



MZIR098 Maize

**EU Authorisation for food, feed, import and
processing**

Information for Operators

September 2021

Introduction

This document summarizes the main characteristics of MZIR098 maize and the requirements for post-market environmental monitoring of all operators handling viable grain from this product. It also includes references to the relevant detection method and contact points for operators to report on general surveillance activities and on any unanticipated adverse effects.

Characteristics and benefits of MZIR098 maize

Maize is susceptible to attack by a variety of insects from the time it is planted until it is consumed as food or feed. Genetically modified event MZIR098 maize has been developed by Syngenta to provide growers with maize hybrids that are resistant to feeding damage caused by certain coleopteran insect pests such as *Diabrotica virgifera virgifera* (Western corn rootworm) and related *Diabrotica* species.

Protection against certain coleopteran insect pests is provided through the expression of the modified mCry3A and engineered eCry3.1Ab proteins. The native Cry3A from the soil bacterium *Bacillus thuringiensis* (*Bt*) subsp. *tenebrionis* is active against certain coleopteran pests. The modified protein mCry3A produced by MZIR098 maize has enhanced activity against Western corn rootworm (*Diabrotica virgifera virgifera*) and other related coleopteran pests of maize. The engineered protein eCry3.1Ab is a chimera of mCry3A and Cry1Ab that is also active against *D. virgifera virgifera* and other related pests of maize. The native Cry1Ab from *B. thuringiensis* subsp. *kurstaki* is active against certain lepidopteran pests; however, the portion of Cry1Ab included in eCry3.1Ab has not preserved the activity of Cry1Ab against lepidopterans.

MZIR098 maize also expresses the enzyme phosphinothricin acetyltransferase (PAT) which confers tolerance to glufosinate-ammonium in herbicide products. PAT was used as a selectable marker in the development of MZIR098 maize.

Safety of MZIR098 maize

The safety of Syngenta's products for humans, animals and the environment is of paramount importance. MZIR098 maize has been assessed and endorsed by numerous independent scientific committees around the world. These conclusions have been based on a full range of scientific studies, including tests which examined the potential for human and animal health effects of the product, nutritional equivalency, the effects of the introduced genes and proteins, and the potential impacts of the maize on the environment.

EFSA evaluation of MZIR098 maize for food, feed, import and processing in the EU

On 2 May 2017, the European Food Safety Authority (EFSA) received from the German competent authority an application for authorisation of MZIR098 maize submitted by Syngenta Crop Protection NV/SA within the framework of Regulation (EC) No 1829/2003 on GM food and feed. The EFSA Panel on Genetically Modified Organisms (GMO Panel) published its scientific opinion¹ on 26 June 2020, and concluded that MZIR098 maize is as

¹ EFSA GMO Panel (EFSA Panel on Genetically Modified Organisms), Naegeli H, Bresson J-L, Dalmay T, Dewhurst IC, Epstein MM, Firbank LG, Guerche P, Hejatko J, Moreno FJ, Mullins E, Nogué F, Rostoks N, Sánchez Serrano JJ, Savoini G, Veromann E, Veronesi F, Álvarez F, Ardizzone M, De Sanctis G, Devos Y, Dumont AF, Gennaro A, Gómez Ruiz JÁ, Lanzoni A, Neri FM, Papadopoulou N, Paraskevopoulos K and Raffaello T, 2020. Scientific Opinion on the assessment of genetically modified maize MZIR098 for food and feed uses, under Regulation (EC) No 1829/2003 (application EFSA-GMODE-2017-142). EFSA Journal 2020;18(6):6171, 28 pp. <https://doi.org/10.2903/j.efsa.2020.6171>.

safe as its conventional counterpart and the non-GM maize reference varieties tested with respect to potential effects on human and animal health and the environment.

Authorisation in the EU of MZIR098 maize for food, feed, import and processing

The Commission Implementing Decision of 17 August 2021 authorising the placing on the market of products containing, consisting of or produced from genetically modified maize MZIR098 (SYN-ØØØ98-3), pursuant to Regulation (EC) No 1829/2003 of the European Parliament and of the Council is published at:

https://eur-lex.europa.eu/eli/dec_impl/2021/1390/oj

The following products are authorised for the purposes of Articles 4(2) and 16(2) of Regulation (EC) No 1829/2003 in accordance with the conditions set out in this Decision:

- (a) foods and food ingredients containing, consisting of or produced from genetically modified maize SYN-ØØØ98-3;
- (b) feed containing, consisting of or produced from genetically modified maize SYN-ØØØ98-3;
- (c) products containing or consisting of genetically modified maize SYN-ØØØ98-3 for uses other than those provided for in points (a) and (b), with the exception of cultivation.

The Decision does not include the need of specific conditions or restrictions for the placing on the market, for the use and handling, including post-market monitoring requirements regarding the consumption of the food and feed, or for the protection of particular ecosystems/environment or geographical areas, as provided for in Article 6(5)(e) and Article 18(5)(e) of Regulation (EC) No 1829/2003.

However, the Commission Decision mandates the monitoring for environmental effects in accordance with the environmental monitoring plan for MZIR098 maize conforming with Annex VII of Directive 2001/18/EC. For more information, please visit the EU Register of authorised GMOs:

https://webgate.ec.europa.eu/dyna/gm_register/gm_register_auth.cfm?pr_id=124

Conditions for traceability and labelling of MZIR098 maize for food, feed, import and processing in the EU

The legal obligations relating to traceability and labelling are laid down in Articles 13(1) and 25(2) of Regulation (EC) No 1829/2003 and in Article 4(6) of Regulation (EC) No 1830/2003.

For the purposes of the labelling requirements laid down in Article 13(1) and Article 25(2) of Regulation (EC) No 1829/2003, and in Article 4(6) of Regulation (EC) No 1830/2003, the ‘name of the organism’ shall be ‘maize’.

The words ‘not for cultivation’ shall appear on the label of and in documents accompanying the products containing or consisting of genetically modified maize SYN-ØØØ98-3, with the exception of products referred to in point (a) of Article 2 of the Commission Implementing Decision (foods and food ingredients containing, consisting of or produced from genetically modified maize SYN-ØØØ98-3).

The unique identifier assigned to MZIR098 maize is: SYN-ØØØ98-3.

Post-market monitoring of MZIR098 maize for food, feed, import, and processing in the EU

The Decision does not require post-market monitoring for the use of the food for human consumption.

As required by Article 5(5)(b) and 17(5)(b) of Regulation (EC) No 1829/2003 a Post-Market Environmental Monitoring Plan for MZIR098 maize has been developed according to the principles and objectives outlined in Annex VII of Directive 2001/18/EC and Decision 2002/811/EC establishing guidance notes supplementing Annex VII to Directive 2001/18/EC.

The monitoring plan for environmental effects is accessible on the internet at the EU Register of authorised GMOs: [Monitoring plan for environmental effects conforming with Annex VII to Directive 2001/18/EC](#)

Methods for detection and reference material

An event-specific, real-time quantitative PCR-based method for the detection of MZIR098 maize is validated by the European Union Reference Laboratory established under Regulation (EC) No 1829/2003, published at <http://gmo-crl.jrc.ec.europa.eu/StatusOfDossiers.aspx>.

Certified Reference Material for MZIR098 maize is accessible via the American Oil Chemists Society (AOCS) at <https://www.aocs.org/crm>.

Contact point for Operators

As there are other technology providers for genetically modified maize it is essential to develop an industry wide approach because the shipments entering the European ports may be comingled. CropLife Europe plays an important role in this area and is the central communication point for all GM plant technology providers.

CropLife Europe is the primary address for reporting general surveillance activities or any unanticipated adverse effects, and is skilled to provide adequate response. In addition, CropLife Europe will transfer the messages to the relevant GMO industry partner if further action is required. Operators are requested to report, if possible via their branch representative, any unanticipated adverse effect to CropLife Europe at: <https://croplifeurope.eu/product-information/>.

If required, additional comments or questions relative to MZIR098 maize can also be addressed to:

Syngenta Crop Protection NV/SA
Avenue Louise 489
B-1050 Brussels
Belgium
Phone: +32 2 642 27 27
www.syngenta.com