Appendix B: Comments on the evidence presented by the United States in its Rebuttal Submission

I. Glyphosate and GM Corn Safety

Paragraph	Exhibit	Source Title	Mexico's Analysis
1, 40,138, 150, 163, 170.	USA-37	Biotechnology Committee of the Mexican Academy of Sciences, TRANSGENICS. MAJOR BENEFITS, ABSENCE OF HARMS AND MYTHS, at 28 (2017).	See section II of Mexico's Rebuttal Submission.
7	USA-239 USA-184 to USA-185	A. Harrup, "Mexico Temporarily Postpones Glyphosate Ban Until Substitute Found," DowJones Newswires (Mar. 27, 2024)	The United States intends to believe that the extension of the glyphosate substitution means that the risks identified by Mexico have disappeared. This is not true. As explained in the official statement issued by the Ministry of Economy and the Ministry of Agriculture and Social Development, the extension was established "because the conditions for substituting the use of glyphosate have not been met," and it was reiterated that "the Government of Mexico maintains the purpose of the decree to protect the right to health, to nutritious food, and to an environment that is proper for the development and well-being of the people." The statements made by the United States are not relevant to the analysis of the decisions of the Mexican State.[1]
33	USA-186 to USA-199	"Monsanto Petition to Animal and Plant Health Inspection Service" (Feb. 13, 1995) (Exhibit USA-186) "Monsanto Co.; Addition of Two Genetically Engineered Insect Resistant Corn Lines to Determination of Nonregulated Status," 61 Fed. Reg. 10720 (Mar. 15, 1996) (Exhibit USA-187) FDA, "Biotechnology Consultation Note to the File BNF No. 000034," (Sept. 18, 1996) (Exhibit USA-188) FDA, "Biotechnology Consultation Agency Response Letter BNF No. 000034," (Sept. 25,	The United States submits the aforementioned documents with the futile intention of demonstrating that the Bt varieties (MON810, NK603, MON863) have been subject of numerous safety consultations in the United States, so that, in their view, they should be considered safe varieties. However, the United States ignores all the scientific evidence provided by Mexico that demonstrates the risks posed by these varieties. For example: gastric and uterine effects, high levels of carcinogenicity, among others.[2]

[1] Secretaría de Economía, *"Gobierno de México salvaguarda la seguridad agroalimentaria del país"*, 26 de marzo de 2024. **MEX-455.**

[2] Initial Written Submission of the United Mexican States, ¶¶ 132 and 185. *See also*, Mexico's Rebuttal Submission, Section II.

		1996) (Exhibit USA-189) Monsanto, "Roundup Ready Corn Line NK603" (Jan. 7, 2000) (Exhibit USA-190) "Monsanto Co.; Extension of Determination of Nonregulated Status for Corn Genetically Engineered for Glyphosate Herbicide Tolerance," 65 Fed. Reg. 52,693 (Aug. 30, 2000) (Exhibit USA-191) FDA, "Biotechnology Consultation Note to the File BNF No. 000071" (Oct. 9, 2000) (Exhibit USA-192) FDA, "Biotechnology Consultation Agency Response Letter BNF No. 000071" (Oct. 18, 2000) (Exhibit USA-193) "Petition for Determination of Nonregulated Status for the Genetically Modified Corn Product: Corn Rootworm Protected Corn Event MON863" (May 15, 2001) (Exhibit USA-194) FDA, "Biotechnology Consultation Note to the File BNF No. 000075" (Dec. 31, 2001) (Exhibit USA-195); FDA, "Biotechnology Consultation Agency Response Letter BNF No. 000075" (Feb. 12, 2002) (Exhibit USA-196) "Monsanto Co.; Availability of Determination of Nonregulated Status for Corn Genetically Engineered for Insect Resistance," 67 Fed. Reg. 65,087 (Oct. 23, 2002) (Exhibit USA-197); EPA, "Biopesticides Registration Action Document - Bacillus thuringiensis Cry3Bb1 Protein and the Genetic Material Necessary for Its Production (Vector PV-ZMIR13L) in MON863 Corn (OECD Unique Identifier: MON-ØØ863-5)" (Sept. 2010) (Exhibit USA-198) EPA, "Biopesticides Registration Action Document - Cry1Ab and Cry1F Bacillus thuringiensis (Bt) Corn Plant-Incorporated Protectants," (Sept. 2010) (Exhibit USA-199).	

33	USA- 200	M. Mendelsohn et al., "Are Bt Crops Safe?," 21 NATURE BIOTECHNOLOGY 1003 (Sept. 2003)	The very publication cited by the United States acknowledges well-identified risks. • "*Bt plant-incorporated protectants … proteins present little risk, except for a few well described cases (such as food allergens, acute toxins and antinutrients).*" (p. 1004) • "*The toxicity of Bt to butterflies is a well-known and widely published phenomenon… the EPA accepted that Bt proteins could be toxic to Lepidoptera and relied exclusively on data on lepidopteran exposure to Bt Cry protein".* (p. 1007-08) In this regard, it is important to note that the level of risk determined by the authorities of the importing country, in this case the United States, is secondary if the level of acceptable risk in the importing country, in this case Mexico, is lower.
33	USA-202	M. Koch et al., "The Food and Environmental Safety of Bt Crops," 6 FRONTIERS IN PLANT SCIENCE 1, 8 (Apr. 2015)	This annex is used by the United States to argue an alleged safety of Bt corn consumption. The United States submitted only the introduction to this "research"; however, at the end of the research, the authors reveal a conflict of interest, as they are all in conflict with the biotechnology developer.[3]
33	USA-203	EPA, "Biopesticide Registration Action Document - Bacillus thuringiensis Cry1A.105 and Cry2Ab2 Insecticidal Proteins and the Genetic Material Necessary for Their Production in Corn," at 24, 32 (2008)	Please refer to the commentary on the Exhibit USA-205.
33	USA-204	EPA, "Biopesticides Registration Action Document - Bacillus thuringiensis Vip3Aa20 Insecticidal Protein and the Genetic Material Necessary for Its	Please refer to the commentary on the Exhibit USA-205.

[3] *See full text of the appendix* -202; *See*, M. Koch, *et al*., "*The Food and Environmental Safety on Bt Crops",* 6 Frontiers in Plant Science, 2015, p. 22, MEX-**456**. "Conflict of Interest Statement: All of the authors are, or were, employed by Monsanto Company. Monsanto Company produces and sells seeds, some of which express Bt Cry proteins."

		Production (via Elements of Vector pNOV1300) in Event MIR162 Maize (OECD Unique Identifier: SYN-IR162-4)," at 39 (2009).	
33	USA-205	EPA, "Biopesticides Registration Action Document - Cry1Ab and Cry1F Bacillus thuringiensis (Bt) Corn Plant-Incorporated Protectants," at 26, 36 (Sept. 2010) (Exhibit USA-199); EPA, "Biopesticides Registration Action Document - Modified Cry3A Protein and the Genetic Material Necessary for its Production (Via elements pZM26) in Event MIR604 Corn SYN-IR604-8," at 26 (2010),	From the evidence presented, which consists of summaries, it is not possible to obtain relevant information on the results of the studies cited (*i.e.* "*[b]ovine serum albumin was also tested as an internal check*" (USA-205, p. 27), nor, for example, to know the methodology used. Consequently, these results are insufficient to address Mexico's concerns regarding adverse health effects from the consumption of GM corn in light of the adequate level of protection established by Mexico and the characteristics of the Mexican diet. *See*, Mexico's Rebuttal Submission, Section II. C.
33	USA-224	EPA, "Review of Product Characterization and Human Health Data for Plant-Incorporated Protectant Bacillus thuringiensis (Bt) eCry3.1Ab insect control protein and the genetic material necessary for its production in Event 5307 maize (Zea mays) [EPA Reg. No. 67979-EUP-I]," at 7 (May 25, 2010)	Please refer to the commentary on the Exhibit **USA-205.**
35	USA-208	FDA, "New Plant Variety Consultations," www.fda.gov/bioconinventory (last accessed Mar. 10, 2024)	Mexico dedicates a section of its submission to discussing the nutritional deficiencies of GMOs, including after the corn has been processed into tortillas: **MEX-044, MEX-049, MEX-068, MEX-069, MEX-159 and MEX-160**. These exhibits have not been refuted by the United States.
38	USA-222	U.S. Centers for Disease Control and Prevention, "Investigation of Human Health Effects Associated with Potential Exposure to Genetically Modified Corn," at 3, 10 (June 11, 2001)	The United States uses the cited article to refute Mexico's argument that the GM corn variety would not work in Mexican territory due to its climate and that the introduction of GM corn would not result in a significant increase in yield trend compared to hybrid corn.

			However, the evidence presented is a decontextualized graph. It is not related to the yield of hybrid corn derived from GM corn.
39	USA-209	EFSA, "Final review of the Séralini et al. (2012a) publication on a 2-year rodent feeding study with glyphosate formulations and GM maize NK603 as published online on 19 September 2012 in Food and Chemical Toxicology," EFSA JOURNAL (2012)	The United States uses *ad hominem* arguments against Mr. Séralini in an attempt to divert attention from the more than 200 scientific articles that identify risks to human health and native varieties that have not been refuted. Mexico has clarified the U.S. criticism of the 2012 paper published by Séralini et al. (*See*, Mexico's Rebuttal Submission, Section II.)
39	USA-210	"Editor in Chief of Food and Chemical Toxicology Answers Questions on Retraction," 65 FOOD & CHEMICAL TOXICOLOGY 394 (2014)	Please refer to the commentary on the Exhibit USA-209.
43	USA-36	W. Klümper & M. Qaim, "A Meta-analysis of the Impacts of Genetically Modified Crops," 9 PLOS ONE 1 (Nov. 2014)	Dr. Qaim himself has pointed out that the changes in GM crops are more likely to be observed in the "developing" world, and that GM crops will not "lead to higher productivity", taking Europe as a reference, and concluding that "I don't see this as the kind of miracle technology that we can't live without".[4]
43	USA-226	USDA ERS, "Innovations in Seed and Farming Technologies Drive Productivity Gains and Costs on Corn Farms" (Apr. 4, 2022)	Contrary to what is stated in the Article, and as Mexico argued in Section V.B.2 of its Initial Submission, the increase in production is not associated with a higher yield, but with an increase in the area under cultivation, i.e., more is produced because there is more area for these crops. On the other hand, the increase in crop production is not directly related to the introduction of GMOs, contrary to what the evidence presented suggests. This is because several factors must be taken into account, such as: i) there is evidence that GMOs do not lead to higher crop yields, and ii) the results

[4] Hakim, D. "*Surgen dudas sobre la mayor eficiencia de cultivos genéticamente modificados*" The New York Times, 2016. **MEX-457**.

			showing the opposite have been obtained under controlled conditions, such as in greenhouses or small-scale field trials, among others.[5] *See*, Mexico's Initial Written Submission, ¶¶ 79-84.
43	USA-225	USDA, National Agricultural Statistics Service, "Corn Yield by Year (U.S.)" (last updated Jan. 12, 2024)	Please refer to the commentary on the Exhibit USA-226.
43	USA-226	USDA ERS, "Innovations in Seed and Farming Technologies Drive Productivity Gains and Costs on Corn Farms" (Apr. 4, 2022)	The United States uses this annex to try to refute Mexico's argument that GMOs have not increased crop yields, much less reduced the amount of agrochemicals used in agriculture. However, the text states that the area planted has increased not only due to the use of GMOs, but also due to precision agriculture systems and the adoption of other technologies. In addition, the United States omitted to display the full text of the popular science article, perhaps because at the end of the text it argues that "Applications of herbicides […] rising alongside adoption of herbicide-tolerant seed varieties. […] Adoption of new seed technologies and the related rise in fertilizer and herbicide use increased operating costs on corn farms over the 1996–2016 period. Costs per acre (not adjusted for inflation) more than doubled, from $161 to $341. Average seed costs increased 263 percent on a steady upward trend from $27 per acre to $98, while fertilizer costs rose 149 percent, from $51 per acre to $127. Costs of applying chemicals such as pesticides, growth regulators, and harvest aids grew by 30 percent".[6]
88	USA-46	G. Brookes, "Genetically Modified (GM) Crop Use 1996–2020: Environmental Impacts Associated with Pesticide Use	Mexico emphasizes that the cited reference shows a conflict of interest because 1) it uses Monsanto data as a source of

[5] Initial Written Submission of the United Mexican States, ¶¶ 79-88.

[6] USDA ERS, "*Innovations in Seed and Farming Technologies Drive Productivity Gains and Costs on Corn Farms*", 2022, **MEX-458.**

		Change," 13 GM CROPS & FOOD – BIOTECHNOLOGY IN AGRICULTURE AND THE FOOD CHAIN 262 (2022).	information, and 2) it is a study funded by Monsanto, which causes it to lose scientific objectivity.
89	USA-242	FAO, "Submission and Evaluation of Pesticide Residues Data for the Estimation of Maximum Residue Levels in Food and Feed," at 123 (2016)	As Mexico has explained, Codex MRLs are inadequate to address Mexico's level of protection because, among other factors, the average dietary exposure to glyphosate from GM corn is 10 times higher in Mexico than in the United States.[7]

II. Gene Flow

126	USA-166	I. Rojas-Barrera et al., "Contemporary Evolution of Maize Landraces and Their Wild Relatives Influenced by Gene Flow with Modern Maize Varieties," 116 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES 21302 (Oct. 2019)	The United States fails to consider the full context of the article. The article acknowledges that, with the exception of the northwest and midwest of the country, native maize cultivation is predominant in Mexico and that native varieties are the basis of traditional cuisine. In this sense, the study itself points out that the results on the introgression of hybrid varieties serve to design agricultural policies for the conservation of gene pools in the centers of diversity. Moreover, because, in the words of the United States, "the biological processes by which transgene flow occurs (e.g., gene flow from a GE corn variety and a non-GE corn variety) and non-transgene flow occurs (i.e., gene flow between two non-GE varieties) are the same" (US Rebuttal, ¶ 138), the article confirms the possibility of introgression of GM corn varieties into native Mexican corn.
126, 205	USA-167	"MasAgro Maize," CIMMYT	United States argues that "Mexico's own policies have encouraged the use of hybrids (including for use in tortillas) over the use of native landrace varieties.". The exhibit states that the "MasAgro" program aims to improve crop yields, increase net income for producers, and instill a culture of conservation of

[7] See Initial Written Submission of the United Mexican States, ¶¶ 423-428.

			natural resources. The program also aims to "[p]romote the development of the national seed sector and contribute to increase corn production in Mexico through collaborative research on genetic resources to develop white and yellow hybrids with high yield potential and stability." However, this does not reflect that it has been sought to promote the cultivation of hybrid corn over the cultivation of native corn, as the U.S. claims. The U.S. ignores that there is a significant difference between transgenic contamination and traditional hybridization.
126	USA-168	F. D. McLean-Rodríguez et al., "The Abandonment of Maize Landraces Over the Last 50 Years in Morelos, Mexico: a Tracing Study Using a Multi-level Perspective," 36 AGRICULTURE & HUMAN VALUES 651, 653, 655-656 (2019)	The article refers to the loss of native corn varieties in certain communities as a result of farmers' preference for hybrid varieties due to factors such as climate change or urbanization; but not as a result of unwanted gene flow from hybrid varieties to native varieties. In any case, the implications of gene flow from hybrid corn varieties are not the same as gene flow from GM corn varieties. In addition, the article emphasizes the importance of conserving native varieties as a response to climate change and for the conservation of the world's genetic resources.
126	USA-169	"Our Funders," CGIAR & CIMMYT.	Not relevant to the conclusions of Mexico.
136, 137, 138	USA-170	G. Brookes et al., "Genetically Modified Maize: Pollen Movement and Crop Co-existence," PG ECONOMICS, at 5, 16-17 (Nov. 26, 2004)	The article was published by PG Economics, a consulting firm that advises on the use of biotechnology and whose clients include major agribusiness, agrochemical, and seed companies. The cross-pollination studies referenced in the article were commissioned by biotechnology companies. In Mexico, on the other hand, farmers plant seeds from different sources together, including hybrid varieties, and often cross-pollinate the different varieties grown in close proximity themselves. *See* **MEX-095**, p. 15.

136	USA-256	J. M. Pleasants et al., "Corn Pollen Deposition on Milkweeds In and Near Cornfields," 98 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES 11919 (2001)	The United States argues that cross-pollination between GM and non-GM corn is unlikely due to the fact that "studies have found that the vast majority of corn pollen falls within five meters of a field's edge". Contrary to the US claim, the study states that pollen can travel at least 60 meters and even more than 200 meters (p. 119). Furthermore, their claim is based on a study of pollen density in and out of a crop field. However, the same study points out that pollen density at a given distance from the edge of the field depends on factors such as wind direction, rainfall, and the time of anthesis when the sample was taken.
137	USA-257	F. Bénétrix & D. Bloc, "GMO and Non-GMO Maize Possible Coexistence," 294 PERSPECTIVES AGRICOLES 14 (Oct. 2003)	The United States argues that "98 percent of pollen travels no further than ten meters"; but in Mexico, Mexican farmers plant seeds from different sources together. They even cross-pollinate between varieties grown in close proximity. *See* **MEX-095**, p. 15.
137	USA-258	K. Zhang et al., "Pollen-Mediated Transgene Flow in M	The study acknowledges that corn is a highly hybridized crop and that cross-pollination is inevitable under the right weather conditions. This confirms Mexico's concerns about the possibility of GM contamination. *See* **MEX-099**, p. 31. Therefore, the study suggests that a distance of 300 meters or a temporary separation of 3 weeks can prevent transgenic contamination; however, in Mexico, 85% of farmers grow corn on plots of 5 hectares or less. **MEX-030.** Also, Mexican farmers sow seeds from different sources together and even cross-pollinate between different varieties grown in close proximity. **MEX-095**, p. 15. Spatial and temporal segregation requires a traceability system for imported GM corn grains (viable as seed), which is not

			possible in Mexico due to traditional seed selection and exchange practices.
137	USA-259	R. L. Nielson, "Silk Development and Emergence in Corn" (July 2020)	Although corn pollen has a viability period of only a few hours to a day, this is irrelevant in Mexican corn growing practices due to traditional Mexican farming practices where farmers allow and encourage cross-pollination between different varieties grown in close proximity. **MEX-095**, p. 15.
137	USA-260	G. Della Porta et al., "Maize Pollen Mediated Gene Flow in the Po Valley (Italy): Source-recipient Distance and Effect of Flowering Time," 28 EUROPEAN JOURNAL OF AGRONOMY.	The study suggests that a distance of 30 meters reduces gene flow to less than 0.9% in the first row of the pollen receiving field. It also suggests a temporal separation of one week when growing different varieties. However, in Mexico, 85% of farmers grow corn on land equal to or less than 5 hectares. **MEX-030**. In addition, Mexican farmers plant seeds from different sources together and even cross-pollinate between different varieties grown in close proximity to each other. **MEX-095**, p. 15. Spatial and temporal separation requires a traceability scheme for imported GM corn kernels (and which are viable as seed) that is not possible in Mexico due to traditional practices of seed selection and exchange.
137	USA-261	B. L. Ma et al., "Extent of Cross-Fertilization in Maize by Pollen from Neighboring Transgenic Hybrids," 44 CROP SCIENCE 1273 (2004).	The study was funded by the Canadian Seed Growers Association (CSGA) and Pioneer Hi-Bred International. The CSGA is Canada's national seed certification authority and, according to its website, is a non-profit organization representing the interests of Canadian seed growers. Pioneer Hi-Bred International is a major producer of genetically modified crops with insect and herbicide resistance.

			The United States argues that this study found that "the rate of cross-fertilization was less than 1 percent beyond 28 meters downwind and 10 meters upwind". However, the experiments in this study were conducted in fields in Ottawa, Canada. In Mexico, 85% of farmers grow corn on land equal to or less than 5 hectares. **MEX-030**. In addition, Mexican farmers plant seeds from different sources together and even cross-pollinate between different varieties grown in close proximity. **MEX-095**, p. 15. On the other hand, spatial and temporal separation requires a traceability scheme for imported GM corn kernels (and which are viable as seeds) that is not possible in Mexico due to traditional practices of seed selection and exchange.
137	USA-262	M. Palaudelmàs et al., "Sowing and Flowering Delays Can Be an Efficient Strategy to Improve Coexistence of Genetically Modified and Conventional Maize," 44 CROP SCIENCE 2404, 2405 (Nov. 2008).	The United States cites this study to argue that "[I]t can be concluded that a separation distance of 20 to 25 will generally be enough to maintain the GM content below the 0.9 percent threshold in the yield of neighboring fields of non-GM corn". But the same study points out that "[i]n some countries, corn fields tend to be small and coexistence regulation purely on the basis of separation distance would be impractical". (p. 2410) As noted above, in Mexico, 85% of farmers grow maize on plots of 5 hectares or less (**MEX-030**), so spatial segregation measures would be impractical. In addition, regarding the possibility of implementing temporal crop separation measures, the study acknowledges that "[i]t is important to note that in a trial, the growth of the plants will be much more uniform than in a conventional field, where multiple

			stress or management factors normally increase variability". (p. 2412)
137	USA-263	J. Messeguer et al., "Pollenmediated Gene Flow in Maize in Real Situations of Coexistence," 4 PLANT BIOTECHNOLOGY JOURNAL 633 (2006)	The United States cites the following excerpt from the article: "[I]n the case of a fully synchronous flowering time, a security distance between transgenic and conventional fields of about 20 m should be sufficient to maintain the adventitious presence of genetically modified organisms as a result of pollen flow below the 0.9 percent threshold in the total yield of the field". As noted in the commentary to Exhibit **USA-262**, spatial segregation measures are impractical in countries where fields are small. This is the case in Mexico, where 85% of farmers grow corn on plots of 5 hectares or less (**MEX-030**).
137, 139, 143	USA-264	B. M. Baltazar et al., "Pollen-Mediated Gene Flow in Maize: Implications for Isolation Requirements and Coexistence in Mexico, the Center of Origin of Maize," PLOS ONE, at 12 (July 10, 2015)	The study was funded by the Monsanto Company, and even two of the authors were Monsanto employees. Monsanto was a leader in the genetic engineering of seeds and the production of herbicides. In 2018, Monsanto was taken over by Bayer. The study shows that outcrossing rates depend on distance from the pollen source and concludes that "20 m isolation distance is sufficient to have outcrossing levels under 1%." The study also points out that "[i]f less than 0.1% of outcrossing is required, distances beyond 100 m are recommended." As noted in the commentary to Exhibit **USA-262**, spatial segregation measures are impractical in countries where fields are small. This is the case in Mexico, where 85% of farmers grow corn on plots of 5 hectares or less (**MEX-030**).
137	USA-265	Y. Devos et al., "The Co-existence Between Transgenic and Non-transgenic Maize in the European Union: A Focus on Pollen Flow and Cross-Fertilization," 4 ENVIRONMENTAL	The study suggests that spatial segregation appears to be the most important tool to avoid unwanted cross-pollination of GM and non-GM corn. However, the article points out that there are variables to consider.

		BIOSAFETY RESEARCH 71, 77-84 (2005)	For example, the article acknowledges that "[b]ecause data are actually scarce in commercial situations with thresholds tighter than 0.9%, it is difficult to recommend reliable isolation distances". (p. 84) In addition, it is noted that "in practice, adventitious mixing may occur within a field owing to impure seed, while in nearly all experiments the seed was considered as genetically pure". (p. 84) Finally, the article explains that in regions with a very high proportion of corn in crop rotations, spatial separation would be insufficient and that "[i]f nothing helps, GM-crop-free zones may be the ultimate solution". (p. 84)
138	USA-171	R. Guadagnuolo et al., "Relative Fitness of Transgenic vs. Non-Transgenic Maize x Teosinte Hybrids: A Field Evaluation," 16 ECOLOGICAL SOCIETY OF AMERICA 1967 (Oct. 2006)	The United States argues that "the United States is not aware of any scientific evidence supporting that such activity would present a risk to plant life or health", and quotes the following excerpt from the article: "[I]n the absence of selective pressure from glyphosate herbicide, we did not observe any direct positive or negative impact of the transgene on the fitness or vigor of either the hybrids or pure maize progeny". However, the article acknowledges that "[i]n the case of cultivated herbicide-tolerant maize, the common assumption is that the relevant herbicide would be used. The selective pressure would thus act in favor of the transgenic hybrids and increase the likelihood of the spread of the transgene in the wild subspecies or in the evolution of a new hybrid lineage." (p. 1972) There have been cases of illegal planting of GM corn in Mexico, and glyphosate is widely used in the country, creating favorable conditions for the transgene to spread into native corn varieties. *See* Mexico's Initial Written Submission, ¶ 167, **MEX-085** (p. 2), **MEX-188** and **MEX-189**.

			In fact, the article also points out that the risk of extinction due to interspecific hybridization and introgression must be considered.
138	USA-172	L. Liu et al., "Fitness and Ecological Risk of Hybrid Progenies of Wild and Herbicide-Tolerant Soybeans with EPSPS Gene," 13 FRONTIERS IN PLANT SCIENCE 1 (June 2022)	The United States claims that this article found that "glyphosate-tolerant protein expression was significantly lower in subsequent generations, indicating that transgene presence and any effects would diminish rapidly over time". However, the article concludes that hybridization between GM crops and wild populations may threaten the diversity of the latter due to a reduction in the fitness (number of likely offspring) of the wild population and a substitution of wild genotypes by hybrid offspring. The article notes that various studies have shown that the fitness of hybrids has not decreased, and that even some hybrids showed stronger adaptability than that of their parent species. (p. 13) For this reason, the expression of the glyphosate-tolerant protein may persist into future generations of native corn varieties.
139, 143	USA-266	M.A. Sánchez & H. Campos, "Coexistence of Genetically Modified Seed Production and Organic Farming in Chile," 12 GM CROPS & FOOD 509, 513, 516, 518 (2021)	One of the authors is an employee of ChileBio. According to its website, the ChileBIO CropLife Trade Association, ChileBIO, brings together agricultural biotechnology development companies that are dedicated to the development, production and marketing of agricultural products based on the genetic improvement of seeds. In their disclosure statement, the authors admit that ChileBio is funded by CropLife International and companies that develop GM crops. In response to arguments that coexistence between GM seed production and organic agriculture is not feasible in Chile, the authors point out that "[t]his paper aims to assess how different agricultural models, such as organic farming and GM seed production, can coexist in Chile [...]". (p. 510)

			The article recognizes that “under normal agriculture conditions, the possibility of adventitious presence of GMOs used by the Chilean GM seed industry in non-GM crops cannot be excluded”. (p. 514) The article is not based on an experiment on the effectiveness of coexistence measures. The article bases its conclusions on the fact that according to Chilean certification laws, organic production must be isolated from non-organic production and that, according to the authors, no case of GMO contamination has been reported. However, the authors acknowledge that, in the EU, with coexistence measures, between 2002 and 2021, 720 notifications of detection of unauthorized GMOs were reported. (pp. 515-516) On the other hand, the article refers to the fact that the Food and Veterinary Office of the European Union (EU) carried out an audit to evaluate the procedures for GMOs in relation to seeds destined for export to the EU. Among the conclusions of the audit, it was highlighted that "no official tests are performed that target GMO contamination of non-GM seed intended for exportation to the EU". (p. 514)
139, 143	USA-267	J. Riddle, “A Plan for Co-existence: Best Management Practices for Producers of GMO and Non-GMO Crops”.	This exhibit is a plan for coexistence with GMOs proposed by the Minnesota Institute for Sustainable Agriculture, however it does not contain references, nor is it a study where it is proven that these measures are effective biosecurity measures. These are recommendations that producers can implement to "minimize genetic drift, commingling, and other forms of contamination." (p. 1) The exhibit recognizes that the type of GM seed to be planted must be known beforehand. A traceability scheme for imported

			GM corn kernels (and that are viable as seeds) is not possible in Mexico due to traditional seed selection and exchange practices.