



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

Safety Assessment Report

Low acrylamide potential and reduced black spot bruise potato (SPS-00E12-8)

(Genetically Modified Foods and Feeds)

Food Safety Commission of Japan (FSCJ)
May 2017

ABSTRACT

FSCJ conducted a safety assessment of low acrylamide potential and reduced black spot bruise potato (SPS-00E12-8), based on the documents submitted by the applicant.

This line was generated through introduction of DNA fragments derived from the host potato species, including a fragment of the asparagine synthetase-1 gene (Asn1); a fragment of the promoter region of R1 gene, which is associated with starch; and a fragment of the phosphorylase-L (PhL) promoter sequence. It is considered that the gene silencing induced by these fragments suppresses these endogenous genes (Asn1, R1 and PhL), resulting in reduced generation of acrylamide in high temperature processing. A fragment of the 3' terminal untranslated region of polyphenol-oxidase-5 (Ppo5) gene derived from a wild potato species closely related to the host, was also inserted, considered to suppress the endogenous gene (Ppo5) by inducing gene silencing, resulting in reduced black spot bruise.

The documents, evaluated based on the “Standards for the Safety Assessments of Genetically Modified Foods (seed plants)”¹, included the safety of the donor of the inserted DNA, post-insertion analysis of nucleotide sequence, stability of the inserted DNA in the successive generation, influences on metabolic pathways in the plants, comparative characterization of nutrients and toxic ingredients in the plants. Consequently, newly produced adverse effects on humans derived from this line are unlikely based on the comparison between this line and the conventional counterpart. The protein expression is unlikely from the inserted DNA.

Consequently, FSCJ concluded that no concern relevant to human health is raised on the low acrylamide potential and reduced black spot bruise potato (SPS-00E12-8).

¹ Decision of the Commission dated 29 January 2004.