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Safety Assessment Report

MZHGOJG line, a maize tolerant to glyphosate and glufosinate herbicides (Genetically Modified Foods and Feeds)

Food Safety Commission of Japan (FSCJ)
July 2017

ABSTRACT

FSCJ conducted a safety assessment of MZHGOJG line, a maize tolerant to glyphosate and glufosinate herbicides, based on the documents submitted by the applicant.

This line was generated through the introduction of mutated 5-enol pyruvylshikimate-3-phosphate synthase gene derived from maize and mutated phosphinothricin acetyltransferase gene derived from *Streptomyces viridochromogenes* strain Tü494. Insertions of these genes result in expressions of mutated 5-enol pyruvylshikimate-3-phosphate synthase (mEPSPS) protein and phosphinothricin acetyltransferase (PAT) protein, and thus MZHGOJG line becomes tolerant to glyphosate and glufosinate herbicides.

The documents, evaluated based on the “Standards for the Safety Assessment of Genetically Modified Foods (Seed Plants)” (Decision of the Commission dated 29 January 2004), included the safety of the inserted genes, toxicity and allergenicity of the protein produced from the inserted genes, post-insertion analysis of the nucleotide sequences, stability of the inserted genes in the successive generations, influence on metabolic pathways in plants, comparative characterization of nutrients and toxic ingredients in plants. Consequently, newly produced adverse effects are unlikely on humans derived from this line, based on the comparison between this line and the conventional counterpart.

Consequently, FSCJ concluded that no concern relevant to human health is raised on the MZHGOJG line, a maize tolerant to glyphosate and glufosinate herbicides.