0 million hectares of GM soybean (James, 2012), despite the decree of President Morales about five-year transition period for elimination of GM crops from the national territory<sup>14</sup>.

In September 2001 Croatia was under increasing pressure from the US to drop a proposed law banning GMOs. The US Embassy in Zagreb wrote: "If such a ban is implemented, the US Government must consider its rights under the WTO". The total ban was abandoned due to US intimidation, but Croatia did implement strict legislation on GMO in 2003 that rules out GMO releases in protected areas, buffer zones, or areas for eco-tourism or organic agriculture (FoEI, 2006).

#### **DISCUSSION AND CONCLUSION**

GMOs placing on the market launched the largest-ever debate in the agribusiness and food industry. States, scientists, industry and citizens are polarized into supporters and opponents of GMOs. GMO conflict is a symptom of global regulatory polarization between two profoundly different regulatory regimes, the US "sound science" versus the European the "precautionary principle" (Bernauer, 2003). This is paralleled with polarization between Codex Allimentarius and Cartagena Protocol (Toft, 2012).

As could be seen from the foregoing considerations, the WTO agreements significantly contribute to the market opening for GMOs and they are deeply involved in the field of human rights and social justice. The agreements do not recognize scientific uncertainty, mandatory labeling of products "without sufficent scientific evidence" and they challenging national standards and protection. Implementation of the agreements has allowed the multinational company dominance of the food chain, has served as very strong barriers to entry to smaller firms, has helped privatization of seed markets in some countries such as China, Brazil and India (Morris et al, 1998; Srinivasan, 2003), has threatened the small farmers who depend on saved seed, and has decreased the scientific cooperation and independence of research institutions. Therefore, raises concerns about a "democratic deficit" connected with agreements has been discribed many times (Sykes, 2002; Hudec, 2003; Howse, 2003; Conrad, 2007). Those that have criticized these agreements for restricting democratic control over standards are concerned that international standards will jeopardize public health and welfare.

<sup>&</sup>lt;sup>13</sup> Bolivia switches on modified foods ban. *THE SYDNEY MORNING HERALD*, June 7, 2011.

<sup>&</sup>lt;sup>14</sup> Bolivia gives up GM crops in 5-year transition plan. *Food Freedom*, June 17, 2010.

WTO judgment on EU moratorium has far-reaching consequences. In failing to acknowledge and support the precautionary principle, the WTO may have further weakened its authority to make decisions affecting the human health and environment and, in so doing, lessened its legitimacy in the world arena. The legitimacy could be questioned because GMOs bear upon all matters of scientific justification and risk assessment in international trade law. The WTO dispute over GMOs exemplifies how soft law might have an impact on how countries govern approval procedures on GMOs. Agreements can be a tool by which one country is pressuring another country to accept imports. "This type of informal activity, often invisible to public scrutiny, may represent a more insidious threat to a nation's food safety standards than an actual WTO challenge, which is at least subject to some established rules"<sup>15</sup>.

One of Serbian fundamental foreign policy orientation and strategies is accession to the WTO. When Serbia achieves that goal, by default, it will accept all agreements relating to GMOs. The accession to the WTO does not mean the mandatory enrollment of GMOs on the market, but certainly creates great opportunities for it. Diffusion of GMOs is, primarily, the interests of multinational companies and US. The past has shown that some countries (often developing country under treat of import lobby) are not able to resist political pressure of the great powers. Strong countries have the ability to reject the WTO rules and pay the penalties. Such example is beef hormone case in 1998<sup>16</sup>. EU prefers to pay millions of euros per year in WTO penalties than to expose European consumers to meat tainted with carcinogenic growth hormones.

Taking into consideration that: Serbia's rural areas are featured of traditional farming, and 55% population live in this area (Rodriguez, 2009); major players in seed production are two semi-state owned institutes controlling over 60% of the country maize seed market (Van Berkum et al., 2012); Serbia has applied for just 19 patents in 2011 (WIPO, 2012) (none in transgenic field) which indicates the difficulty of surviving in the patent world; and fact that Serbia has no capacity to develop new GMOs to compete with multinational companies, our clear recommendation to the competent authorities, is not to allow the cultivation of GMOs. Placing of GMOs on the Serbian market would mean the deliberate destruction of its own capacities and consciously introduction of agriculture into vassal status in relation to developed countries as well as acting against a majority will.

Preserving GMO free agriculture production in Serbia will not be easy process, as is to be expected continual external pressure to change the Law. The influence of strong lobby groups representative of multinational companies, also, should

<sup>&</sup>lt;sup>15</sup> The Impact of the TBT and SPS Agreements on Food Labeling and Safety Regulations. CSPI International: http://cspinet.org/reports/codex/wtospsbt.htm

<sup>&</sup>lt;sup>16</sup> United States — Continued Suspension of Obligations in the EC — Hormones Dispute. DS320. WTO.

not be ignored. However, possible changes to the existing Law should not be seen as a tragedy or as the end of the fight against GMOs. It is very important to retain Article 15 of the GMO Law (Official Gazette No. 41/2009), which provides public involvement into the making decision regarding the GMOs applications as well as to continue the ongoing actions of declaring areas free of GMOs<sup>17</sup>. The current Government has failed to present clear stand on GMOs production. But, Serbia joining to Danube Soy declaration during Green Week fair, held in Berlin in January 2013, can be interpreted as a sign of intent to protect country of transgenic production.

#### REFERENCES

Ahearn, R.J. (2007). Congressional research service, trade conflict and the U.S.-European Union economic relationship. Available at http://www.nationalaglawcenter.org/assets/crs/rl30732.pdf.

BASF (2013). Post-market monitoring report for the monitoring of amylopectin potato EH92-527-1 variety Amflora in 2012. BASF REG. DOC. NO. 2013/7000588.

Bernasconi-Osterwalder, N., Magraw, D. Oliva, M.J., Marcos, O., & Tuerk, E. (2006). Environment and Trade: A guide to WTO jurisprudence. London, UK: Earthscan.

Bernauer, T. (2003). Genes, trade and regulation- the seeds of conflict in food biotechnology. New Jersey: Princenton University Press.

Blumenthal, D., Campbell, E.G., Causino, N., & Louis, K.S.D. (1996). Participation of life-science faculty in research relationships with industry. The New England journal of medicine, 335 (23), 1734-1739.

Brack, D., Falkner, R., & Goll, J. (2003). The next trade war? GM products, the Cartagena Protocol and the WTO. Briefing Paper No 8, The Royal Institute of International Affairs.

Clapp, J. (2004). The Political Economy of Food Aid in An Era of Agricultural Biotechnology. TIPEC Working paper 04/6.

Clapp, J. (2009). Corporate Power in Global Agrifood Governance. Cambridge, MA: USA.

Conrad, C.R. (2007). The EC-Biotech Dispute and Applicability of the SPS Agreement: Are the Panels Findings Built on Shaky Ground? World Trade Review, 6(2), 233-252.

<sup>&</sup>lt;sup>17</sup> For example: Three Serbian towns to debate Greens' campaign for GMO-free areas. *BBC Monitoring International Report*, February 14, 2013. Uspeh: Kladovo bez GMO! *Dveri online*, Jun 17, 2013; Beograd usvojio Deklaraciju protiv GMO. *RTS*, Maj 31, 2013.

Consumers International (2006). Report of the Consumers International Delegation at the 34th Meeting of the Codex Committee on Food Labelling. May 1-5.

Eaton, D.; Louwaars, N. (2009). Intellectual Property Rights in the International Seed Sector and Options for Resource-Poor Farmers. Report 09-019: LEI, Wageningen UR: Hague.

Fernandez-Cornejo, J. (2008). Monsanto Transgenic Trait Dominance in U.S. Market 1996–2007. Organization for Competitive Markets: Lincoln, NE, USA.

FoEI (2003). Playing with Hunger: The reality behind the shipment of GMOs as food aid. FoEI: Amsterdam; 2nd edition.

FoEI (2006). Looking behind the US spin: WTO ruling does not prevent countries from restricting or banning GMOs. Briefing Paper.

FoEI (Friends of the Earth International) (2001). US and biotech corporations impose genetically modified organisms worldwide under WTO threats. Pres releases, December 17.

Food & Water Watch (2012). Public Research, Private Gain. Corporate influence over university agricultural research. Food & Water Watch: Washington, DC.

Howard, P.H. (2009). Visualizing consolidation in the global seed industry: 1996–2008. Sustainability, 1 (4), 1266-1287.

Howse, R. (2003). How to Begin to Think About the 'Democratic Deficit'at the WTO. In Griller, Stephan, ed. International Economic Governance and Non-Economic Concerns: New Challenges for the International Legal Order. Wein: Springer.

Hudec, R.E. (2003). Science and Post-Discriminatory WTO Law. Boston College International and Comparative. Law Review, 26 (2), 185-187.

ISIM (Institute for the study of international migration) (2004). Genetically modified food in the Southern Africa food crisis of 2002-2003. Washington, DC: Georgetown University School of Foreign Service.

James, C. (2012). Global Status of Commercialized Biotech/GM Crops: 2012. ISAAA Brief No. 44. ISAAA: Ithaca, NY.

Morris, M.; Singh, R., & Pal, S. (1998). India's maize seed industry in transition: changing roles for the public and private sectors. Food Policy, 23, 55-71.

National Food Alliance (1993). Cracking the Codex: An Analysis of Who Sets World Food Standards. London: National Food Alliance.

OECD (2003). Agro-food Products and Technical Barriers to Trade: A Survey of the Issues and Concerns Raised in the WTO's TBT Committee. Paris: OECD.

Papic Brankov T., Sibalija, T., Lovre, K., Cvijanovic, D., & Subić, J. (2013a). Structural equitation modelling of consumer attitudes toward genetically modified food in Serbia. Metalurgia International, 18 (7), 114-119.

Papic Brankov T., Sibalija, T., Lovre, K., Cvijanovic, D., & Subić, J. (2013b). The impact of biotechnology knowledge on the acceptance of genetically modified food in Serbia. Romanian Biotechnological Letters, 18 (3), 8295-8306.

Papic Brankov, T. (2013). Hrana buducnosti ili bioterorizam. Sluzbeni glasnik.

Paul, H., Steinbrecher, R.; Michaels, L., & Kuyek, D. (2004). Hungry Corporations: Transnational Biotech Companies Colonise the Food Chain. Zed Books: London, UK.

Rodriguez, J.P (2009). Sustainable Initiatives in Marginal Rural Areas Of Serbia: A Case Study of Dimitrovgrad Municipality. Applied Studies in Agribusiness and Commerce (APSTRACT), 8-13.

Sklair, L. (2002). The Transnational Capitalist Class and Global Politics: Deconstructing the Corporate-State Connection. International Political Science Review, 23 (2), 159–174.

Smith, E. (2009). Whose Interests? Transparency and Accountability: In Clapp, J. (2009). Corporate Power in Global Agrifood Governance. Cambridge, MA: USA.

Srinivasan, C.S. (2003). Concentration in ownership of plant variety rights: some implications for developing countries. Food Policy, 28, 519-546.

Strauss, D.M. (2008). Feast or Famine: The Impact of the WTO Decision Favoring the U.S. Biotechnology Industry in the EU Ban of Genetically Modified Foods. American Business Law Journal, 45 (4), 775–826.

Sykes, A.O. (2002). Domestic Regulation, Sovereignty, and Scientific Evidence Requirements: A Pessimistic View. Chicago Journal of International Law, 3, 353-354.

Toft, K.H. (2012). GMOs and Global Justice: Applying Global Justice Theory to the Case of Genetically Modified Crops and Food. Journal of Agricultural and Environmental Ethics, 25, 223–237.

USDA (2012). Serbia Agriculture Biotechnology Annual. Biotech Annual report. GAIN Report Number: RB1207.

Van Berkum, S., Bogdanov, N. (2012). Serbia on the Road to EU Accession: Consequences for Agricultural Policy and the Agri-food Chain. CABI: UK.

Victor, D.G (1997). Effective Multilateral Regulation of Industrial Activity. PhD dissertation, MIT.

WFP (2002). Policy on donations of foods derived from biotechnology (GM/biotech foods), WfP/EB.3/2002/4-C.

WIPO (2012). Intellectual Property Statistics. Preuzeto 30 Maj 30, 2013 sa WIPO: http://www.wipo.int/ipstats/en/.