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Report Highlights:

Croatia is a net food importer and the government policy is geared towards raising agricultural productivity and, to a lesser extent, controlling imports. Although Croatia has adopted the European Union's (EU) biotech legislation, Croatia is a part of a group of EU member states that “opted-out” from planting genetically engineered (GE) seeds. Croatia believes its competitive advantage in agricultural products will be realized by seeking a premium for high quality “natural” products rather than competing on volume. Thus, there is a concern about the potential market consequences of adopting pro-biotech policies as well as a strong bias against GE products as somehow being “unnatural.”

Additionally, Croatian politicians and the general public remain misinformed about biotech products and view them as potentially dangerous.

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Executive Summary

Croatia is a net food importer. While the current goal of Croatia's agricultural policy is to increase productivity, the focus is on greater market recognition of Croatia's geographic indications and linking agricultural production to tourism.

Although Croatia has adopted the EU's biotech legislation, Croatia remains part of a group of EU member states that maintain more stringent national biotech policies than the EU norm. Croatia opted-out from planting GE seeds, although legislation to reflect this legislation has not yet been adopted.

Croatia believes its competitive advantage in agricultural products will be realized by seeking a premium for high quality "natural" products rather than competing on volume. There is a concern in Croatia about the potential market consequences of adopting pro-biotech policies, and there is a strong bias against GE products as somehow being "unnatural." Additionally, Croatian politicians and the general public remain misinformed about biotech products and view them as potentially dangerous.

In 2004 and 2005, the government randomly tested foods and seeds specifically for biotech content. Several products had to be withdrawn from the market due to a lack of proper biotech labeling. Croatia now regularly tests products for biotech events at the border and in the market. The testing is performed in accordance with Croatia's annual inspection plans for Sanitary Inspection, which is determined based on available fiscal resources. According to EU law, all biotech products must be labeled. When it comes to food and feed, for traceability purposes, the company must inform the Ministry of Health 30 days in advance before placing it on the Croatian market.

Several pieces of Croatian legislation regulate the importation and cultivation of biotech crops and foods. Croatia's *Law on GMOs* bans the release of GE plants in protected areas and their buffer zones, in areas of organic farming, and in areas that are of importance to ecotourism. The law provides a legal tool for excluding most of the country from planting GE plants. Moreover, all 21 Croatian counties have declared themselves to be "GMO" free. To date, no permits have been granted for the deliberate release of GE plants -- either for field trials or commercial cultivation in Croatia nor have there been any applications to Croatian authorities for food or feed use. Nevertheless, all EU approved events are, in theory, automatically approved for use in Croatia (automatic approval for sowing GE seeds will be eliminated once Croatia adopts the opt-out legislation).

For more information on the EU- biotech situation please refer to EU-28 Agricultural Biotech Report (<https://gain.fas.usda.gov/Lists/Advanced%20Search/AllItems.aspx>).

Section II. Author Defined:

Plant and Animal Biotechnology

Chapter 1: PLANT BIOTECHNOLOGY

Part A: Production and Trade

a. Product Development: Croatia is not developing any biotech crops.

b. Commercial Production: Croatia opted-out from planting GE seeds and is currently in the process of adopting a new legislation that will incorporate EU Directive 2015/412. The final draft of the "Law on Amendments" to the *Law on GMOs* is expected soon. It passed the public comment period in 2016 and is still awaiting the Government to act upon this draft, or to start a new drafting procedure if they are unsatisfied with the current text. In the meantime, the old legislation and procedures remain in place (see [GAIN 1506](#)). Current Croatia's *Law on GMOs* bans the release of agricultural biotech products in protected areas and their buffer zones, in areas of organic farming, and in areas that are of importance to ecotourism. The law provides a legal tool for excluding most of the country from biotech plantings. Moreover, all 21 Croatian counties have declared themselves to be "GMO"-free. To date, in Croatia, no permits have been granted for the deliberate release of GE plants -- either for field trials or commercial cultivation. This will be stricter after Croatia formalizes its wish for planting opt-out in the form of amendment to the *Law on GMOs*.

c. Export: Croatia does not export GE crops/products.

d. Import: EU approved events are automatically approved for food and feed use in Croatia. These products must be labeled and when it comes to food and feed, for traceability purposes, the company must inform the Ministry of Health 30 days in advance before they are placed on the Croatian market. Some imported GE soy beans are used in feed and the press has reported that some farmers are planting imported GE soy.

e. Food AID Recipient Countries: Croatia is neither a food aid recipient nor a food donor.

f. Trade Barriers: Beyond the current legislation, there are no additional plant-biotechnology requirements with the potential to affect U.S. exports. A potential future exception could be additional legislation related to the EU “opt-out” legislation.

Part B: Policy

a. Regulatory framework: Croatia opted-out from planting GE seeds and is currently in the process of adopting a new legislation that will incorporate EU Directive 2015/412. Final draft of the *Law on Amendments to the Law on GMOs* is expected by the end of 2016. It has passed the public comment period and is awaiting Government to act upon this draft or to start a new drafting procedure if they are unsatisfied with the current text.

In Croatia, the following laws together regulate the importation, transshipment, production, usage, and sale of products of agricultural biotechnology (all food, feed, and seed): The *Law on GMOs* (Governmental Gazette 70/2005, 137/2009, 28/2013, 47/2014), the Law on the Application of the EU Regulation 258/97 on Novel Food and Novel Food Ingredients (Governmental Gazette 18/2013, Governmental Gazette 47/2014), the Law on the Application of EU Regulation 1829/2003 on “GMO” Food and Feed and Regulation 1830/2003 on Traceability and Labeling of Food and Feed Derived from “GMOs” that Amends EU Directive 2001/18/EC (Governmental Gazette 18/2013), the Law on the Application of EU Regulation 1946/2003 on Trans-boundary Movement of “GMOs” (Governmental Gazette 81/2013) and the Food Act (Governmental Gazette 81/2013, 14/2014, 30/2015).

The *Law on GMOs* incorporates the EU regulations and directives: Directive 2001/18/EC, Directive 2009/41/EC, EC Regulation 1829/2003, EC Regulation 641/2004, EC Regulation 1981/2006, EC Regulation 1830/2003 and EC Regulation 65/2004.

The Law on the Application of the EU Regulation 258/97 on Novel Food and Novel Food Ingredients deals with all aspects of the novel food, that is, with all foods which were not consumed in the EU to a significant degree before May 1997.

The Law on Application of the EC Regulation 1829/2003, EC Regulation 1830/2003 on Traceability and Labeling of Food and Feed Derived from “GMOs” that Amends EU Directive 2001/18/EC, and the Law on Application of the EC Regulation 1946/2003 on Trans-boundary Movement of “GMOs” came into effect with Croatian EU accession. These two laws establish the responsible bodies and their tasks relating to the handling of biotechnology products as well as the penalties for breaching the provisions of these laws.

Although not specific to biotech products, the Croatian Food Act governs the responsible bodies and their tasks, responsibilities of stakeholders in food and feed handling, official controls and legal measures for the application of the following EU legal documents: EC Regulation 178/2002, EC Regulation 1304/2003, EC Regulation 2230/2004, EC Regulation 608/2004, EC Regulation 115/2010, EC Regulation 16/2011, EU Regulation 931/2011, EU Regulation 208/2013, Decision 2004/478/EC, EC Regulation 1760/2000, and all other EU legal acts enacted for application of the before mentioned legislation.

i. Responsible Ministries and Their Roles: The Ministry of Science (MOS), Education and Sport: According to the *Law on GMOs*, the MOS is responsible for the limited and contained use of GE products. If an institute wants to conduct research on GE products, it must apply to the MOS.

The Ministry of Health (MOH): According to the Food Act, the MOH is responsible for all issues relating to food, foodstuff, and feed containing biotechnology content and inspections. Additionally, the *Law on GMOs* proscribes that MOH oversee the usage and inspection of GE products in cosmetics, pharmaceutical products, and products for human health protection. According to the *Law on GMOs*, the MOH is the umbrella ministry and coordinating body for all biotechnology issues. Furthermore, Croatian Law on the Application of EU Regulation 1829/2003 on “GMO” Food and Feed and Regulation 1830/2003 on Traceability and Labeling of Food and Feed Derived from “GMOs” that Amends EU Directive 2001/18/EC names the Ministry of Health as the lead Ministry for implementation of the mentioned EU Regulations although sometimes the Ministry of Agriculture has to be consulted.

The Ministry of Environment Protection and Nature (MEPN): According to the *Law on GMOs* the Ministry of Culture is responsible for the intentional introduction of GE products into the environment. In 2012, MEPN replaced the Environment Protection Directorate in the Ministry of Culture (MOC) for this responsibility: Furthermore, according to the Law on the Application of EU Regulation 1946/2003 on Trans-boundary Movement of GE products, MEPN is responsible for implementing the regulation and coordinating its activities with the Ministry of Health, the Ministry of Agriculture and Croatian Customs.

The Ministry of Agriculture (MOA): According to the Food Act, the MOA is responsible for coordinating official inspections and is the EU’s contact point. According to the *Law on GMOs*, the MOA has responsibility for inspections of biotech feed; biotech reproduction material in agriculture and veterinary medicine; and drugs in veterinary medicine and pesticides. Furthermore, the MOA is responsible for giving its consent for the intentional release of biotech products into the environment.

ii. Role and Membership of Biosafety Council: The *Law on GMOs* required the establishment of a Council for “GMOs” with the specific task of assisting governmental bodies to apply the Law. The Council has 17 members appointed by the Government of Croatia based on nominations from the pertinent Ministries. Council membership lasts for four years. The Council’s work is independent and public. According to the Law, the Council’s tasks include: tracking gene technology development and usage; tracking scientific breakthroughs and giving opinion and incentives for usage of gene technology and “GMOs” giving opinions on social, ethical, technical, scientific, and other conditions of “GMO” use; advising responsible institutions on “GMO” and gene technology issues; informing the public on “GMO” and gene technology development, and presenting viewpoints and opinions.

The *Law on GMOs* also calls for establishing a Board for Limited Usage of “GMOs” with 11 members composed of scientists from the fields of microbiology, genetics, medicine, biochemistry, molecular biology, pharmacy, biotechnology, agriculture, forestry, veterinary medicine, nature and environmental protection, and occupational protection. In addition, the *Law on GMOs* requires the establishment of a board for the introduction of biotech products into the environment that consists of nine scientists from the fields of: genetics, ecology, nature protection, environmental protection, agriculture, forestry, veterinary medicine, biochemistry, molecular biology, microbiology, and medicine. The tasks of these

boards include: giving opinions on biotech usage in terms of legal procedures as outlined by the *Law on GMOs*; giving opinions and proposals for preparing other legislation on GE product usage; and giving opinions and proposals to responsible ministries on biotech usage issues and other expert work as outlined by the *Law on GMOs* and related regulations. According to the law, these two boards should report to the “GMO” Council once a year.

Both the old and the new Croatian Food Act call for the establishment of a Croatian Food Agency (CFA). The CFA began its work in 2004 and provides scientific and technical support to legislators as well as scientific advice in all areas that directly or indirectly influence food and feed safety. Additionally, the Food Agency provides scientific opinions to the MOH and the MOA regarding the placement of GE food and/or feed on the market.

iii. Assessment of political factors that may influence regulatory decisions related to agricultural biotechnology: Biotech opponents in Croatia have been emboldened by the perceived success of Austria and Slovenia in declaring themselves to be “GMO” free and have long advocated that Croatia position itself within this regional group of “healthy,” “GMO”-free countries.

Currently, Croatia clearly sees its future as a niche market for “healthy foods” (NOTE: In Croatia, the word “healthy” includes conventional (non-biotech) and organic products). There has been limited demand for biotech seed imports to combat drought, pests, or soil problems. Government officials acknowledge the legal obligation to open their agricultural market to foreign imports, but actively declare Croatia to be “GMO”-free, as part of a strategy to promote the country as a “healthy” tourist destination. The Croatian public generally is opposed to biotech products. Therefore, if given an option, Croatia could be expected to opt-out on all EU approved biotech products, to include GE products for feed use, although this could affect the cost of inputs for the livestock sector.

iv. Distinctions regarding the regulatory approval process for food, feed, processing, and environmental release are as follows: There are similar long and complicated procedures to approve conventional and biotech food and feed products, but the approval process for environmental release is different. At the end of the regulatory procedure for food and feed, biotech products must gain special permission to market the product. Some agricultural seed varieties (biotech and conventional), however, must first go through a variety registration process. After the Croatian Seed and Seedlings Institute register the variety, it is placed on the list of seed varieties that can be marketed in Croatia. Biotech seeds, in addition to variety registration, require special permission to be placed on the market, including permission for the intentional environmental release of GE products.

b. Approvals: There have been no direct applications to Croatian authorities to approve biotech crops for food or feed use, but products with EU approved events can be sold in Croatia. In theory, Croatia will accept all EU approvals GE seeds after a year of variety testing. However, Croatia has not approved any biotech seed varieties for planting nor is any biotech seed variety in the process of being approved.

c. Stacked Events or Pyramided Events Approvals: Stacked events are treated the same as in the EU. Croatia has not issued its own specific guidelines.

d. Field Testing: According to the *Law on GMOs* and subsequent Regulations, field tests of biotech

crops are allowed after all the conditions prescribed by the Law and Regulations are satisfied. However, no such tests are currently being conducted in Croatia.

e. Innovative biotechnologies: Innovative biotechnologies are treated the same as in the EU. Croatia hasn't issued its own specific guidelines.

f. Coexistence: The *Law on GMOs* forbids the planting of registered biotech crops in nature-protected areas, ecological areas, areas for organic agricultural production or eco-tourism, protected areas (i.e. as defined as impact zones within previously registered zones), and in areas defined as "GMO"-free zones by local government. In addition, biotech crop plantings for reproduction are allowed only in the areas that are designated by the Ministry of Agriculture and the Ministry of Environment Protection and Nature and approved by the Croatian Government in a special ordinance.

g. Labeling: According to the Law on the Application of EU Regulation 1829/2003 on "GMO" Food and Feed and Regulation 1830/2003 on Traceability and Labeling of Food and Feed Derived from "GMOs" that Amends EU Directive 2001/18/EC, food and feed containing agricultural biotechnology ingredients must have special, additional information on the label that informs consumers of all of its characteristics. Based upon EU law, if the biotech content is above 0.9%, the product must be labeled. The biotech threshold level drops to 0.0% for seed and biotech products that are not EU approved. The same applies to feed.

h. Monitoring and Testing: Croatia regularly tests products for biotech events at the border and in the market. The testing is performed in accordance with Croatia's annual inspection plans for Sanitary Inspection, which is determined based on available fiscal resources. Croatia also tests commercial seeds at the border and in the market for biotech events. The testing is performed in accordance with Croatia's annual inspection plans for Agricultural Inspection, which is also determined based on available fiscal resources.

i. Low Level Presence Policy: Croatia does not have a policy on low level presence. It does follow the "technical solution" guidance that defines zero as an allowance of 0.1 percent, as outlined in EU Regulation 619/2011. This regulation lays down the methods of sampling and analysis of official control of feed regarding the presence of genetically modified for which an authorization procedure is pending or the authorization of which has expired.

j. Additional Regulatory Requirements: Biotech food and feed products require special permission as GE products to be placed on the market. When placing an EU approved GE food and feed on the Croatian market, the company must notify the Ministry of Health 30 days in advance for traceability purposes. Additionally, some agricultural seed varieties (regular and biotech) must go through a variety registration process before they are placed on the list of seeds that can be marketed in Croatia. Biotech seeds, in addition to variety registration, require special permission to be placed on the market, including permission for the intentional environmental release of GE plants. Croatia accepts all EU approved varieties after a year of variety testing.

Croatia is a signatory of the Danube Soya Agreement an initiative to increase non-GE soy production in Europe and reduce GE imports. The Danube Soya aims to create a "GMO"-free soy producing region in countries along the Danube River. Another goal of the project is to connect poorer farmers in Eastern

European countries, such as Slovakia, Hungary, Croatia, and Serbia, to more affluent consumers in Western Europe who want non-GE soy for feed or food

k. Intellectual Property Rights: Biotech crops are not planted commercially in Croatia. Croatia has intellectual property rights legislation in place and is a member of The International Union for the Protection of New Varieties of Plants (UPOV).

l. Cartagena Protocol Ratification: Croatia signed and ratified the Cartagena Biosafety Protocol. Officially, there is no trade in biotech products, especially not in seeds. However, it is currently difficult to tell whether the Biosafety Protocol is being applied and working in practice.

m. International Treaties/Fora: Croatia is a member of the International Plant Protection Convention (IPPC), and Codex Alimentarius (Codex), However, Croatia does not appear to take an active position regarding plant or animal biotechnology in these organizations.

n. Related Issues: Strict biotech legislation acts as a barrier to trade when it comes to biotechnology.

Part C: Marketing

a. Public/Private Opinions: Croatia has Non-Governmental Organizations (NGOs) such as Green Peace and Green Action that are actively campaigning against biotechnology and the Croatian press has generally taken a negative stance on biotech.

b. Marketing Acceptance Studies: A Croatian market research agency carried out a study in 2009 on “consumer recognition of healthy foods” that among other things researched the opinions and knowledge of Croatian consumers on biotech products. In this study, 51% of respondents said that they would not eat GE food products under any circumstances and 29% of respondents thought that they did not know enough about GE foodstuffs. The study showed that 90% of respondents thought that GE foodstuffs should be clearly labeled on the store shelves.

The same agency did a study in 2005 and 2008 on public opinion on GE products. In this study, 67% (2005) and 58% (2008) of respondents said that they would not eat GE food products under any circumstances and only 16% (2005) and 26% (2008) of respondents thought that they didn’t know enough about GE foodstuffs.

The average Croatian consumer views food derived from biotech crops negatively. Consequently, many farmers are afraid to grow biotech crops. There is a feeling that biotechnology is something unnatural and food should be natural. These negative opinions are based largely on emotions, not on an informed study of the issue.

Chapter 2: ANIMAL BIOTECHNOLOGY

Part D: Production and Trade

a. Product Development: Genetic engineering and cloning are not being developed in Croatia for the production of agricultural animals.

- b. Commercial Production: The Croatian livestock sector is not actively employing the use of GE animals or products derived from GE animals or clones.
- c. Export: Croatia is not exporting GE animals, livestock clones, or products from these animals.
- d. Imports: Croatia is not importing GE animals, livestock clones, or products from these animals.
- e. Trade barriers: No additional trade barriers are known.

Part E: Policy

- a. Regulatory Framework: Beyond EU legislation, Croatia does not have in place any legislation specifically related to the development, commercial use and/or import of these animals or products. At present, food from clones falls under the scope of the Regulation on Novel Foods and Novel Food Ingredients (EC) 258/97 and is thus subject to pre-market approval based on a safety risk assessment.
- b. Innovative Biotechnology: Innovative biotechnologies are treated the same as in the EU. Croatia hasn't issued its own specific guidelines.
- c. Labeling and Traceability: There are indications that the Croatian Government may consider traceability and mandatory labeling requirements for products derived from GE and cloned animals. The government entities that would likely regulate these technologies for food and environmental safety issues relating to research on or commercial use of these animals include: the Ministry of Agriculture; the Ministry of Health; the Ministry of Environment Protection and Nature; the Ministry of Science, Education and Sport; the Croatian Food Agency, and the Council for "GMOs."
- d. Intellectual Property Rights (IPR): Croatia has legislation on intellectual property rights, but does not have IPR legislation on animal biotechnology nor is that kind of legislation currently being considered.
- e. International Treaties/Fora: Croatia is a member of Codex Alimentarius (Codex), and the World Organization for Animal Health (OIE). However, Croatia does not appear to take an active position regarding animal biotechnology in these organizations.
- f. Related Issues: Strict biotech legislation acts as a barrier to trade when it comes to products derived from agricultural biotechnology.

Part F: Marketing

- a. Public Private Opinions: There are active organizations that lobby against the genetic engineering or cloning of agricultural animals and Croatia's press historically has not been favorable to these types of innovations.
- b. Market Acceptance Studies: At this time, there are no known cloning or GE animal production market studies. The initial reaction to these products is unlikely to be favorable.

