

November 6, 2023

USMCA Secretariat

Via email to: [ssmtlc@economia.gob.mx](mailto:ssmtlc@economia.gob.mx)

Secretariado de la Sección Mexicana de los Tratados de Libre Comercio

**SSMTLC**  
Secretariado de la Sección Mexicana de  
los Tratados de Libre Comercio

06/11/2023 16:53 hrs.

**RECIBIDO**

Dear Secretariat,

On behalf of Friends of the Earth United States (FOE), we request an opportunity to present evidence to the tribunal on concerns arising from the presence of *Bt* transgenic and herbicide-tolerant GM white corn (aka Tortilla Corn) in the Mexican food supply.

FOE is a member of the world's largest network of grassroots environmental organizations with groups in 74 countries, including Otros Mundos in Mexico. Our membership includes over 4 million members and activists with funding from a diverse set of foundations and individuals. FOE is engaged in a number of projects exploring opportunities to enhance soil health, minimize agriculture's environmental footprint, and advance human and animal health and farmer well-being. Dr. Kendra Klein is the Deputy Director of Science and has published widely on the interface of agricultural systems, the environment, and human health. Dr. Charles Benbrook has conducted research since the 1980s on many aspects of GMO foods and farming systems. He has published multiple papers on the impacts of GM cultivars on pesticide use, food nutritional quality, and food safety.

Neither FOE nor Drs. Klein and Benbrook have relationships with parties to this dispute. No funding will be received or paid to Klein, Benbrook, or FOE associated with the comments we hope to provide the tribunal.

Our written submission will address potential adverse human health effects arising from ingestion of GM Tortilla Corn. We will document why existing GM corn research and risk assessments do not address adequately the ways GM Tortilla corn could undermine the health of Mexican consumers.

#### 1. Specific issues of fact.

- The varieties and volumes of GM white corn that are currently planted in Mexico or grown in countries shipping GM white corn to Mexico.
- The levels of expression of different *Bt* endotoxins in kernels derived from the above-noted GM white corn varieties in light of their specific transgenic events.
- Are "appropriate" GM white corn human-health risk assessments available that encompass food safety and nutritional quality, and impacts on metabolism, pregnant women, children's development, and GI-tract and microbiome integrity?
- Lack of long-term *in vivo* animal studies and relevant epidemiological assessments in a population in which corn accounts for substantial average daily caloric intake.
- The distribution and percent of daily calories from GM white corn across the Mexican and US populations.
- How the minimal processing of GM white corn as incorporated in the Mexican food supply alters *Bt* endotoxin breakdown, metabolism, and excretion.
- The impacts of *Bt* endotoxins in GM white corn as they move along the human GI tract, with focus on the frequency and severity of leaky gut, irritable bowel syndrome, and Crohn's disease.

## 2. Specific issues of law.

In the US, government agencies do not carry out independent safety assessments of GM transgenic events, and instead have primarily relied upon assurances from technology developers that the food harvested from a GMO crop is “safe” and “substantially equivalent” to not-engineered varieties. Hence, GM white corn transformation events have not been studied and deemed safe by the US government. Does Mexican law and/or policy:

- Allow for approval of a GM transgenic event on the basis of food-safety assessments and assurances offered by private-sector, GM-crop technology developers?
- Include a mandate to ensure pesticides, and plant-incorporated protectants like *Bt*, do not harm vulnerable populations?

## 3. What constitutes an “appropriate risk assessment” (WTO SPS Agreement, Article 5.7) in the context of this dispute? Such a risk assessment would:

- Accurately quantify the levels and distribution of the *Bt* endotoxin intakes across the Mexican diet
- Identify the adverse human health impacts that might occur, based on properly designed and conducted *in vivo* animal studies, coupled with genomic sequencing of key target tissues and biofluids.
- Assess interactions of *Bt* endotoxin and glyphosate dietary intakes as both move through the human GI tract.
- Provide a basis to establish a legally acceptable and practical/affordable basis to distinguish for marketing purposes between GM and non-GM corn.<sup>1</sup>

## 4. Key gaps persist in existing GM-corn risk assessments conducted to support approval in the US of #2 yellow corn varieties because:

- Feed efficiency and growth performance of short-lived animals has been the focus, and not food safety, allergenicity, and the nutritional quality of meat, eggs, and dairy products.
- Short-term acute effects in livestock have been explored and not epigenetic, metabolic, or chronic health effects.

Our comments will provide an overview of the ways existing GM food crop risk assessments fall far short of what an “appropriate risk assessment” would encompass in the specific context of this dispute over GM Tortilla Corn in Mexico. Our comments will draw on a diversity of published science.

It is important for the tribunal to understand that the human health and environmental impacts of the GM white corn varieties will arise in complex ways and vary across population cohorts by age, genetics, and health status. Moreover, the combined impacts of heavier reliance of glyphosate-based herbicides and *Bt* endotoxins must be taken into account, especially on the health of the human GI tract.

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<sup>1</sup> Testing methods and corn import-export supply-chain provisions will be needed that allow the efficient flow of identity-preserved non-GM corn into and out of Mexico.



The fact that little science has been conducted on the human health impacts of contemporary GM white corn varieties should not be regarded by the tribunal as reassuring.

Sincerely,

Kendra Klein, PhD

A handwritten signature in black ink, appearing to read "Kendra Klein", with a stylized, cursive script.

Charles Benbrook, PhD

A handwritten signature in black ink, appearing to read "Charles Benbrook", with a cursive script.