

**MON 89034 x 1507 x MON 88017 x 59122
maize**

Genuity® SmartStax®

Insect protection and herbicide tolerance

Key Facts

**Bayer Agriculture BV¹ and
Corteva Agriscience LLC²
October 2024**



¹ Hereafter referred to as “Bayer”

² Hereafter referred to as “Corteva”

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What is MON 89034 x 1507 x MON 88017 x 59122?

MON 89034 x 1507 x MON 88017 x 59122 is a traditionally bred maize, produced by the crossing of four genetically modified (GM) maize lines: MON 89034, 1507, MON 88017 and 59122.

MON 89034 x 1507 x MON 88017 x 59122 combines the traits of agronomic interest from the four parental lines, *i.e.* protection against certain lepidopteran and coleopteran insect pests and tolerance to the glufosinate-ammonium and the glyphosate herbicides.

Insect protection

MON 89034 is a second-generation GM insect-protected maize developed by Monsanto Technology LCC³, following the widely planted MON 810⁴. It carries a gene coding for Cry1A.105 protein and a gene coding for Cry2Ab2 which protect the plants from feeding damage caused by the European corn borer (*Ostrinia nubilalis*) and other lepidopteran (moths and butterflies) insect pests.

1507 is a GM maize developed by Corteva Agriscience. It carries a gene coding for the Cry1F protein which provides protection against a broad spectrum of lepidopteran insect pests.

MON 88017 is a GM maize developed by Monsanto Technology LCC³. It carries a gene coding for the Cry3Bb1⁵ protein which is selective for coleopterans (Chrysomelidae) of the *Diabrotica* family.

59122 is a GM maize developed by Corteva Agriscience. It carries a gene coding for the Cry34Ab1 protein and a gene coding for the Cry35Ab1 protein. The two proteins act together to provide protection against the larval stage of the corn root worm insect pests.

Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34Ab1 and Cry35Ab1 insecticidal proteins in a single plant provides improved insect control.

Herbicide tolerance

1507 and 59122 also expresses the phosphinothricin acetyltransferase (PAT) protein which provides tolerance to glufosinate-ammonium herbicide.

MON 88017 also expresses the 5-enolpyruvyl-shikimate-3-phosphate synthase (EPSPS) enzymes derived from the CP4 strain (CP4 EPSPS) which provides tolerance to glyphosate herbicide.

Regulatory status of

MON 89034 x 1507 x MON 88017 x 59122 in the EU

MON 89034 x 1507 x MON 88017 x 59122 and eight of its sub-combinations⁶ are authorised⁷ for

- (1) Foods and food ingredients containing, consisting of, or produced from the GMOs;
- (2) Feed containing, consisting of, or produced from the GMOs;
- (3) Products containing or consisting of GMOs for uses other than those provided for in points (1) and (2), with the exception of cultivation.

Traceability, labelling, unique identifier

Operators handling or using MON 89034 x 1507 x MON 88017 x 59122 and derived foods and feeds in the EU are required to be aware of the legal obligations regarding traceability and labelling of these products, laid down in Regulations (EC) No 1829/2003 and 1830/2003.

The unique identifiers covered by the renewal authorisation⁷ are

MON-89034-3 x DAS-01507-1 x MON-88017-3 x DAS-59122-7;

MON-89034-3 x DAS-01507-1 x MON-88017-3;

MON-89034-3 x DAS-01507-1 x DAS-59122-7;

MON-89034-3 x MON-88017-3 x DAS-59122-7;

DAS-01507-1 x MON-88017-3 x DAS-59122-7;

MON-89034-3 x DAS-01507-1;

MON-89034-3 x DAS-59122-7;

DAS-01507-1 x MON-88017-3;

MON-88017-3 x DAS-59122-7.

³ Now Bayer CropScience LP

⁴ MON 810 maize, commercialised since 1997, expresses the *Bacillus thuringiensis* Cry1Ab protein which confers protection to certain lepidopteran pests, including the European corn borer (*Ostrinia nubilalis*) and the Mediterranean corn stalk borer (*Sesamia* spp.).

⁵ The amino acid sequences of the Cry3Bb1 proteins expressed respectively in MON 88017 and MON 863 share an identity of 99.8% (they differ by only one of 653 amino acid residues). MON 863 is a similar maize product that provides protection against coleopteran pests (Chrysomelidae).

⁶ MON 89034 x 1507 x MON 88017 x 59122 and eight of its sub-combinations, hereafter referred to as GMOs

⁷ [2024/2629 - COMMISSION IMPLEMENTING DECISION \(EU\) 2024/2629 of 8 October 2024 renewing the authorisation for the placing on the market of products containing, consisting of or produced from genetically modified maize MON 89034 x 1507 x MON 88017 x 59122 and eight of its sub-combinations pursuant to Regulation \(EC\) No 1829/2003 of the European Parliament and of the Council.](#) Accessed on 10 October 2024.

Food, feed and environmental safety of MON 89034 x 1507 x MON 88017 x 59122

In its 2024 opinion⁸, the EFSA GMO Panel concludes that “*there is no evidence in renewal dossier GMFF-2022-9170 for new hazards, modified exposure or scientific uncertainties that would change the conclusions of the original risk assessment⁹ on maize MON 89034 x 1507 x MON 88017 x 59122 and 8 out of 10 of its sub-combinations*”.

Contact point for further information

Since traders may commingle MON 89034 x 1507 x MON 88017 x 59122 with other commercial maize, including authorised GM maize, Bayer and Corteva are working together with other members of the plant biotechnology industry within the CropLife Europe and trade associations representing the relevant operators in order to implement a harmonised monitoring methodology.

Operators in the food and feed supply chain and/or any other person wishing to report a potential adverse effect associated with the use of Bayer/Corteva products, can refer to the CropLife Europe website at:

<https://croplifeeurope.eu/product-information/>

If required, additional comments or questions relative to MON 89034 x 1507 x MON 88017 x 59122 maize can also be addressed to Bayer or Corteva at:

<https://www.crops.bayer.com/en/support/contact-us>

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⁸ [Assessment of genetically modified maize MON 89034 x 1507 x MON 88017 x 59122 and 8 out of 10 of its sub-combinations for renewal authorisation under Regulation \(EC\) No 1829/2003 \(dossier GMFF-2022-9170\)](#). Accessed on 10 October 2024.

⁹ [Scientific Opinion on application \(EFSA-GMO-CZ-2008-62\) for the placing on the market of insect resistant and herbicide tolerant genetically modified maize MON 89034 x 1507 x MON 88017 x 59122 and all sub-combinations of the individual events as present in its segregating progeny, for food and feed uses, import and processing under Regulation \(EC\) No 1829/2003 from Dow AgroSciences and Monsanto and Statement complementing the EFSA GMO Panel scientific opinion on maize MON 89034 x 1507 x MON 88017 x 59122 \(application EFSA-GMO CZ-2008-62\), to cover all sub-combinations independently of their origin](#). Accessed on 10 October 2024.