



KRAV's GMO Risk List – Food 2023

Background

KRAV-certified companies must demonstrate that genetically modified organisms (GMOs) have not been used in certified production, and that the company has at least taken action according to this checklist to ensure that raw materials, additives and process aids do not contain GMOs or genetically modified (GM) materials.

The risk of contamination by GMOs or GM materials and unintentional contamination of a product depends in part on the raw materials used in the production. The raw materials for which there is a risk of contamination by GMOs are divided into two groups. Group 1 lists products with a high risk of contamination by GMOs or GM materials, and Group 2 lists products with a lower risk of contamination by GMOs or GM materials. The documentation requirements for a company are different for each of these two groups (see below for each group). For raw materials not included in any of the groups, no special action is required.

A certificate showing that a raw material is organic is a confirmation that the product is not made with or from GMOs. For some products however there is a risk of contamination from GMOs or GM materials from pollen or in the handling chain, and in that case sampling and analysis is the safest way to show that the product is free from GMO and GM materials.

For KRAV-certified food production, under certain conditions, small amounts of conventional ingredients can be included, at most 5%. If you use conventional ingredients, the manufacturer must submit a special certificate that the raw material or additive is not made using GMOs for the products we have listed. Products with a high risk of contamination by GMOs or GM materials also require sampling and analysis.

The KRAV Standards and the EU Regulation

According to the KRAV Standards as well as according to the EU regulation, traces of authorized GMOs or GM material in organic raw materials and products are acceptable if the portion does not exceed 0.9%,¹ providing that the contamination is unintentional. Unlike the EU regulation, KRAV requires analysis of each consignment if the raw material or product belongs to the high-risk group.

¹ For GMOs of a type not approved by the EU, there is a limit of 0.1% for all products and raw materials (source: Article 16.2 in regulation 1829/2003).



Risk List

Group 1. Products with a High Risk of Contamination by GMOs or GM Materials

Group 1 includes the following types of products:

1. Products from crops where there is commercial or field-scale cultivation of GMO crops on a large-scale. If commercial cultivation does not occur within the EU, and only exists in a few other countries, the countries concerned are given in the "From" column.
2. Products from GMO crops marketed in the EU in significant volumes.
3. There are known cases of GMO contamination, possibly from a particular country (given in the "From" column), though there is no commercial cultivation. An example is flax from Canada, where GMOs were found as late as 2009, even though commercial cultivation of GMO flax in Canada ended in 1998.

RAW MATERIALS AND PRODUCTS	FROM*	COMMENTS
flaxseed	Canada	E.g. whole flaxseed, crushed flaxseed
maize and maize products	All countries	E.g. maize, popcorn, cornflakes, corncakes, tortillas, corn chips, cheesies, flour, fibre
rice and rice products	China, USA, Iran, Australia, New Zealand	E.g. rice, rice cakes
soya and soya products	All countries	E.g. soya beans, soya, tofu products, soya drinks, protein powder, soybean flour, soya protein, soya concentrate and soya protein isolate, fibre
sugar beets and sugar beet products	USA, Canada	e.g. raw sugar, syrup
Wheat	Argentina	e.g. wheat flour, wheat bran
Papaya and papaya products	China, USA, Thailand	

* "From" refers to countries where the product is cultivated.



Verification Requirements for Raw Materials

No further verification is required for **KRAV-certified raw materials**.

For **organic raw materials** that are not KRAV-certified:

- Sampling and analysis for each consignment of raw material. Analysis results should be traceable to the consignment concerned. The content of GMOs or GM material must not exceed 0.9%.² (Read more under the heading "Sampling and Analysis".)

For **conventional raw materials**:

- GMO-free certificate.
- Sampling and analysis for each consignment of raw material. Analysis results should be traceable to the consignment concerned. The content of GMOs must not exceed 0.9%.² (Read more under the heading "Sampling and Analysis".)

Group 2. Products with a Lower Risk of Contamination by GMOs or GM Materials

Group 2 includes the following types of products:

1. Highly processed³ products from crops where there is commercial or field-scale cultivation of GMO crops on a large-scale.
2. Highly processed products from GMO crops marketed in the EU in significant volumes.
3. Raw materials and products from crops where there is experimental cultivation, but no commercial cultivation, at least not on a large-scale.
4. Raw materials and products from GM crops approved for marketing within the EU, but for which there is no extensive trade.
5. Products that might be produced from genetically modified microorganisms (GMMOs).

² For GMOs of a type not approved by the EU, there is a limit of 0.1% for all products and raw materials (source: Article 16.2 and "Whereas" (26) in Regulation 1829/2003).

³ "Highly processed" products refers in this context to products where the raw materials have been subjected to a process that makes it not meaningful to carry out a GMO analysis.



**2a Products that Might Be Produced With or Contain GMOs
(Genetically Modified Organisms)**

RAW MATERIALS AND PRODUCTS	FROM*	COMMENTS
highly processed cotton seed products	all countries	e.g. cottonseed oil
highly processed linseed products	Canada	e.g. linseed oil
highly processed maize products	all countries	e.g. corn oil, fructose, glucose (dextrose), maltose (malt sugar), maltodextrin, dextrose (glucose syrup), xylose (wood sugar), starch, ethanol (alcohol), HVP (hydrolysed plant proteins)
highly processed canola seed products	Kanada, USA, Chile, Australien	e.g. canola seed oil
highly processed soya products	all countries	e.g. HVP (hydrolysed plant proteins), note that lecithin (E 322) must come from organic crops beginning in 2019.
rice	all countries other than China, USA, Iran, Australia, New Zealand	
highly processed rice products	China, USA, Iran, Australia, New Zealand	e.g. rice starch
cane sugar and other cane sugar products	Brazil, Indonesia	e.g. raw sugar, syrup

* **"From"** refers to countries where the product is cultivated.



Verification Requirements

No further verification is required for **KRAV-certified raw materials and organic raw materials**.

For conventional raw materials:

- GMO-free certificate.

2b Products that Might Be Produced With or Contain GMMOs (Genetically Modified Microorganisms)

ADDITIVES AND PROCESS AIDS	COMMENTS
enzymes	rennet (chymosin), amylase, pectinase, protease
antioxidants	ascorbic acid (E300), citric acid (E330) calcium citrate (E333), tartaric acid (E334), sodium (E335), potassium tartrate (E336)
flavourings	
vitamins	carotenes (vitamin A), ascorbic acid (vitamin C), vitamin D, tocopherol (vitamin E), B12
yeast	a certificate is not required for baker's yeast
bacterial preparations, microorganisms	lactic acid culture, mould culture, butyric acid culture
acetic acid (from fermentation)	
sodium benzoate (E211)	
lactic acid (E270)	
alginic acid (E400)	
sodium alginate (E401)	
potassium alginate (E402)	
xanthan gum (E415)	



Verification Requirements

For **additives and process aids**:

- A GMO-free certificate concerning the microorganisms used in the process. (For yeast and bacterial preparations, the certificate must be with reference to the product. The content of GMMOs must in that case be no greater than 0.9%.)

GMO-free Certificate

A GMO-free certificate can be based on that the crop is grown in a country where there is no GMO cultivation of the crop concerned, and that it can be shown that segregation in further stages in the production have been maintained, i.e. that the consignment is only handled in systems where there are no GMOs or in closed containers.

A GMO-free certificate can also be based on that sampling takes place at critical control points according to the principles of the IP system (Identity Preservation System).

The certificate must state: The name and address of the producer, and the product's name and consignment number.

The certificate shall correspond to the following:

“I declare that this product was manufactured neither ‘from’ nor ‘with’ GMOs according to the definition in Article 3 and of the Regulation (EU) 2018/848.

If any information comes to light which would undermine the accuracy of this declaration, I undertake to immediately inform our customer and the control body/authority to which they are placed under.”

Sampling and Analysis

- Sampling and analysis must be done in accordance with EU Commission Recommendation 2004/787/EC.
- The documentation must show that the sample and results of the analysis are regarding the consignment.

Screening for GMOs with PCR analysis is the standard method of analysis. Parameters that must be checked are:

- that the screening is done for all the relevant GMOs.
- that the method is adequately sensitive. KRAV requires a quantification limit of 0.1%.