

This is a provisional English translation of an excerpt from the original full report.

Safety Assessment Report

Maize resistant to coleopteran insect pests (MON95275 line) (Genetically Modified Food)

Food Safety Commission of Japan (FSCJ)
June 2025

ABSTRACT

The FSCJ conducted a safety assessment of “Maize resistant to coleopteran insect pests (MON95275 line).”

Maize line MON95275 was developed by introducing a partial fragment of the *Snf7* gene (*DvSnf7* gene) derived from Western corn rootworm (*Diabrotica virgifera virgifera*, hereafter referred to as “WCR”) in the form of an inverted repeat sequence, the *mpp75Aa1.1* transgene derived from *Brevibacillus laterosporus*, and the *vpb4Da2* transgene derived from *Bacillus thuringiensis* into the dent maize line LH244 (*Zea mays* subsp. *mays* (L.) Iltis) as a conventional variety. Expressions of double-stranded RNA (*DvSnf7* dsRNA), *Mpp75Aa1.1* protein, and *Vpb4Da2* protein confer resistance to coleopteran insect pests.

When WCR ingests this maize, the *DvSnf7* dsRNA is taken up into cells and suppresses the expression of the *DvSnf7* gene which is an essential for the maintenance of the physiological function of the cell via the RNA interference (RNAi), thereby exerting insecticidal activity. The *Mpp75Aa1.1* and *Vpb4Da2* proteins are selective insecticidal proteins that bind to receptors on the midgut epithelial cell membranes of coleopteran insects such as WCR, damaging the midgut tissue and thereby exhibiting insecticidal activity.

Referring to the “Guidelines for the Safety Assessment of Genetically Modified Foods (Seed Plants) ¹”, the FSCJ evaluated the safety of the donor of the inserted genes, the toxicity and allergenicity of the proteins expressed by the inserted genes, the base sequence analysis of the inserted genes, the stability of the inserted genes in successive generations, the effects on the metabolic pathways of the plant, and the comparative analysis of nutritional and toxic components. These evaluations indicated no additional factors that could impair safety in this line compared with non-recombinant maize.

Therefore, it has been concluded that “Maize resistant to coleopteran insect pests (MON95275 line)” is unlikely to pose concerns relevant to human health.

¹ Decision of the FSCJ dated January 29, 2004