

APPENDIX 3

LITERATURE SEARCH TO SUPPORT GENERAL SURVEILLANCE OF 2021/2022 ANNUAL POST MARKET ENVIRONMENTAL MONITORING REPORTS OF MON 810 MAIZE

Data protection.

This application contains scientific data and other information which are protected in accordance with Art. 31 of Regulation (EC) No 1829/2003.

© 2022 Bayer Group. All Rights Reserved.

This document is intellectual property of Bayer protected under national and international intellectual property laws. This document and any accompanying materials shall only be used by the regulatory authority to which it has been submitted by Bayer and only in support of or in conjunction with actions and/or applications requested and/or submitted by Bayer. Any other use, copying or transmission, including internet posting or scientific peer-reviewed publications, of this document and any materials described in or accompanying hereof, without prior consent of Bayer, is strictly prohibited, save for the cases where has expressly granted such consent to the regulatory authority, by virtue of law or in writing. The information, materials or data described in or accompanying this document are owned by Bayer holding exclusive rights to such intellectual property. By submitting this document and any accompanying materials, Bayer does not grant any person and/or entity any right or license to either of the information, materials, data or intellectual property described or contained herein.

Table of contents

SUMMARY	4
1. INTRODUCTION	5
2. FORMULATING THE REVIEW QUESTION AND CLARIFYING ITS PURPOSE	5
3. SEARCHING FOR/ IDENTIFYING RELEVANT PUBLICATIONS.....	7
3.1. Sources of scientific literature.....	7
3.1.1. Electronic bibliographic databases	7
3.1.2. Internet (world-wide-web) pages of relevant key organisations.....	8
3.2. Search strategy (electronic databases)	8
3.2.1. Search terms and search strings	8
3.2.2. Limits applied	9
3.2.3. Language.....	9
3.2.4. Time period.....	10
3.2.5. Reference publications	10
3.3. Search strategy (relevant key organisations).....	10
4. SELECTING PUBLICATIONS.....	10
4.1. Eligibility screening process	10
4.2. Reviewers	11
4.2.1. Number of reviewers.....	11
4.2.2. Expertise of reviewers.....	11
4.2.3. Inter-reviewer agreement	11
4.3. Classification of publications	11
4.4. Quality appraisal of the relevant publications	12
5. REPORTING THE DATA AND CONSIDERING THE IMPLICATIONS OF THE FINDINGS	13
5.1. Search outcomes	13
5.1.1. Outcomes of literature search (electronic databases).....	13
5.1.2. Outcomes of literature search (relevant key organisations).....	13
5.2. Results of the publication selection process	13
5.2.1. Results of the publication selection process (electronic databases).....	13
5.2.2. Results of the publication selection process (relevant key organisations).....	13
5.3. Considering the implications of the findings	13
6. CONCLUSION	14

Annex I.	Translation of intervention/exposure key elements into search terms for MON 810 maize literature search in STN® database catalogue	15
Annex II.	The search string used for MON 810 maize literature search in SciSearch and CABA databases using STN® database catalogue, and outcomes of the search (2021-2022).....	21
Annex III.	List of reference publications used in identifying search terms and in validating the literature search strategy for MON 810 maize literature search.....	35
Annex IV.	Literature search in internet pages of relevant key organisations for MON 810 maize covering time span 2021 - 2022	36
Annex V.	Results of the publication selection process for MON 810 maize literature search in SciSearch and CABA databases using STN® database catalogue..	38
Annex VI.	List of relevant publications retrieved from SciSearch and CABA databases using STN® database catalogue (provided in .RIS format).....	46

SUMMARY

The literature search was conducted in accordance with the 2019 EFSA explanatory note on literature searching conducted in the context of GMO applications^{1,2} to support general surveillance of 2021/2022 annual post market environmental monitoring reports. It addresses the review question “Do MON 810 maize, derived food/feed products and its respective introduced trait have adverse effects on human and animal health and the environment?”.

Eligibility/inclusion criteria to establish the relevance of retrieved publications was determined following the criteria described in the 2019 EFSA explanatory note on literature searching². Literature searching for MON 810 was conducted in electronic bibliographic databases and internet pages of relevant key organisations.

In line with the requirements in the 2019 EFSA explanatory note on literature searching² the literature search covered the time span 2021 – 2022 to capture any publication published during the annual general surveillance of 2021/2022 post market environmental monitoring season.

The literature search retrieved seven publications as relevant. These publications did not have any implication on the risk assessment, because no new hazard, modified exposure, or new scientific uncertainty is reported.

The comprehensive literature search found no new information that would invalidate the conclusions of the risk assessment for MON 810

¹ Hereafter referred to as 2019 EFSA explanatory note on literature searching.

² EFSA, 2019. [Explanatory note on literature searching conducted in the context of GMO applications for \(renewed\) market authorisation and annual post-market environmental monitoring reports on GMOs authorised in the EU market - Note on literature searching to GMO risk assessment guidance. EFSA journal, 2019:EN-1614, 1-62.](#) – Accessed on 19 September 2022

1. INTRODUCTION

As part of the general surveillance requirements for MON 810 authorised in the European Union (EU) market under regulation (EC) No 1829/2003, Bayer Agriculture³ has actively monitored MON 810 by conducting quarterly literature searches covering the time span between June 2021 and May 2022.

The results of the literature search that were analysed in detail according to the relevance for the risk assessment of 810 are presented here.

The Appendix completeness checklist is provided with this report.

2. FORMULATING THE REVIEW QUESTION AND CLARIFYING ITS PURPOSE

This literature search has been conducted to address the review question “Do MON 810 maize, derived food/feed products and respective introduced traits have adverse effects on human and animal health and the environment?”

The purpose for undertaking this literature search is to support general surveillance of 2021/2022 annual post market environmental monitoring (PMEM) reports in accordance with the 2019 EFSA explanatory note on literature searching².

Key elements used for the review question are humans, animals, and/or the environment (= population), MON 810, derived food/feed products and respective introduced traits (= intervention/exposure), conventional counterpart or non-GM maize (= comparator), and adverse effect on human and animal health, and the environment (= outcomes). Accordingly, the eligibility criteria for assessing the relevance of publications for inclusion in the literature review are provided in **Table 1**.

³ EC, 2003. [REGULATION \(EC\) No 1829/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 September 2003 on genetically modified food and feed](#). – Accessed 19 September 2022

Table 1. Eligibility/inclusion criteria to establish the relevance of publications

Key elements	Criteria
Population	Humans, animals and the environment (taking into account the scope of the applications) <i>i.e.</i> authorisation for all uses as any other maize including the cultivation of MON 810 maize are addressed as general protection goals.
Intervention/exposure	MON 810 maize derived food/feed products and correspondent introduced traits addressed in the publication are identical or similar to those under scientific review by the EFSA.
Comparator	In case of a comparative study that uses the GM plant material as test material, eligible publications must report a non-GM maize as a comparator.
Outcomes	Adverse effects on human and animal health and the environment are addressed (taking into consideration the scope of the applications).
Additional key elements	
Information/ data requirements, including source of publications data	The publication potentially contributes to the knowledge of the risk assessment of MON 810 maize intended for all uses as any other maize including cultivation. Original/primary data are presented in the publication.

The eligibility/inclusion criteria implemented by Bayer for assessing the relevance of publications follow the recommendations described in the 2019 EFSA explanatory note on literature searching². Following a conservative approach, Bayer selected the broad inclusion/eligibility criteria that align with the review question and the scope of MON 810' authorisations. Hence, given the conservative approach taken when selecting the eligibility/inclusion criteria, conducting a pilot study was considered unwarranted.

When necessary, the eligibility criteria and/or process may be modified/reviewed as a result of for example new regulatory guidance or novel topics on literature regarding the risk assessment of GM plants.

3. SEARCHING FOR/ IDENTIFYING RELEVANT PUBLICATIONS

In accordance with the 2010 EFSA Guidance on application of systematic review methodology to food and feed safety assessments to support decision making⁴ and the 2019 EFSA explanatory note on literature searching², identification of bibliographic sources and development of search strategies were developed together with an information specialist who subsequently performed the literature search. The approach used to develop the search strategy follows a lumping method and includes a wide range of free-text terms and, where available, controlled vocabulary that defines search terms.

3.1. Sources of scientific literature

3.1.1. Electronic bibliographic databases

Bayer and Corteva selects the SciSearch (Science Citation Index)⁵ and the CABA⁶ (CAB Abstracts®)⁷ databases to perform the literature search based on the coverage and relevance of the journals included in these databases. The literature search was conducted using the STN® database catalogue⁸.

The SciSearch, produced by from Clarivate Analytics (UK) Limited, includes over 45 million records in Science and technology published since 1974. It includes literatures captured under Science Citation Index Expanded™, a largest multidisciplinary scientific database and an international index covering all scientific topics. It contains also all the records published from the Current Contents series of publications as well as bibliographic information and cited references from over 5 600 scientific, technical and medical journals. In addition, “*Records from January 1991 on include abstracts, author keywords, and KeyWords Plus®. Bibliographic information, authors, cited references, and KeyWords Plus® are searchable*”⁵. The database is updated on a weekly basis.

The CABA, produced by CAB international (UK), includes over 8.9 million records in agriculture and life sciences published since 1973. The database “*covers worldwide literature from all areas of agriculture and related sciences including biotechnology, forestry, and veterinary medicine. Sources for CABA include journals, books, reports, published theses, conference proceedings, and patents. Bibliographic information, indexing terms, abstracts, and CAS Registry Numbers are searchable. An online thesaurus is available for the Con-trolled Term (/CT), the Geographic term (/GT), and the Organism (/ORGN) fields*”⁶. The database is updated on a weekly basis.

All journals included in the two databases must go through a verification process and as a minimum requirement, non-English language journals must include English-language bibliographic information (title, abstract, keywords) and be peer-reviewed^{7,9}. In general, English is considered the universal language of science. For this reason, the journals most important to the international research community will publish either full text or a

⁴ EFSA, 2010. [Application of systematic review methodology to food and feed safety assessments to support decision making The EFSA Journal, 1637, 1-90](#) - Accessed on 19 September 2022

⁵ STN/SciSearch: <https://www.stn-international.com/sites/default/files/stn/dbss/SCISEARCH.pdf> - Accessed on 19 September 2022

⁶ STN/CABA: <https://www.stn-international.com/sites/default/files/stn/dbss/CABA.pdf> – Accessed on 19 September 2022

⁷ CAB Abstracts®: <https://www.cabi.org/publishing-products/online-information-resources/cab-abstracts/> - Accessed on 19 September 2022

⁸ STN®: <http://stn-international.de/sites/default/files/STN/brochures/stnfile-kat.pdf>- Accessed on 19 September 2022

⁹ Web of Science group; <https://clarivate.com/webofsciencgroup/solutions/webofscience-core-collection-editorial-selection-process/> - Accessed on 19 September 2022

minimum of bibliographic information in English, which is especially true in the scientific domain of natural sciences. Full text in English is highly desirable if the journal intends to serve an international community of researchers. Therefore, it is expected that even if there is a relevant article for the food and feed safety of GM plants in a language different than English, the article will include title/abstract/keywords in English, which will guarantee the retrievability of these articles when using keywords and keyword combinations in English.

Based on the above, the selected databases are, to our knowledge, comprehensive, multidisciplinary, conservative sources for literature searching and offer the broadest coverage to retrieve a largest breadth of possible relevant publications. Therefore, additional search sources are not deemed necessary.

3.1.2. Internet (world-wide-web) pages of relevant key organisations

In accordance with the 2019 Explanatory note on literature searching for GMO applications², the search in electronic bibliographic databases has been complemented with internet search in webpages of relevant key organisations involved in the risk assessment of GM plants.

Of the 14 key organisations cited in the 2019 Explanatory note on literature searching for GMO applications EFSA, 2019, nine¹⁰ are involved in risk assessment of MON 810 maize. Three of the remaining five (CIBIOGEM, Environment and Climate Change Canada and OECD) are not involved in GM risk assessment while the other two (OGTR and GEAC), for the time being, only assess GM cotton and oilseed rape. Therefore, the internet search focused on the nine key organisations relevant for MON 810 maize.

3.2. Search strategy (electronic databases)

3.2.1. Search terms and search strings

The intervention/exposure key elements were defined and translated into search terms. These search terms were identified following the below listed approaches in line with the 2019 EFSA explanatory note on literature searching²:

- assessing words in reference publications,
- assessing subject indexing terms,
- searching for synonyms and related terms and
- consulting experts and stakeholders.

Following the aforementioned approaches, possible synonyms, related terms, abbreviations including acronyms and truncations, old and new as well as lay and scientific terminologies, brand and generic names, and spelling variants including common typos of the search terms were considered. Where applicable, the search was also adapted to controlled vocabulary (subject indexing). The search terms were designed

¹⁰ Internet pages of the relevant key organisations for MON 810 maize:

US EPA (<https://www.epa.gov/environmental-topics/science-topics>) - Accessed on 25 August 2022;

USDA (<https://www.usda.gov/media>) - Accessed on 25 August 2022;

US FDA (<https://www.fda.gov/>) - Accessed on 25 August 2022;

CFIA (<http://www.inspection.gc.ca/eng/1297964599443/1297965645317>) - Accessed on 25 August 2022;

Health Canada (<https://www.canada.ca/en/health-canada.html>) - Accessed on 25 August 2022;

FSANZ (<http://www.foodstandards.gov.au/Pages/default.aspx>) - Accessed on 25 August 2022;

CTNBio (<http://ctnbio.mctic.gov.br/>) - Accessed on 25 August 2022;

CONABIA (<https://www.argentina.gob.ar/>) - Accessed on 25 August 2022;

Japan MAFF (<http://www.maff.go.jp/e/>) - Accessed on 25 August 2022.

to give an excellent coverage and retrieve the broadest possible number of articles related to MON 810 maize.

The translation of the intervention key elements into search terms are presented in **Annex I**. The search terms, the fields and the Boolean operators used to combine them were defined as shown in **Annex II**. The search strings were built following the STN[®] commands¹¹ to allow the literature search in the STN[®] database catalogue. The free-text search terms, controlled vocabulary and the search strings are updated upon identification of a new search term.

The search sets belonging to each key element as described in **Annex I** and **Annex II** were combined by 'OR' to retrieve all the identified publications excluding duplicates. The separate assessment of these search sets, including those yielding only a small number of publications, was considered not necessary as this would duplicate the literature screening process and alter the consistency and comprehensiveness used in the literature search strategies.

3.2.2. Limits applied

An advanced literature search was conducted using the web-based STN[®] database catalogue for both the selected electronic databases (*see* section 3.1.1). STN[®] enables searching in each electronic database by making use of pre-defined fields, set combinations based on Boolean operators or a combination of both¹². In STN[®], the results of the search from each database can be merged and duplicates can be removed by de-duplication.

The STN[®] literature search utilised "Basic Index" (None (or /BI)) field which utilises free-text search terms and enables comprehensive searching in different sections (*e.g.* title, abstract, keywords, supplementary terms, controlled terms) within a record^{5,6,14}. Where applicable, controlled vocabulary (subject indexes) offered by CABA (controlled terms (CT)) were also included in the search strategy. Controlled vocabulary is assigned by subject specialists to CAB records to represent the content of the source documents. It allows users to use only one term to search for a concept rather than using lots of terms¹³. The most relevant, broad and controlled terms in the hierarchy of CAB Thesaurus terms and that were listed as preferred terms by CAB for a search query were selected and added to the search string, as shown in **Annex I** and **Annex II**.

3.2.3. Language

The search terms and their combinations are established in English. Therefore, the search is expected to result in a list of titles, abstracts or keywords written in English, covering also articles written in other languages with at least a title, abstract or keywords in English. Also, as technical terms on proteins names, event codes, trade names and Latin names are common in all languages, the search is expected to retrieve articles in all languages.

¹¹ STN. [Command summary chart for bibliographic and full-text databases](#). – Accessed on 19 September 2022

¹² STNindex user guide: <https://stn.products.fiz-karlsruhe.de/training-center/documentation/stn-index-user-guide> - Accessed on 19 September 2022

¹³ CAB Direct advanced searching of CAB abstracts: <https://www.cabi.org/Uploads/CABI/publishing/training-materials/resources-by-interface/cab-direct-user-guides/advanced-searching-cab-abstracts.pdf> - Accessed on 19 September 2022

3.2.4. Time period

The literature searches covered the time span 1 June 2021 - 31 May 2022.

The literature search in the electronic databases was conducted on a quarterly basis considering the entry dates in the STN® database catalogue. **Table 2** shows the search dates and the time span of each search.

Table 2. Description of literature search periods in the electronic databases

Date of the search	Last database update dates	Search period
12 October 2021	SciSearch: 11 October 2021	31 May 2021 – 11 October 2021
	CABA: 05 October 2021	31 May 2021 – 05 October 2021
02 February 2022	SciSearch: 31 January 2022	05 October 2021– 31 January 2022
	CABA: 01 February 2022	05 October 2021– 01 February 2022
09 June 2022	SciSearch: 06 June 2022	31 January 2022– 06 June 2022
	CABA: 07 June 2022	31 January 2022– 07 June 2022

3.2.5. Reference publications

In accordance with the 2019 EFSA explanatory note on literature searching², a list of reference publications is provided in **Annex III**. The reference publications were tested and retrieved using the search terms and strategy developed for MON 810.

3.3. Search strategy (relevant key organisations)

All records related to GMO applications and approvals published in the webpage of each relevant key organisation were screened based on ‘limits applied’ as described in the **Annex IV** and assessed for their relevance to MON 810.

The literature search in the internet pages of the relevant key organisations was conducted on 12 September 2022 and covered the time span 01 January 2022 – 12 September 2022.

4. SELECTING PUBLICATIONS

Publications retrieved from the literature search were screened for their relevance first and then the selected ones were evaluated for their reliability through detailed assessments. Relevance to the search scope and scientific reliability were rigorously assessed by internal and external technical experts.

4.1. Eligibility screening process

The process of selecting relevant publications was undertaken in two stages:

- **Rapid assessment** for the relevance based on information in the title and abstract of the publications, to exclude publications that are obviously irrelevant.
- **Detailed assessment** of full-text document if required. Full-text documents were obtained for those publications not excluded in the rapid assessment and those documents were assessed in detail for their relevance to the review question. Publications not excluded by the detailed assessment were classified as relevant. At this stage, publications must comply with all the eligibility/inclusion criteria and meet all key elements of the review question.

Experts with a solid experience in GM plants risk assessment performed the screening process. Based on the available comprehensive weight of evidence, the experts assessed if the conclusions of the risk assessment are still valid.

4.2. Reviewers

4.2.1. Number of reviewers

All publications that were identified by the search described in **Section 3** have been screened by three different reviewers (one internal and two external experts) with solid experience in the risk assessment of GM plants.

4.2.2. Expertise of reviewers

Besides their academic background, the reviewers have adequate expertise in the risk assessment areas of GM crops (molecular characterisation, food and feed safety, environmental safety) and several years of experience in the analysis and selection of relevant publications in literature searches for GM applications.

4.2.3. Inter-reviewer agreement

Reviewers (internal and external) perform their assessment in an independent sequential manner. They are in communication and meet on a regular basis to ensure consistent interpretation and implementation of eligibility/inclusion criteria and/or screening process. During the rapid assessment stage, retrieved abstracts and titles of publications are screened by each reviewer independently and assessed against each other to conclude on inclusion or exclusion based on eligibility/inclusion criteria. If opinions on relevance differ, the discrepancies are discussed between the reviewers and if a disagreement persists, the publication under discussion is *de facto* included in the next stage for further consideration. In summary, publications which appear to be relevant and those of unclear relevance, are progressed to the next stage.

During the detailed assessment, the selected publications are assessed in detail, independently and sequentially by the two external reviewers based on the full text of the publications. The publications screened by each reviewer are assessed against each other to conclude on inclusion or exclusion based on eligibility/inclusion criteria. If opinions on relevance differ between reviewers, all reviewers (external and internal) discuss the discrepancy as necessary and, if needed, consult additional internal reviewers to resolve the discrepancy.

If uncertainty remains, the publication is *de facto* reported as unclear providing a justification as suggested by the reviewers. In summary, publications, which appear to be relevant and those of unclear relevance, are reported.

This approach ensures a high-quality process as it allows a harmonised continuous publication screening process across different GM applications in accordance with the 2019 EFSA explanatory note on literature searching² and avoids missing publications due to bias towards certain eligibility criteria.

4.3. Classification of publications

Taking account of i) the review question, ii) the scope of the application, *i.e.* authorisation of MON 810 maize for all uses as any other maize including cultivation in the EU and iii) the eligibility criteria to establish the relevance of retrieved publications, the list of retrieved hits were assessed to conclude whether a certain publication was considered relevant or not.

When a publication was considered relevant, the category the publication belongs to is indicated. The following is a non-exhaustive list of categories publications may belong to:

Food/Feed safety assessment

- Molecular characterisation
- Protein expression
- Crop composition
- Agronomic and phenotypic characteristics
- Toxicology - Animal feeding / *In vitro*
- Allergenicity of the protein or the whole food/feed
- Nutrition
- Protein / DNA/ RNA fate in digestive tract

Environmental safety assessment

- Spillage and consequences thereof
- Non target organisms (NTO)
- Gene flow
- Protein/ DNA/ RNA fate in soil or in stream water
- Insect resistance management (IRM)
- Impact of management practices
- Ecology

It should be noted that the selection criteria are well defined and reassessed annually.

4.4. Quality appraisal of the relevant publications

The relevant publications, if identified, are appraised in terms of reliability in accordance with the 2019 EFSA explanatory note on literature searching² by at least two individuals with technical expertise on the topic using the following steps categorised in two main areas:

Credibility of the publication

1. ***Does the publication include sufficient information to establish the reliability of the research?*** Publications with insufficient information (e.g., incomplete experimental design, publications for which only an abstract is publicly available) are categorised as “**not assignable**”. Others go to step 2.
2. ***Is the publication scientifically sound/reliable?*** Publications that do not contain scientifically sound/reliable information (e.g., inadequate methodology, test/control materials) are categorised as “**not reliable**”. Others go to step 3.

Appropriateness of the publication for the EFSA risk assessment

3. ***What is the relevance level of the publication for the EFSA risk assessment?*** Publications with low relevance for the EFSA risk assessment (e.g. publications dealing with wild relatives or pests not found in the EU) are categorised as “**low reliable**”. Publications with moderate relevance for the EFSA risk assessment (e.g., exploratory studies, research with limited focus on risk assessment) are categorised as “**moderately reliable**”. Whereas publications with high relevance for the EFSA risk assessment (e.g. research based on data collected for regulatory studies) are categorised as “**highly reliable**”.

In cases of disagreements, the evaluators discuss together and collectively determine the reliability of the publication.

5. REPORTING THE DATA AND CONSIDERING THE IMPLICATIONS OF THE FINDINGS

5.1. Search outcomes

5.1.1. Outcomes of literature search (electronic databases)

The literature searches identified 399 and 309 hits in SciSearch and CABA databases, respectively (*see Annex II*). After de-duplication¹⁴, the total number resulted in 540 hits (*see Annex V*).

5.1.2. Outcomes of literature search (relevant key organisations)

The literature search in the internet pages of the nine relevant key organisations retrieved a total of 114 records. The links to the results of the literature search and the summary of the retrieved data are shown in **Annex IV**.

5.2. Results of the publication selection process

5.2.1. Results of the publication selection process (electronic databases)

The results of the publication selection process for the retrieved hits from the electronic databases are provided in **Annex V**. Seven relevant publications were retrieved after detailed assessment of the full text documents.

For bibliographic details regarding these publications in .RIS format, *see Annex VI*.

For the full-text documents of the relevant publications, *see* the references folder within the Appendix 3_Literature search folder.

5.2.2. Results of the publication selection process (relevant key organisations)

The results of the publication selection process for the retrieved records from the relevant key organisations are provided in **Annex IV**. None of the retrieved documents needed further assessment.

5.3. Considering the implications of the findings

The reliability assessment for the relevant publications is provided in **Annex V**. All the relevant publications have no implications for the risk assessment of MON 810 because no new hazards, modified exposure, or new uncertainties are reported.

The comprehensive literature search for publications relevant to the food, feed, and environmental safety of MON 810 found no new information that would invalidate the conclusions of the risk assessment of MON 810.

¹⁴ Corresponds to the unique publications after STN® and manual de-duplication.

6. CONCLUSION

Taking into consideration all the above, Bayer confirms that this literature search, conducted in accordance with the 2019 EFSA explanatory note on literature searching² to support the general surveillance in the context of 2021/2022 annual PMEM for MON 810, identified no relevant publications that would invalidate the conclusions of MON 810 previous risk assessments. Therefore, the conclusions of the risk assessment as presented in the initial applications of MON 810 remain unchanged.

Annex I. Translation of intervention/exposure key elements into search terms for MON 810 maize literature search in STN[®] database catalogue

The search terms for MON 810 maize are covered by the search terms for Bayer GM maize products.

1. Free-text search terms for Bayer GM maize products

Key elements	Search terms	Synonyms, related terms, abbreviations/ acronyms/ truncations, lay/ scientific terms, brand/ generic names and spelling variants/ typos (adapted for performing search in STN [®] database catalogue)
Event names	MON 810 or MON-ØØ81Ø-6 NK603 or MON-ØØ6Ø3-6 MON 88017 or MON-88Ø17-3 MON 89034 or MON-89Ø34-3 MON 87460 or MON 8746Ø-4 MON 87427 or MON-87427-7 MON 87411 or MON-87411-9 MON 87403 or MON-874Ø3-1 TC1507 or 1507 or DAS-Ø15Ø7-1 59122 or DAS-59122-7 T25 or ACS-ZMØØ3-2 MIR162 or SYN-IR162-4	MON 810? OR MON810? OR MON!810? OR MON 00810? OR MON00810? OR MON!00810? OR MON OO810? OR MONOO810? OR MON!OO810? OR MON EMPTY SETEMPTY SET81EMPTY SET? OR MON!EMPTY SETEMPTY SET81EMPTY SET? OR MONEMPTY SETEMPTY SET81EMPTY SET? OR NK603 OR NK 603 OR MON 00603? OR MON!00603? OR MON00603? OR MON OO603? OR MONOO603? OR MON!OO603? OR MON EMPTY SETEMPTY SET6EMPTY SET3? OR MON!EMPTY SETEMPTY SET6EMPTY SET3? OR MONEMPTY SETEMPTY SET6EMPTY SET3? OR MON 88017? OR MON!88017? OR MON88017? OR MON 88O17? OR MON!88O17? OR MON88O17? OR MON 88EMPTY SET17? OR MON!88EMPTY SET17? OR MON88EMPTY SET17? OR MON 89034? OR MON!89034? OR MON89034? OR MON 89O34? OR MON!89O34? OR MON89O34? OR MON 89EMPTY SET34? OR MON!89EMPTY SET34? OR MON89EMPTY SET34? OR MON 87460? OR MON!87460? OR MON87460? OR MON 8746O? OR MON!8746O? OR MON8746O? OR MON 8746EMPTY SET? OR MON!8746EMPTY SET? OR MON8746EMPTY SET? OR MON 87427? OR MON!87427? OR MON87427? OR 1507 OR 15O7 OR 15EMPTYSET7 OR TC1507 OR TC15O7 OR TC15EMPTYSET7 OR MON 87411? OR MON!87411? OR MON87411? OR MON 87403? OR MON!87403? OR MON87403? OR MON 874O3? OR MON!874O3? OR MON874O3? OR MON 874EMPTY SET3? OR MON!874EMPTY SET3? OR MON874EMPTY SET3? OR DAS 01507? OR DAS!01507? OR DAS01507? OR DAS O15O7? OR DAS!O15O7? OR

		<p>DASO15O7? OR DAS EMPTY SET15EMPTY SET7? OR DAS!EMPTY SET15EMPTY SET7? OR DASEMPTY SET15EMPTY SET7? OR 59122 OR DAS 59122? OR DAS!59122? OR DAS59122? OR T25</p> <p>OR ACS ZM003? OR ACS!ZM003? OR ACSZM003? OR ACS ZMOO3? OR ACS!ZMOO3? OR ACSZMOO3? OR ACS ZMEMPTY SET EMPTY SET3? OR ACS!ZMEMPTY SET EMPTY SET3? OR ACSZMEMPTY SET EMPTY SET3?</p> <p>OR MIR!162? OR MIR 162? OR MIR162? OR SYN!IR162? OR SYN IR162? OR SYNIR162?</p>
Trade name	<p>YieldGard® Corn Borer</p> <p>Roundup Ready® 2</p> <p>YieldGard VT Rootworm/RR2®</p> <p>YieldGard® VT® PRO®</p> <p>DroughtGard® Hybrids</p> <p>Herculex™ I, Herculex™ CB</p> <p>Herculex™ RW</p> <p>Liberty Link™ Maize</p> <p>YieldGard® VT ® Triple®</p> <p>Genuity® VT Triple PRO®</p> <p>Genuity® VT Double PRO™</p> <p>Genuity® PowerCore®</p> <p>SmartStax®</p> <p>Genuity® VT Double Pro® with Roundup® Hybridization System</p> <p>VTPRO4®</p> <p>Trecepta™</p> <p>Agrisure™ Viptera</p>	<p>YIELD GARD? OR YIELDG? OR YIELD!GARD? OR YIELDGARD? OR ROUNDUPREADY? OR ROUND UP READY? OR ROUND!UP!READY? OR ROUND!UP READY? OR ROUNDUP READY? OR RR2? OR RRII? OR VT? PRO? OR VT! PRO OR VT PRO? OR VT!PRO? OR VTPRO? OR DROUGHTGARD? OR DROUGHT GARD? OR HERCULEX?</p> <p>LIBERTY LINK? OR LIBERTYLINK? OR LIBERTY!LINK OR VT? TRIPLE? OR VTTRIPLE? OR VT!TRIPLE? OR VT TRIPLE? OR VT DOUBLE PRO? OR VT DOUBLEPRO? OR VTDOUBLE PRO? OR VTDOUBLEPRO? OR VT!DOUBLE PRO? OR VT DOUBLEPRO? OR VT!DOUBLEPRO? OR VT!2!PRO?</p> <p>SMARTSTAX? OR SMART STAX? OR SMART!STAX? OR RHS OR HYBRIDIZATION SYSTEM OR VT 2 PRO? OR POWER CORE? OR POWERCORE? OR AGRISURE? OR VIPTERA? OR TRECEPTA?</p>
Newly expressed proteins	CP4 EPSPS	<p>CP4EPSPS? OR CP4 EPSPS? OR 5(W)(ENOLPYRUVYL SHIKIMATE OR ENOL PYRUVYL SHIKIMATE OR ENOLPYRUVYL SHIKIMATE OR ENOL</p>

	CP4 EPSPS L214P PAT Cry1Ab Cry1A.105 Cry2Ab2 Cry1F Cry3Bb1 Cry34/35Ab1 Cold shock protein B (cspB) ATHB-17 Vip3Aa20	PYRUVYLSHIKIMATE OR ENOL!PYRUVYL! SHIKIMATE!)(W)3 PHOSPHATE SYNTHASE OR PAT OR PHOSPHINOTHRICIN OR N!ACETYLTRANSFERASE OR N!ACETYLTRANSFERASE OR N!ACETYL!TRANSFERASE OR N ACETYL TRANSFERASE OR N ACETYL!TRANSFERASE OR N ACETYLTRANSFERASE OR CRY1AB OR CRY1 AB OR CRY 1 AB OR CRY 1AB OR CRYIAB OR CRYI AB OR CRY I AB OR CRY IAB OR CRY1A105 OR CRY1A 105 OR CRY 1A 105 OR CRY 1A105 OR CRYIA105 OR CRYIA 105 OR CRY IA 105 OR CRY IA105 OR CRY1A.105 OR CRY2AB? OR CRY2 AB? OR CRY 2 AB? OR CRY 2AB? OR CRYIAB? OR CRYII AB? OR CRY II AB? OR CRY IIAB? OR CRY1F OR CRY1 F OR CRY 1 F OR CRY 1F OR CRYIF OR CRYI F OR CRY I F OR CRY IF OR CRY3BB? OR CRY3 BB? OR CRY 3 BB? OR CRY 3BB? OR CRYIIIBB? OR CRYIII BB? OR CRY III BB? OR CRY IIIBB? OR CRY34AB1? OR CRY34AB 1? OR CRY 34AB 1? OR CRY 34AB1? OR GPP34AB1? OR GPP34AB 1? OR GPP 34AB 1? OR GPP 34AB1? OR CRY35AB1? OR CRY35AB 1? OR CRY 35AB 1? OR CRY 35AB1? OR TPP35AB1? OR TPP35AB 1? OR TPP 35AB 1? OR TPP 35AB1? OR CSPB OR CSP B OR COLD SHOCK PROTEIN B OR COLD!SHOCKPROTEIN!B OR COLD!SHOCK PROTEIN!B OR COLD!SHOCK!PROTEIN!B OR ATHB17? OR ATHB!17? OR ATHB 17? OR HB17? OR HB!17? OR HB 17? OR VIP3AA20 OR VIP3!AA20 OR VIP3 AA20
Newly expressed RNA	DvSnf7 RNA	(RNA? OR DSRNA? OR SIRNA?)(5A)(DVSNF7 OR WCR SNF7 OR CRW SNF7 OR DV SNF7 OR DVSNF 7 OR DV SNF 7 OR DV.SNF7 OR SNF7)
Intended traits: Herbicide tolerance traits	Glyphosate/ roundup tolerance, Glufosinate tolerance	(TOLERAN? OR RESISTAN? OR PROTEC?)(5A)(GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP OR GLUFOSINATE OR GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)
Intended traits: Insect protection traits	Bt maize (corn) / <i>Bacillus thuringiensis</i> maize (corn) providing Lepidopteran protection or protection against Noctuidae and Crambidae insect pest families or corn/stem borer or European corn borer (ECB) or Mediterranean corn borer (MCB) or Pink stalk borer or West African pink borer or Asian corn borer (ACB) or Spotted stemborer (SSB) or Southwestern corn borer (SWCB) or	(BTMAIZE OR BTCORN OR BT MAIZE OR BT CORN OR BT!MAIZE OR BT!CORN OR THURINGIENSIS!MAIZE OR THURINGIENSISMAIZE OR THURINGIENSIS MAIZE OR THURINGIENSIS!CORN OR THURINGIENSISCORN OR THURINGIENSIS CORN) (TOLERAN? OR RESISTAN? OR PROTEC?)(5A)(BORER? OR EARWORM? OR BOLLWORM? OR ARMYWORM? OR EAR WORM? OR BOLL WORM? OR ARMY WORM? OR LEPIDOPTERA? OR NOCTUIDAE)

	Sugarcane borer (SCB) or fall armyworm (FAW) or African maize stalk borer (AMSB) or corn earworm or cotton bollworm (CEW; CBW) or Old World bollworm or African bollworm or American cotton bollworm or cotton bollworm or corn earworm (OBW; CBW; CEW) or western bean cutworm (WBC) or <i>Ostrinia nubilalis</i> or <i>Ostrinia furnacalis</i> or <i>Spodoptera frugiperda</i> or <i>Spodoptera exigua</i> or <i>Sesamia nonagrioides</i> or <i>Chilo partellus</i> or <i>Diatraea grandiosella</i> or <i>Diatraea saccharalis</i> or <i>Busseola fusca</i> or <i>Helicoverpa zea</i> or <i>Helicoverpa armigera</i> or <i>Striacosta albicosta</i> or <i>Agrotis ipsilon</i> or <i>Feltia jaculifera</i> or <i>Pseudaletia unipuncta</i>	(TOLERAN? OR RESISTAN? OR PROTEC?)(5A)(CRAMBIDAE OR OSTRINIA OR SESAMIA OR CHILO OR DIATRAEA OR SPODOPTERA OR BUSSEOLA OR HELICOVERPA OR FURNACALIS OR NUBILALIS OR NONAGRIOIDES OR PARTELLUS) (TOLERAN? OR RESISTAN? OR PROTEC?)(5A)(GRANDIOSELLA OR SACCHARALIS OR FRUGIPERDA OR FUSCA OR ZEA OR ARMIGERA OR ECB OR MCB OR ACB OR SSB OR SWCB OR SCB OR FAW OR AMSB OR CEW OR CBW OR OBW) (TOLERAN? OR RESISTAN? OR PROTEC?)(5A)(EXIGUA OR CUTWORM? OR CUT WORM? OR STRIACOSTA OR AGROTIS OR FELTIA OR PSEUDALETIA OR ALBICOSTA OR IPSILON OR JACULIFERA OR UNIPUNCTA OR WBC)
	Bt maize (corn) / <i>Bacillus thuringiensis</i> maize providing Coleopteran protection, or protection against Chrysomel insect pest families or western corn rootworm (WCR / WCRW) or Northern corn rootworm (NCR) or Southern corn rootworm (SCR) or Mexican corn rootworm (MCR) or <i>Diabrotica virgifera virgifera</i> or <i>Diabrotica barberi</i> (<i>D. barberi</i>) or <i>Diabrotica undecimpunctata</i> (<i>D. undecimpunctata</i>) or <i>Diabrotica virgifera zea</i> (<i>D. virgifera zea</i>)	(BTMAIZE OR BTCORN OR BT MAIZE OR BT CORN OR BT!MAIZE OR BT!CORN OR THURINGIENSIS!MAIZE OR THURINGIENSISMAIZE OR THURINGIENSIS MAIZE OR THURINGIENSIS!CORN OR THURINGIENSISCORN OR THURINGIENSIS CORN) (TOLERAN? OR RESISTAN? OR PROTEC?)(5A)(ROOTWORM? OR ROOT WORM? OR COLEOPTERA? OR CHRYSOMEL? OR DIABROTICA OR VIRGIFERA OR BARBERI OR UNDECIMPUNCTATA OR CRW OR WCR? OR NCR? OR SCR? OR MCR?)
Intended traits: Drought tolerance traits	Drought tolerant or water efficient maize	(TOLERAN? OR RESISTAN? OR PROTEC?)(5A)DROUGHT OR (EFFICIEN? OR REDUC? OR LIMIT? OR DECRE? OR LOW?)(5A)WATER
Intended traits: Hybridisation system traits	Glyphosate based hybridization system	HYBRID? OR CROSS? OR POLLEN? OR POLLINAT? OR STERIL?(5A)MALE) AND (GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP?
Intended traits: Increased biomass traits	Increased ear biomass	(INCRE? OR ENHANCE?)(5A)(EAR SIZE OR EAR BIOMASS OR EAR GROWTH OR EAR WEIGHT OR EAR MASS OR SINK CAPACITY OR SINK POTENTIAL)
Crop name	maize, corn, <i>Zea mays</i>	MAIZE? OR CORN? OR "ZEA MAYS" OR "Z. MAYS"
GMO general terms	Genetically modified organism (GMO, GM); Living modified organism (LMO); biotechnology-derived organism (biotech-derived); Genetic engineering (GE); transgenesis (transgene);	GMO? OR LMO? OR GM OR GE OR TRANSGEN? OR ((GENETIC? OR LIVING OR BIOTECH?)(5A)(MODIF? OR TRANSFORM? OR MANIPULAT? OR IMPROV? OR ENGINEER? OR DERIV?))

	genetic transformation; genetic manipulation; genetic improvement.	
--	---	--

2. Controlled vocabulary, if applicable, for Bayer GM Maize products

Key elements	Search terms	Controlled terms offered by CABA (adapted for performing search in STN [®] database catalogue)
Event name	Not applicable	
Trade name	Not applicable	
Newly expressed proteins	Not applicable	
Intended traits : Insect protection and herbicide tolerance traits	<p>Bt maize (corn) / <i>Bacillus thuringiensis</i> maize (corn) providing Lepidopteran protection or protection against Noctuidae and Crambidae insect pest families or corn/stem borer or European corn borer (ECB) or Mediterranean corn borer (MCB) or Pink stalk borer or West African pink borer or Asian corn borer (ACB) or Spotted stemborer (SSB) or Southwestern corn borer (SWCB) or Sugarcane borer (SCB) or fall armyworm (FAW) or African maize stalk borer (AMSB) or corn earworm or cotton bollworm (CEW; CBW) or Old World bollworm or African bollworm or American cotton bollworm or cotton bollworm or corn earworm (OBW; CBW; CEW) or western bean cutworm (WBC) or <i>Ostrinia nubilalis</i> or <i>Ostrinia furnacalis</i> or <i>Spodoptera frugiperda</i> or <i>Spodoptera exigua</i> or <i>Sesamia nonagrioides</i> or <i>Chilo partellus</i> or <i>Diatraea grandiosella</i> or <i>Diatraea saccharalis</i> or <i>Busseola fusca</i> or <i>Helicoverpa zea</i> or <i>Helicoverpa armigera</i> or <i>Striacosta albicosta</i> or <i>Agrotis ipsilon</i> or <i>Feltia jaculifera</i> or <i>Pseudaletia unipuncta</i></p> <p>Bt maize (corn) / <i>Bacillus thuringiensis</i> maize providing Coleopteran protection, or protection against Chrysomel insect pest</p>	(WEED CONTROL+UF,NT/CT OR INSECT CONTROL+UF,NT/CT) AND (LEPIDOPTERA+UF,NT2/CT,ORGN OR COLEOPTERA+UF,NT2/CT,ORGN OR GLYPHOSATE+UF,NT/CT OR GLUFOSINATE+UF,NT/CT)

	families or western corn rootworm (WCR / WCRW) or Northern corn rootworm (NCR) or Southern corn rootworm (SCR) or Mexican corn rootworm (MCR) or <i>Diabrotica virgifera virgifera</i> or <i>Diabrotica barberi</i> (<i>D. barberi</i>) or <i>Diabrotica undecimpunctata</i> (<i>D. undecimpunctata</i>) or <i>Diabrotica virgifera zea</i> (<i>D. virgifera zea</i>) Glyphosate/ roundup tolerance, Glufosinate tolerance	
Intended traits: Hybridisation system traits	Glyphosate based hybridization system	(HYBRIDIZATION+UF,NT/CT OR CROSSING+UF,NT/CT OR PLANT BREEDING METHODS+UF,NT/CT OR POLLINATION+UF,NT/CT OR MALE STERILITY+UF,NT/CT) AND GLYPHOSATE+UF,NT/CT
Intended traits: Drought tolerance and increased ear biomass traits	Drought tolerance and increased ear biomass	DROUGHT RESISTANCE+UF,NT/CT OR BIOMASS PRODUCTION+UF,NT/CT
Crop name	maize, corn, <i>Zea mays</i>	ZEA MAYS+UF,NT/CT, ORGN OR MAIZE+UF, NT/CT, ORGN
GMO general terms	Genetically modified organism (GMO, GM); Living modified organism (LMO); biotechnology-derived organism (biotech-derived); Genetic engineering (GE); transgenesis (transgene); genetic transformation; genetic manipulation; genetic improvement	GENETIC ENGINEERING+UF,NT/CT OR GENETIC TRANSFORMATION+UF,NT/CT OR GENETICALLY ENGINEERED FOODS+UF,NT/CT OR GENETICALLY ENGINEERED ORGANISMS+UF,NT/CT OR FOOD BIOTECHNOLOGY+UF,NT/CT

Annex II. The search string used for MON 810 maize literature search in SciSearch and CABA databases using STN® database catalogue, and outcomes of the search (2021-2022)

Bayer GM Maize products literature search – First quarter (June 2021 - September 2021)

Translation of query terms into STN search language:

```
(FILE 'STNGUIDE' ENTERED AT 14:44:46 ON 12 OCT 2021)
      DEL HIS Y
L1      QUE SPE=ON  ABB=ON  PLU=ON  MON 810? OR MON810? OR MON!810? OR
      MON 00810? OR MON00810? OR MON!00810? OR MON 00810? OR
      MON00810? OR MON!00810? OR MON EMPTY SETEMPTY SET81EMPTY SET?
      OR MON!EMPTY SETEMPTY SET81EMPTY SET? OR MONEMPTY SETEMPTY
      SET81EMPTY SET? OR NK603 OR NK 603
L2      QUE SPE=ON  ABB=ON  PLU=ON  MON 00603? OR MON!00603? OR
      MON00603? OR MON 00603? OR MON00603? OR MON!00603? OR MON
      EMPTY SETEMPTY SET6EMPTY SET3? OR MON!EMPTY SETEMPTY SET6EMPTY
      SET3? OR MONEMPTY SETEMPTY SET6EMPTY SET3?
L3      QUE SPE=ON  ABB=ON  PLU=ON  MON 88017? OR MON!88017? OR
      MON88017? OR MON 88017? OR MON!88017? OR MON88017? OR MON
      88EMPTY SET17? OR MON!88EMPTY SET17? OR MON88EMPTY SET17?
L4      QUE SPE=ON  ABB=ON  PLU=ON  MON 89034? OR MON!89034? OR
      MON89034? OR MON 89034? OR MON!89034? OR MON89034? OR MON
      89EMPTY SET34? OR MON!89EMPTY SET34? OR MON89EMPTY SET34?
L5      QUE SPE=ON  ABB=ON  PLU=ON  MON 87460? OR MON!87460? OR
      MON87460? OR MON 87460? OR MON!87460? OR MON87460? OR MON
      8746EMPTY SET? OR MON!8746EMPTY SET? OR MON8746EMPTY SET? OR
      MON 87427? OR MON!87427? OR MON87427? OR 1507 OR 1507 OR
      15EMPTYSET7 OR TC1507 OR TC1507 OR TC15EMPTYSET7
L6      QUE SPE=ON  ABB=ON  PLU=ON  DAS 01507? OR DAS!01507? OR
      DAS01507? OR DAS 01507? OR DAS!01507? OR DAS01507? OR DAS
      EMPTY SET15EMPTY SET7? OR DAS!EMPTY SET15EMPTY SET7? OR
      DASEMPTY SET15EMPTY SET7? OR 59122 OR DAS 59122? OR DAS!59122?
      OR DAS59122? OR T25
L7      QUE SPE=ON  ABB=ON  PLU=ON  ACS ZM003? OR ACS!ZM003? OR
      ACSZM003? OR ACS ZMOO3? OR ACS!ZMOO3? OR ACSZMOO3? OR ACS
      ZMEMPTY SET EMPTY SET3? OR ACS!ZMEMPTY SET EMPTY SET3? OR
      ACSZMEMPTY SET EMPTY SET3? OR MON 87411? OR MON!87411? OR
      MON87411?
L8      QUE SPE=ON  ABB=ON  PLU=ON  MON 87403? OR MON!87403? OR
      MON87403? OR MON 87403? OR MON!87403? OR MON87403? OR MON
      874EMPTY SET3? OR MON!874EMPTY SET3? OR MON874EMPTY SET3?
L9      QUE SPE=ON  ABB=ON  PLU=ON  MIR!162? OR MIR 162? OR MIR162? OR
      SYN!IR162? OR SYN IR162? OR SYNIR162?
L10     QUE SPE=ON  ABB=ON  PLU=ON  YIELD GARD? OR YIELDG? OR YIELD!GAR
      D? OR YIELDGARD? OR ROUNDUPREADY? OR ROUND UP READY? OR
      ROUND!UP!READY? OR ROUND!UP READY? OR ROUNDUP READY? OR RR2?
      OR RRII? OR VT? PRO? OR VT! PRO OR VT PRO? OR VT!PRO? OR
      VTPRO? OR DROUGHTGARD? OR DROUGHT GARD? OR HERCULEX?
L11     QUE SPE=ON  ABB=ON  PLU=ON  LIBERTY LINK? OR LIBERTYLINK? OR
      LIBERTY!LINK OR VT? TRIPLE? OR VTTRIPLE? OR VT!TRIPLE? OR VT
      TRIPLE? OR VT DOUBLE PRO? OR VT DOUBLEPRO? OR VTDOUBLE PRO? OR
      VTDOUBLEPRO? OR VT!DOUBLE PRO? OR VT DOUBLEPRO? OR VT!DOUBLEPRO
      ? OR VT!2!PRO?
L12     QUE SPE=ON  ABB=ON  PLU=ON  SMARTSTAX? OR SMART STAX? OR
      SMART!STAX? OR RHS OR HYBRIDIZATION SYSTEM OR VT 2 PRO? OR
      POWER CORE? OR POWERCORE? OR AGRISURE? OR VIPTERA? OR TRECEPTA?
L13     QUE SPE=ON  ABB=ON  PLU=ON  MAIZE? OR CORN? OR "ZEA MAYS" OR
      "Z. MAYS"
```

L14	QUE SPE=ON ABB=ON PLU=ON CP4EPSPS? OR CP4 EPSPS? OR 5(W) (ENOLPYRUVYL SHIKIMATE OR ENOL PYRUVYL SHIKIMATE OR ENOLPYRUVYL SHIKIMATE OR ENOL PYRUVYL SHIKIMATE OR ENOL!PYRUVYL! SHIKIMATE!) (W) 3 PHOSPHATE SYNTHASE OR PAT OR PHOSPHINOTHRICIN
L15	QUE SPE=ON ABB=ON PLU=ON N!ACETYLTRANSFERASE OR N!ACETYL TRANSFERASE OR N!ACETYL!TRANSFERASE OR N ACETYL TRANSFERASE OR N ACETYL!TRANSFERASE OR N ACETYLTRANSFERASE
L16	QUE SPE=ON ABB=ON PLU=ON CRY1AB OR CRY1 AB OR CRY 1 AB OR CRY 1AB OR CRYIAB OR CRYI AB OR CRY I AB OR CRY IAB OR CRY1A105 OR CRY1A 105 OR CRY 1A 105 OR CRY 1A105 OR CRYA105 OR CRYIA 105 OR CRY IA 105 OR CRY IA105 OR CRY1A.105
L17	QUE SPE=ON ABB=ON PLU=ON CRY2AB? OR CRY2 AB? OR CRY 2 AB? OR CRY 2AB? OR CRYIIAB? OR CRYII AB? OR CRY II AB? OR CRY IIAB? OR CRY1F OR CRY1 F OR CRY 1 F OR CRY 1F OR CRYIF OR CRYI F OR CRY I F OR CRY IF OR VIP3AA20 OR VIP3!AA20 OR VIP3 AA20
L18	QUE SPE=ON ABB=ON PLU=ON CRY3BB? OR CRY3 BB? OR CRY 3 BB? OR CRY 3BB? OR CRYIIIBB? OR CRYIII BB? OR CRY III BB? OR CRY IIIBB? OR CRY34AB1? OR CRY34AB 1? OR CRY 34AB 1? OR CRY 34AB1? OR GPP34AB1? OR GPP34AB 1? OR GPP 34AB 1? OR GPP 34AB1?
L19	QUE SPE=ON ABB=ON PLU=ON CRY35AB1? OR CRY35AB 1? OR CRY 35AB 1? OR CRY 35AB1? OR TPP35AB1? OR TPP35AB 1? OR TPP 35AB 1? OR TPP 35AB1?
L20	QUE SPE=ON ABB=ON PLU=ON CSPB OR CSP B OR COLD SHOCK PROTEIN B OR COLD!SHOCKPROTEIN!B OR COLD!SHOCK PROTEIN!B OR COLD!SHOCK!PROTEIN!B OR ATHB17? OR ATHB!17? OR ATHB 17? OR HB17? OR HB!17? OR HB 17?
L21	QUE SPE=ON ABB=ON PLU=ON (RNA? OR DSRNA? OR SIRNA?) (5A) (DVS NF7 OR WCR SNF7 OR CRW SNF7 OR DV SNF7 OR DVS NF 7 OR DV SNF 7 OR DV.SNF7 OR SNF7)
L22	QUE SPE=ON ABB=ON PLU=ON GMO? OR LMO? OR GM OR GE OR TRANSGEN? OR ((GENETIC? OR LIVING OR BIOTECH?) (5A) (MODIF? OR TRANSFORM? OR MANIPULAT? OR IMPROV? OR ENGINEER? OR DERIV?))
L23	QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP OR GLUFOSINATE OR GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)
L24	QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (BORER? OR EARWORM? OR BOLLWORM? OR ARMYWORM? OR EAR WORM? OR BOLL WORM? OR ARMY WORM? OR LEPIDOPTERA? OR NOCTUIDAE)
L25	QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (CRAMBIDAE OR OSTRINIA OR SESAMIA OR CHILO OR DIATRAEA OR SPODOPTERA OR BUSSEOLA OR HELICOVERPA OR FURNACALIS OR NUBILALIS OR NONAGRIOIDES OR PARTELLUS)
L26	QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (GRANDIOSELLA OR SACCHARALIS OR FRUGIPERDA OR FUSCA OR ZEA OR ARMIGERA OR ECB OR MCB OR ACB OR SSB OR SWCB OR SCB OR FAW OR AMSB OR CEW OR CBW OR OBW)
L27	QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (EXIGUA OR CUTWORM? OR CUT WORM? OR STRIACOSTA OR AGROTIS OR FELTIA OR PSEUDALETIA OR ALBICOSTA OR IPSILON OR JACULIFERA OR UNIPUNCTA OR WBC)
L28	QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (ROOTWORM? OR ROOT WORM? OR COLEOPTERA? OR CHRYSOMEL? OR DIABROTICA OR VIRGIFERA OR BARBERI OR UNDECIMPUNCTATA OR CRW OR WCR? OR NCR? OR SCR? OR MCR?)
L29	QUE SPE=ON ABB=ON PLU=ON (BTMAIZE OR BTCORN OR BT MAIZE OR BT CORN OR BT!MAIZE OR BT!CORN OR THURINGIENSIS!MAIZE OR THURINGIENSISMAIZE OR THURINGIENSIS MAIZE OR THURINGIENSIS!CORN OR THURINGIENSISCORN OR THURINGIENSIS CORN)
L30	QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) DROUGHT OR (EFFICIEN? OR REDUC? OR LIMIT? OR DECRE? OR LOW?) (5A) WATER
L31	QUE SPE=ON ABB=ON PLU=ON (HYBRID? OR CROSS? OR POLLEN? OR POLLINAT? OR STERIL?(5A) MALE) AND (GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP?)
L32	QUE SPE=ON ABB=ON PLU=ON (INCRE? OR ENHANCE?) (5A) (EAR SIZE OR EAR BIOMASS OR EAR GROWTH OR EAR WEIGHT OR EAR MASS OR SINK

L33 CAPACITY OR SINK POTENTIAL)
 QUE SPE=ON ABB=ON PLU=ON ZEA MAYS+UF,NT/CT,ORGN OR MAIZE+UF,
 NT/CT,ORGN
 L34 QUE SPE=ON ABB=ON PLU=ON GENETIC ENGINEERING+UF,NT/CT OR
 GENETIC TRANSFORMATION+UF,NT/CT OR GENETICALLY ENGINEERED
 FOODS+UF,NT/CT OR GENETICALLY ENGINEERED ORGANISMS+UF,NT/CT OR
 FOOD BIOTECHNOLOGY+UF,NT/CT
 L35 QUE SPE=ON ABB=ON PLU=ON (WEED CONTROL+UF,NT/CT OR INSECT
 CONTROL+UF,NT/CT) AND (LEPIDOPTERA+UF,NT2/CT,ORGN OR COLEOPTERA
 +UF,NT2/CT,ORGN OR GLYPHOSATE+UF,NT/CT OR GLUFOSINATE+UF,NT/CT)
 L36 QUE SPE=ON ABB=ON PLU=ON (HYBRIDIZATION+UF,NT/CT OR
 CROSSING+UF,NT/CT OR PLANT BREEDING METHODS+UF,NT/CT OR
 POLLINATION+UF,NT/CT OR MALE STERILITY+UF,NT/CT) AND GLYPHOSATE
 +UF,NT/CT
 L37 QUE SPE=ON ABB=ON PLU=ON DROUGHT RESISTANCE+UF,NT/CT OR
 BIOMASS PRODUCTION+UF,NT/CT

Search in SciSearch Database:

FILE 'SCISEARCH' ENTERED AT 14:45:27 ON 12 OCT 2021
 L38 60 SEA SPE=ON ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5 OR L6
 OR L7 OR L8 OR L9) AND ED>=20210531 AND ED<=20211011 AND
 PY>=2021
 L39 216 SEA SPE=ON ABB=ON PLU=ON (L10 OR L11 OR L12) AND ED>=2021053
 1 AND ED<=20211011 AND PY>=2021
 L40 10980 SEA SPE=ON ABB=ON PLU=ON L13 AND ED>=20210531 AND ED<=202110
 11 AND PY>=2021
 L41 7 SEA SPE=ON ABB=ON PLU=ON L39 AND L40
 L42 364 SEA SPE=ON ABB=ON PLU=ON (L14 OR L15) AND ED>=20210531 AND
 ED<=20211011 AND PY>=2021
 L43 49 SEA SPE=ON ABB=ON PLU=ON (L16 OR L17) AND ED>=20210531 AND
 ED<=20211011 AND PY>=2021
 L44 4 SEA SPE=ON ABB=ON PLU=ON (L18 OR L19) AND ED>=20210531 AND
 ED<=20211011 AND PY>=2021
 L45 35 SEA SPE=ON ABB=ON PLU=ON L20 AND ED>=20210531 AND ED<=202110
 11 AND PY>=2021
 L46 0 SEA SPE=ON ABB=ON PLU=ON L21 AND ED>=20210531 AND ED<=202110
 11 AND PY>=2021
 L47 450 SEA SPE=ON ABB=ON PLU=ON L42 OR L43 OR L44 OR L45 OR L46
 L48 11060 SEA SPE=ON ABB=ON PLU=ON L22 AND ED>=20210531 AND ED<=202110
 11 AND PY>=2021
 L49 71 SEA SPE=ON ABB=ON PLU=ON L47 AND (L48 OR L40)
 L50 112 SEA SPE=ON ABB=ON PLU=ON L23 AND ED>=20210531 AND ED<=202110
 11 AND PY>=2021
 L51 125 SEA SPE=ON ABB=ON PLU=ON (L24 OR L25 OR L26 OR L27) AND
 ED>=20210531 AND ED<=20211011 AND PY>=2021
 L52 892 SEA SPE=ON ABB=ON PLU=ON L28 AND ED>=20210531 AND ED<=202110
 11 AND PY>=2021
 L53 33 SEA SPE=ON ABB=ON PLU=ON L29 AND ED>=20210531 AND ED<=202110
 11 AND PY>=2021
 L54 11674 SEA SPE=ON ABB=ON PLU=ON L30 AND ED>=20210531 AND ED<=202110
 11 AND PY>=2021
 L55 34 SEA SPE=ON ABB=ON PLU=ON L31 AND ED>=20210531 AND ED<=202110
 11 AND PY>=2021
 L56 10 SEA SPE=ON ABB=ON PLU=ON L32 AND ED>=20210531 AND ED<=202110
 11 AND PY>=2021
 L57 12781 SEA SPE=ON ABB=ON PLU=ON L50 OR L51 OR L52 OR L54 OR L55 OR
 L56
 L58 61 SEA SPE=ON ABB=ON PLU=ON L57 AND L48 AND L40
 L59 25 SEA SPE=ON ABB=ON PLU=ON L53 AND L48
 L60 77 SEA SPE=ON ABB=ON PLU=ON L59 OR L58
 L61 188 SEA SPE=ON ABB=ON PLU=ON L38 OR L41 OR L49 OR L60

Search in CABA Database:

```

FILE 'CABA' ENTERED AT 14:46:23 ON 12 OCT 2021
L62      17 SEA SPE=ON  ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5 OR L6
        OR L7 OR L8 OR L9) AND ED>=20210531 AND ED<=20211011 AND
        PY>=2021
L63      40 SEA SPE=ON  ABB=ON  PLU=ON  (L10 OR L11 OR L12) AND ED>=2021053
        1 AND ED<=20211011 AND PY>=2021
L64      4199 SEA SPE=ON  ABB=ON  PLU=ON  L13 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L65      2520 SEA SPE=ON  ABB=ON  PLU=ON  L33 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L66      4202 SEA SPE=ON  ABB=ON  PLU=ON  L64 OR L65
L67      2 SEA SPE=ON  ABB=ON  PLU=ON  L63 AND L66
L68      79 SEA SPE=ON  ABB=ON  PLU=ON  (L14 OR L15) AND ED>=20210531 AND
        ED<=20211011 AND PY>=2021
L69      30 SEA SPE=ON  ABB=ON  PLU=ON  (L16 OR L17) AND ED>=20210531 AND
        ED<=20211011 AND PY>=2021
L70      4 SEA SPE=ON  ABB=ON  PLU=ON  (L18 OR L19) AND ED>=20210531 AND
        ED<=20211011 AND PY>=2021
L71      1 SEA SPE=ON  ABB=ON  PLU=ON  L20 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L72      0 SEA SPE=ON  ABB=ON  PLU=ON  L21 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L73      114 SEA SPE=ON  ABB=ON  PLU=ON  L68 OR L69 OR L70 OR L71 OR L72
L74      3063 SEA SPE=ON  ABB=ON  PLU=ON  L22 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L75      1353 SEA SPE=ON  ABB=ON  PLU=ON  L34 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L76      3071 SEA SPE=ON  ABB=ON  PLU=ON  L74 OR L75
L77      43 SEA SPE=ON  ABB=ON  PLU=ON  L73 AND (L66 OR L76)
L78      65 SEA SPE=ON  ABB=ON  PLU=ON  L23 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L79      90 SEA SPE=ON  ABB=ON  PLU=ON  (L24 OR L25 OR L26 OR L27) AND
        ED>=20210531 AND ED<=20211011 AND PY>=2021
L80      346 SEA SPE=ON  ABB=ON  PLU=ON  L28 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L81      22 SEA SPE=ON  ABB=ON  PLU=ON  L29 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L82      4782 SEA SPE=ON  ABB=ON  PLU=ON  L30 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L83      14 SEA SPE=ON  ABB=ON  PLU=ON  L31 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L84      7 SEA SPE=ON  ABB=ON  PLU=ON  L32 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L85      73 SEA SPE=ON  ABB=ON  PLU=ON  L35 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L86      0 SEA SPE=ON  ABB=ON  PLU=ON  L36 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L87      1462 SEA SPE=ON  ABB=ON  PLU=ON  L37 AND ED>=20210531 AND ED<=202110
        11 AND PY>=2021
L88      5872 SEA SPE=ON  ABB=ON  PLU=ON  L78 OR L79 OR L80 OR L82 OR L83 OR
        L84 OR L85 OR L86 OR L87
L89      34 SEA SPE=ON  ABB=ON  PLU=ON  L88 AND L76 AND L66
L90      19 SEA SPE=ON  ABB=ON  PLU=ON  L81 AND L76
L91      46 SEA SPE=ON  ABB=ON  PLU=ON  L90 OR L89
L92      88 SEA SPE=ON  ABB=ON  PLU=ON  L62 OR L67 OR L77 OR L91

```


Deduplication of Hit-sets from both sources:

FILE 'CABA, SCISEARCH' ENTERED AT 14:48:02 ON 12 OCT 2021
L93 251 DUP REM L92 L61 (25 DUPLICATES REMOVED)
ANSWERS '1-88' FROM FILE CABA
ANSWERS '89-251' FROM FILE SCISEARCH
D L93 1-251 ALL PY

FILE SCISEARCH

FILE COVERS 1974 TO 11 Oct 2021 (20211011/ED)

To bring you the most up-to-date SciSearch information,
SciSearch SDIs now run on Mondays.

FILE CABA

FILE LAST UPDATED: 5 OCT 2021 <20211005/UP>
FILE COVERS 1973 TO DATE

Bayer GM Maize products literature search – Second quarter (October 2021 - January 2022)

Translation of query terms into STN search language:

```
(FILE 'STNGUIDE' ENTERED AT 10:19:16 ON 02 FEB 2022)
DEL HIS Y
L1      QUE SPE=ON  ABB=ON  PLU=ON  MON 810? OR MON810? OR MON!810? OR
MON 00810? OR MON00810? OR MON!00810? OR MON 00810? OR
MON00810? OR MON!00810? OR MON EMPTY SETEMPTY SET81EMPTY SET?
OR MON!EMPTY SETEMPTY SET81EMPTY SET? OR MONEMPTY SETEMPTY
SET81EMPTY SET? OR NK603 OR NK 603
L2      QUE SPE=ON  ABB=ON  PLU=ON  MON 00603? OR MON!00603? OR
MON00603? OR MON 00603? OR MON00603? OR MON!00603? OR MON
EMPTY SETEMPTY SET6EMPTY SET3? OR MON!EMPTY SETEMPTY SET6EMPTY
SET3? OR MONEMPTY SETEMPTY SET6EMPTY SET3?
L3      QUE SPE=ON  ABB=ON  PLU=ON  MON 88017? OR MON!88017? OR
MON88017? OR MON 88017? OR MON!88017? OR MON88017? OR MON
88EMPTY SET17? OR MON!88EMPTY SET17? OR MON88EMPTY SET17?
L4      QUE SPE=ON  ABB=ON  PLU=ON  MON 89034? OR MON!89034? OR
MON89034? OR MON 89034? OR MON!89034? OR MON89034? OR MON
89EMPTY SET34? OR MON!89EMPTY SET34? OR MON89EMPTY SET34?
L5      QUE SPE=ON  ABB=ON  PLU=ON  MON 87460? OR MON!87460? OR
MON87460? OR MON 87460? OR MON!87460? OR MON87460? OR MON
8746EMPTY SET? OR MON!8746EMPTY SET? OR MON8746EMPTY SET? OR
MON 87427? OR MON!87427? OR MON87427?
L6      QUE SPE=ON  ABB=ON  PLU=ON  ((1507 OR 1507 OR 15EMPTYSET7) AND
(MAIZE? OR CORN? OR "ZEA MAYS" OR "Z. MAYS")) OR TC1507 OR
TC1507 OR TC15EMPTYSET7
L7      QUE SPE=ON  ABB=ON  PLU=ON  DAS 01507? OR DAS!01507? OR
DAS01507? OR DAS 01507? OR DAS!01507? OR DAS01507? OR DAS
EMPTY SET15EMPTY SET7? OR DAS!EMPTY SET15EMPTY SET7? OR
DASEMPTY SET15EMPTY SET7?
L8      QUE SPE=ON  ABB=ON  PLU=ON  (59122 AND (MAIZE? OR CORN? OR
"ZEA MAYS" OR "Z. MAYS")) OR DAS 59122? OR DAS!59122? OR
DAS59122? OR T25
L9      QUE SPE=ON  ABB=ON  PLU=ON  ACS ZM003? OR ACS!ZM003? OR
ACSZM003? OR ACS ZMOO3? OR ACS!ZMOO3? OR ACSZMOO3? OR ACS
ZMEMPTY SET EMPTY SET3? OR ACS!ZMEMPTY SET EMPTY SET3? OR
ACSZMEMPTY SET EMPTY SET3? OR MON 87411? OR MON!87411? OR
MON87411?
L10     QUE SPE=ON  ABB=ON  PLU=ON  MON 87403? OR MON!87403? OR
MON87403? OR MON 87403? OR MON!87403? OR MON87403? OR MON
874EMPTY SET3? OR MON!874EMPTY SET3? OR MON874EMPTY SET3?
L11     QUE SPE=ON  ABB=ON  PLU=ON  MIR!162? OR MIR 162? OR MIR162? OR
SYN!IR162? OR SYN IR162? OR SYNIR162?
L12     QUE SPE=ON  ABB=ON  PLU=ON  YIELD GARD? OR YIELDG? OR YIELD!GAR
D? OR YIELDGARD? OR ROUNDUPREADY? OR ROUND UP READY? OR
ROUND!UP!READY? OR ROUND!UP READY? OR ROUNDUP READY? OR RR2?
OR RRII? OR VT? PRO? OR VT! PRO OR VT PRO? OR VT!PRO? OR
VTPRO? OR DROUGHTGARD? OR DROUGHT GARD? OR HERCULEX?
L13     QUE SPE=ON  ABB=ON  PLU=ON  LIBERTY LINK? OR LIBERTYLINK? OR
LIBERTY!LINK OR VT? TRIPLE? OR VTTRIPLE? OR VT!TRIPLE? OR VT
TRIPLE? OR VT DOUBLE PRO? OR VT DOUBLEPRO? OR VTDOUBLE PRO? OR
VTDOUBLEPRO? OR VT!DOUBLE PRO? OR VT DOUBLEPRO? OR VT!DOUBLEPRO
? OR VT!2!PRO?
L14     QUE SPE=ON  ABB=ON  PLU=ON  SMARTSTAX? OR SMART STAX? OR
SMART!STAX? OR RHS OR HYBRIDIZATION SYSTEM OR VT 2 PRO? OR
POWER CORE? OR POWERCORE? OR AGRISURE? OR VIPTERA? OR TRECEPTA?
L15     QUE SPE=ON  ABB=ON  PLU=ON  MAIZE? OR CORN? OR "ZEA MAYS" OR
"Z. MAYS"
L16     QUE SPE=ON  ABB=ON  PLU=ON  CP4EPSPS? OR CP4 EPSPS? OR
5(W) (ENOLPYRUVYL SHIKIMATE OR ENOL PYRUVYL SHIKIMATE OR
ENOLPYRUVYL SHIKIMATE OR ENOL PYRUVYL SHIKIMATE OR ENOL!PYRUVYL!
SHIKIMATE!) (W) 3 PHOSPHATE SYNTHASE OR PAT OR PHOSPHINOTHRICIN
L17     QUE SPE=ON  ABB=ON  PLU=ON  N!ACETYLTRANSFERASE OR N!ACETYL
TRANSFERASE OR N!ACETYL!TRANSFERASE OR N ACETYL TRANSFERASE OR
N ACETYL!TRANSFERASE OR N ACETYLTRANSFERASE
```

L18 QUE SPE=ON ABB=ON PLU=ON CRY1AB OR CRY1 AB OR CRY 1 AB OR CRY 1AB OR CRYIAB OR CRYI AB OR CRY I AB OR CRY IAB OR CRY1A105 OR CRY1A 105 OR CRY 1A 105 OR CRY 1A105 OR CRYIA105 OR CRYIA 105 OR CRY IA 105 OR CRY IA105 OR CRY1A.105

L19 QUE SPE=ON ABB=ON PLU=ON CRY2AB? OR CRY2 AB? OR CRY 2 AB? OR CRY 2AB? OR CRYIIAB? OR CRYII AB? OR CRY II AB? OR CRY IIAB? OR CRYIF OR CRYI F OR CRY 1 F OR CRY 1F OR CRYIF OR CRYI F OR CRY I F OR CRY IF OR VIP3AA20 OR VIP3!AA20 OR VIP3 AA20

L20 QUE SPE=ON ABB=ON PLU=ON CRY3BB? OR CRY3 BB? OR CRY 3 BB? OR CRY 3BB? OR CRYIIIBB? OR CRYIII BB? OR CRY III BB? OR CRY IIIBB? OR CRY34AB1? OR CRY34AB 1? OR CRY 34AB 1? OR CRY 34AB1? OR GPP34AB1? OR GPP34AB 1? OR GPP 34AB 1? OR GPP 34AB1?

L21 QUE SPE=ON ABB=ON PLU=ON CRY35AB1? OR CRY35AB 1? OR CRY 35AB 1? OR CRY 35AB1? OR TPP35AB1? OR TPP35AB 1? OR TPP 35AB 1? OR TPP 35AB1?

L22 QUE SPE=ON ABB=ON PLU=ON CSPB OR CSP B OR COLD SHOCK PROTEIN B OR COLD!SHOCKPROTEIN!B OR COLD!SHOCK PROTEIN!B OR COLD!SHOCK!PROTEIN!B OR ATHB17? OR ATHB!17? OR ATHB 17? OR HB17? OR HB!17? OR HB 17?

L23 QUE SPE=ON ABB=ON PLU=ON (RNA? OR DSRNA? OR SIRNA?) (5A) (DVS NF7 OR WCR SNF7 OR CRW SNF7 OR DV SNF7 OR DVS NF 7 OR DV SNF 7 OR DV.SNF7 OR SNF7)

L24 QUE SPE=ON ABB=ON PLU=ON GMO? OR LMO? OR GM OR GE OR TRANSGEN? OR ((GENETIC? OR LIVING OR BIOTECH?) (5A) (MODIF? OR TRANSFORM? OR MANIPULAT? OR IMPROV? OR ENGINEER? OR DERIV?))

L25 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP OR GLUFOSINATE OR GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)

L26 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (BORER? OR EARWORM? OR BOLLWORM? OR ARMYWORM? OR EAR WORM? OR BOLL WORM? OR ARMY WORM? OR LEPIDOPTERA? OR NOCTUIDAE)

L27 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (CRAMBIDAE OR OSTRINIA OR SESAMIA OR CHILO OR DIATRAEA OR SPODOPTERA OR BUSSEOLA OR HELICOVERPA OR FURNACALIS OR NUBILALIS OR NONAGRIOIDES OR PARTELLUS)

L28 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (GRANDIOSELLA OR SACCHARALIS OR FRUGIPERDA OR FUSCA OR ZEA OR ARMIGERA OR ECB OR MCB OR ACB OR SSB OR SWCB OR SCB OR FAW OR AMSB OR CEW OR CBW OR OBW)

L29 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (EXIGUA OR CUTWORM? OR CUT WORM? OR STRIACOSTA OR AGROTIS OR FELTIA OR PSEUDALETIA OR ALBICOSTA OR IPSILON OR JACULIFERA OR UNIPUNCTA OR WBC)

L30 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (ROOTWORM? OR ROOT WORM? OR COLEOPTERA? OR CHRYSOMEL? OR DIABROTICA OR VIRGIFERA OR BARBERI OR UNDECIMPUNCTATA OR CRW OR WCR? OR NCR? OR SCR? OR MCR?)

L31 QUE SPE=ON ABB=ON PLU=ON (BTMAIZE OR BTCORN OR BT MAIZE OR BT CORN OR BT!MAIZE OR BT!CORN OR THURINGIENSIS!MAIZE OR THURINGIENSISMAIZE OR THURINGIENSIS MAIZE OR THURINGIENSIS!CORN OR THURINGIENSISCORN OR THURINGIENSIS CORN)

L32 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) DROUGHT OR (EFFICIEN? OR REDUC? OR LIMIT? OR DECRE? OR LOW?) (5A) WATER

L33 QUE SPE=ON ABB=ON PLU=ON (HYBRID? OR CROSS? OR POLLEN? OR POLLINAT? OR STERIL?(5A) MALE) AND (GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP?)

L34 QUE SPE=ON ABB=ON PLU=ON (INCRE? OR ENHANCE?) (5A) (EAR SIZE OR EAR BIOMASS OR EAR GROWTH OR EAR WEIGHT OR EAR MASS OR SINK CAPACITY OR SINK POTENTIAL)

L35 QUE SPE=ON ABB=ON PLU=ON ZEA MAYS+UF,NT/CT,ORGN OR MAIZE+UF,NT/CT,ORGN

L36 QUE SPE=ON ABB=ON PLU=ON GENETIC ENGINEERING+UF,NT/CT OR GENETIC TRANSFORMATION+UF,NT/CT OR GENETICALLY ENGINEERED FOODS+UF,NT/CT OR GENETICALLY ENGINEERED ORGANISMS+UF,NT/CT OR FOOD BIOTECHNOLOGY+UF,NT/CT

L37 QUE SPE=ON ABB=ON PLU=ON (WEED CONTROL+UF,NT/CT OR INSECT CONTROL+UF,NT/CT) AND (LEPIDOPTERA+UF,NT2/CT,ORGN OR COLEOPTERA +UF,NT2/CT,ORGN OR GLYPHOSATE+UF,NT/CT OR GLUFOSINATE+UF,NT/CT)

L38 QUE SPE=ON ABB=ON PLU=ON (HYBRIDIZATION+UF,NT/CT OR CROSSING+UF,NT/CT OR PLANT BREEDING METHODS+UF,NT/CT OR POLLINATION+UF,NT/CT OR MALE STERILITY+UF,NT/CT) AND GLYPHOSATE +UF,NT/CT

L39 QUE SPE=ON ABB=ON PLU=ON DROUGHT RESISTANCE+UF,NT/CT OR BIOMASS PRODUCTION+UF,NT/CT

Search in SciSearch Database:

FILE 'SCISEARCH' ENTERED AT 10:20:05 ON 02 FEB 2022

L40 14 SEA SPE=ON ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR L10 OR L11) AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L41 176 SEA SPE=ON ABB=ON PLU=ON (L12 OR L13 OR L14) AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L42 8001 SEA SPE=ON ABB=ON PLU=ON L15 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L43 6 SEA SPE=ON ABB=ON PLU=ON L41 AND L42

L44 308 SEA SPE=ON ABB=ON PLU=ON (L16 OR L17) AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L45 22 SEA SPE=ON ABB=ON PLU=ON (L18 OR L19) AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L46 6 SEA SPE=ON ABB=ON PLU=ON (L20 OR L21) AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L47 30 SEA SPE=ON ABB=ON PLU=ON L22 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L48 0 SEA SPE=ON ABB=ON PLU=ON L23 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L49 364 SEA SPE=ON ABB=ON PLU=ON L44 OR L45 OR L46 OR L47 OR L48

L50 8810 SEA SPE=ON ABB=ON PLU=ON L24 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L51 39 SEA SPE=ON ABB=ON PLU=ON L49 AND (L50 OR L42)

L52 75 SEA SPE=ON ABB=ON PLU=ON L25 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L53 89 SEA SPE=ON ABB=ON PLU=ON (L26 OR L27 OR L28 OR L29) AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L54 684 SEA SPE=ON ABB=ON PLU=ON L30 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L55 21 SEA SPE=ON ABB=ON PLU=ON L31 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L56 8748 SEA SPE=ON ABB=ON PLU=ON L32 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L57 30 SEA SPE=ON ABB=ON PLU=ON L33 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L58 11 SEA SPE=ON ABB=ON PLU=ON L34 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L59 9577 SEA SPE=ON ABB=ON PLU=ON L52 OR L53 OR L54 OR L56 OR L57 OR L58

L60 34 SEA SPE=ON ABB=ON PLU=ON L59 AND L50 AND L42

L61 17 SEA SPE=ON ABB=ON PLU=ON L55 AND L50

L62 43 SEA SPE=ON ABB=ON PLU=ON L61 OR L60

L63 86 SEA SPE=ON ABB=ON PLU=ON L40 OR L43 OR L51 OR L62

Search in CABA Database:

FILE 'CABA' ENTERED AT 10:20:57 ON 02 FEB 2022

L64 12 SEA SPE=ON ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR L10 OR L11) AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L65 43 SEA SPE=ON ABB=ON PLU=ON (L12 OR L13 OR L14) AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L66 5654 SEA SPE=ON ABB=ON PLU=ON L15 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L67 3536 SEA SPE=ON ABB=ON PLU=ON L35 AND ED>=20211005 AND ED<=20220131 AND PY>=2021

L68	5657	SEA SPE=ON	ABB=ON	PLU=ON	L66 OR L67
L69	6	SEA SPE=ON	ABB=ON	PLU=ON	L65 AND L68
L70	129	SEA SPE=ON	ABB=ON	PLU=ON	(L16 OR L17) AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L71	25	SEA SPE=ON	ABB=ON	PLU=ON	(L18 OR L19) AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L72	6	SEA SPE=ON	ABB=ON	PLU=ON	(L20 OR L21) AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L73	4	SEA SPE=ON	ABB=ON	PLU=ON	L22 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L74	1	SEA SPE=ON	ABB=ON	PLU=ON	L23 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L75	162	SEA SPE=ON	ABB=ON	PLU=ON	L70 OR L71 OR L72 OR L73 OR L74
L76	4277	SEA SPE=ON	ABB=ON	PLU=ON	L24 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L77	1943	SEA SPE=ON	ABB=ON	PLU=ON	L36 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L78	4284	SEA SPE=ON	ABB=ON	PLU=ON	L76 OR L77
L79	49	SEA SPE=ON	ABB=ON	PLU=ON	L75 AND (L68 OR L78)
L80	96	SEA SPE=ON	ABB=ON	PLU=ON	L25 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L81	149	SEA SPE=ON	ABB=ON	PLU=ON	(L26 OR L27 OR L28 OR L29) AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L82	479	SEA SPE=ON	ABB=ON	PLU=ON	L30 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L83	20	SEA SPE=ON	ABB=ON	PLU=ON	L31 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L84	6122	SEA SPE=ON	ABB=ON	PLU=ON	L32 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L85	16	SEA SPE=ON	ABB=ON	PLU=ON	L33 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L86	14	SEA SPE=ON	ABB=ON	PLU=ON	L34 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L87	132	SEA SPE=ON	ABB=ON	PLU=ON	L37 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L88	0	SEA SPE=ON	ABB=ON	PLU=ON	L38 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L89	1921	SEA SPE=ON	ABB=ON	PLU=ON	L39 AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L90	7545	SEA SPE=ON	ABB=ON	PLU=ON	L80 OR L81 OR L82 OR L84 OR L85 OR L86 OR L87 OR L88 OR L89
L91	41	SEA SPE=ON	ABB=ON	PLU=ON	L90 AND L78 AND L68
L92	17	SEA SPE=ON	ABB=ON	PLU=ON	L83 AND L78
L93	48	SEA SPE=ON	ABB=ON	PLU=ON	L92 OR L91
L94	104	SEA SPE=ON	ABB=ON	PLU=ON	L64 OR L69 OR L79 OR L93

Deduplication of Hit-sets from both sources:

```

FILE 'CABA, SCISEARCH' ENTERED AT 10:22:42 ON 02 FEB 2022
L95      176 DUP REM L94 L63 (14 DUPLICATES REMOVED)
          ANSWERS '1-104' FROM FILE CABA
          ANSWERS '105-176' FROM FILE SCISEARCH
          D L95 1-176 ALL PY

```

FILE SCISEARCH

FILE COVERS 1974 TO 31 Jan 2022 (20220131/ED)

To bring you the most up-to-date SciSearch information,
SciSearch SDIs now run on Mondays.

FILE CABA

```

FILE LAST UPDATED: 1 FEB 2022      <20220201/UP>
FILE COVERS 1973 TO DATE

```

Bayer GM Maize products literature search – Third quarter (February 2022 – May 2022)

Translation of query terms into STN search language:

```
(FILE 'STNGUIDE' ENTERED AT 14:30:01 ON 09 JUN 2022)
      DEL HIS Y
L1      QUE SPE=ON  ABB=ON  PLU=ON  MON 810? OR MON810? OR MON!810? OR
      MON 00810? OR MON00810? OR MON!00810? OR MON 00810? OR
      MON00810? OR MON!00810? OR MON EMPTY SETEMPTY SET81EMPTY SET?
      OR MON!EMPTY SETEMPTY SET81EMPTY SET? OR MONEMPTY SETEMPTY
      SET81EMPTY SET? OR NK603 OR NK 603
L2      QUE SPE=ON  ABB=ON  PLU=ON  MON 00603? OR MON!00603? OR
      MON00603? OR MON 00603? OR MON00603? OR MON!00603? OR MON
      EMPTY SETEMPTY SET6EMPTY SET3? OR MON!EMPTY SETEMPTY SET6EMPTY
      SET3? OR MONEMPTY SETEMPTY SET6EMPTY SET3?
L3      QUE SPE=ON  ABB=ON  PLU=ON  MON 88017? OR MON!88017? OR
      MON88017? OR MON 88017? OR MON!88017? OR MON88017? OR MON
      88EMPTY SET17? OR MON!88EMPTY SET17? OR MON88EMPTY SET17?
L4      QUE SPE=ON  ABB=ON  PLU=ON  MON 89034? OR MON!89034? OR
      MON89034? OR MON 89034? OR MON!89034? OR MON89034? OR MON
      89EMPTY SET34? OR MON!89EMPTY SET34? OR MON89EMPTY SET34?
L5      QUE SPE=ON  ABB=ON  PLU=ON  MON 87460? OR MON!87460? OR
      MON87460? OR MON 87460? OR MON!87460? OR MON87460? OR MON
      8746EMPTY SET? OR MON!8746EMPTY SET? OR MON8746EMPTY SET? OR
      MON 87427? OR MON!87427? OR MON87427?
L6      QUE SPE=ON  ABB=ON  PLU=ON  ((1507 OR 1507 OR 15EMPTYSET7) AND
      (MAIZE? OR CORN? OR "ZEA MAYS" OR "Z. MAYS")) OR TC1507 OR
      TC1507 OR TC15EMPTYSET7
L7      QUE SPE=ON  ABB=ON  PLU=ON  DAS 01507? OR DAS!01507? OR
      DAS01507? OR DAS 01507? OR DAS!01507? OR DAS01507? OR DAS
      EMPTY SET15EMPTY SET7? OR DAS!EMPTY SET15EMPTY SET7? OR
      DASEMPTY SET15EMPTY SET7?
L8      QUE SPE=ON  ABB=ON  PLU=ON  (59122 AND (MAIZE? OR CORN? OR
      "ZEA MAYS" OR "Z. MAYS")) OR DAS 59122? OR DAS!59122? OR
      DAS59122? OR T25
L9      QUE SPE=ON  ABB=ON  PLU=ON  ACS ZM003? OR ACS!ZM003? OR
      ACSZM003? OR ACS ZMOO3? OR ACS!ZMOO3? OR ACSZMOO3? OR ACS
      ZMEMPTY SET EMPTY SET3? OR ACS!ZMEMPTY SET EMPTY SET3? OR
      ACSZMEMPTY SET EMPTY SET3? OR MON 87411? OR MON!87411? OR
      MON87411?
L10     QUE SPE=ON  ABB=ON  PLU=ON  MON 87403? OR MON!87403? OR
      MON87403? OR MON 87403? OR MON!87403? OR MON87403? OR MON
      874EMPTY SET3? OR MON!874EMPTY SET3? OR MON874EMPTY SET3?
L11     QUE SPE=ON  ABB=ON  PLU=ON  MIR!162? OR MIR 162? OR MIR162? OR
      SYN!IR162? OR SYN IR162? OR SYNIR162?
L12     QUE SPE=ON  ABB=ON  PLU=ON  YIELD GARD? OR YIELDG? OR YIELD!GAR
      D? OR YIELDGARD? OR ROUNDUPREADY? OR ROUND UP READY? OR
      ROUND!UP!READY? OR ROUND!UP READY? OR ROUNDUP READY? OR RR2?
      OR RRII? OR VT? PRO? OR VT! PRO OR VT PRO? OR VT!PRO? OR
      VTPRO? OR DROUGHTGARD? OR DROUGHT GARD? OR HERCULEX?
L13     QUE SPE=ON  ABB=ON  PLU=ON  LIBERTY LINK? OR LIBERTYLINK? OR
      LIBERTY!LINK OR VT? TRIPLE? OR VTTRIPLE? OR VT!TRIPLE? OR VT
      TRIPLE? OR VT DOUBLE PRO? OR VT DOUBLEPRO? OR VTDOUBLE PRO? OR
      VTDOUBLEPRO? OR VT!DOUBLE PRO? OR VT DOUBLEPRO? OR VT!DOUBLEPRO
      ? OR VT!2!PRO?
L14     QUE SPE=ON  ABB=ON  PLU=ON  SMARTSTAX? OR SMART STAX? OR
      SMART!STAX? OR RHS OR HYBRIDIZATION SYSTEM OR VT 2 PRO? OR
      POWER CORE? OR POWERCORE? OR AGRISURE? OR VIPTERA? OR TRECEPTA?
L15     QUE SPE=ON  ABB=ON  PLU=ON  MAIZE? OR CORN? OR "ZEA MAYS" OR
      "Z. MAYS"
L16     QUE SPE=ON  ABB=ON  PLU=ON  CP4EPSPS? OR CP4 EPSPS? OR
      5(W) (ENOLPYRUVYLSHIKIMATE OR ENOL PYRUVYL SHIKIMATE OR
      ENOLPYRUVYL SHIKIMATE OR ENOL PYRUVYLSHIKIMATE OR ENOL!PYRUVYL!
      SHIKIMATE!) (W)3 PHOSPHATE SYNTHASE OR PAT OR PHOSPHINOTHRICIN
L17     QUE SPE=ON  ABB=ON  PLU=ON  N!ACETYLTRANSFERASE OR N!ACETYL
      TRANSFERASE OR N!ACETYL!TRANSFERASE OR N ACETYL TRANSFERASE OR
      N ACETYL!TRANSFERASE OR N ACETYLTRANSFERASE
```

L18 QUE SPE=ON ABB=ON PLU=ON CRY1AB OR CRY1 AB OR CRY 1 AB OR CRY 1AB OR CRYIAB OR CRYI AB OR CRY I AB OR CRY IAB OR CRY1A105 OR CRY1A 105 OR CRY 1A 105 OR CRY 1A105 OR CRYIA105 OR CRYIA 105 OR CRY IA 105 OR CRY IA105 OR CRYIA.105

L19 QUE SPE=ON ABB=ON PLU=ON CRY2AB? OR CRY2 AB? OR CRY 2 AB? OR CRY 2AB? OR CRYIIAB? OR CRYII AB? OR CRY II AB? OR CRY IIAB? OR CRYIF OR CRYI F OR CRY 1 F OR CRY 1F OR CRYIF OR CRYI F OR CRY I F OR CRY IF OR VIP3AA20 OR VIP3!AA20 OR VIP3 AA20

L20 QUE SPE=ON ABB=ON PLU=ON CRY3BB? OR CRY3 BB? OR CRY 3 BB? OR CRY 3BB? OR CRYIIIBB? OR CRYIII BB? OR CRY III BB? OR CRY IIIBB? OR CRY34AB1? OR CRY34AB 1? OR CRY 34AB 1? OR CRY 34AB1? OR GPP34AB1? OR GPP34AB 1? OR GPP 34AB 1? OR GPP 34AB1?

L21 QUE SPE=ON ABB=ON PLU=ON CRY35AB1? OR CRY35AB 1? OR CRY 35AB 1? OR CRY 35AB1? OR TPP35AB1? OR TPP35AB 1? OR TPP 35AB 1? OR TPP 35AB1?

L22 QUE SPE=ON ABB=ON PLU=ON CSPB OR CSP B OR COLD SHOCK PROTEIN B OR COLD!SHOCKPROTEIN!B OR COLD!SHOCK PROTEIN!B OR COLD!SHOCK!PROTEIN!B OR ATHB17? OR ATHB!17? OR ATHB 17? OR HB17? OR HB!17? OR HB 17?

L23 QUE SPE=ON ABB=ON PLU=ON (RNA? OR DSRNA? OR SIRNA?) (5A) (DVS NF7 OR WCR SNF7 OR CRW SNF7 OR DV SNF7 OR DVS NF 7 OR DV SNF 7 OR DV.SNF7 OR SNF7)

L24 QUE SPE=ON ABB=ON PLU=ON GMO? OR LMO? OR GM OR GE OR TRANSGEN? OR ((GENETIC? OR LIVING OR BIOTECH?) (5A) (MODIF? OR TRANSFORM? OR MANIPULAT? OR IMPROV? OR ENGINEER? OR DERIV?))

L25 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP OR GLUFOSINATE OR GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)

L26 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (BORER? OR EARWORM? OR BOLLWORM? OR ARMYWORM? OR EAR WORM? OR BOLL WORM? OR ARMY WORM? OR LEPIDOPTERA? OR NOCTUIDAE)

L27 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (CRAMBIDAE OR OSTRINIA OR SESAMIA OR CHILO OR DIATRAEA OR SPODOPTERA OR BUSSEOLA OR HELICOVERPA OR FURNACALIS OR NUBILALIS OR NONAGRIOIDES OR PARTELLUS)

L28 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (GRANDIOSELLA OR SACCHARALIS OR FRUGIPERDA OR FUSCA OR ZEA OR ARMIGERA OR ECB OR MCB OR ACB OR SSB OR SWCB OR SCB OR FAW OR AMSB OR CEW OR CBW OR OBW)

L29 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (EXIGUA OR CUTWORM? OR CUT WORM? OR STRIACOSTA OR AGROTIS OR FELTIA OR PSEUDALETIA OR ALBICOSTA OR IPSILON OR JACULIFERA OR UNIPUNCTA OR WBC)

L30 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (ROOTWORM? OR ROOT WORM? OR COLEOPTERA? OR CHRYSOMEL? OR DIABROTICA OR VIRGIFERA OR BARBERI OR UNDECIMPUNCTATA OR CRW OR WCR? OR NCR? OR SCR? OR MCR?)

L31 QUE SPE=ON ABB=ON PLU=ON (BTMAIZE OR BTCORN OR BT MAIZE OR BT CORN OR BT!MAIZE OR BT!CORN OR THURINGIENSIS!MAIZE OR THURINGIENSISMAIZE OR THURINGIENSIS MAIZE OR THURINGIENSIS!CORN OR THURINGIENSISCORN OR THURINGIENSIS CORN)

L32 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) DROUGHT OR (EFFICIEN? OR REDUC? OR LIMIT? OR DECRE? OR LOW?) (5A) WATER

L33 QUE SPE=ON ABB=ON PLU=ON (HYBRID? OR CROSS? OR POLLEN? OR POLLINAT? OR STERIL?(5A) MALE) AND (GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP?)

L34 QUE SPE=ON ABB=ON PLU=ON (INCRE? OR ENHANCE?) (5A) (EAR SIZE OR EAR BIOMASS OR EAR GROWTH OR EAR WEIGHT OR EAR MASS OR SINK CAPACITY OR SINK POTENTIAL)

L35 QUE SPE=ON ABB=ON PLU=ON ZEA MAYS+UF,NT/CT,ORGN OR MAIZE+UF,NT/CT,ORGN

L36 QUE SPE=ON ABB=ON PLU=ON GENETIC ENGINEERING+UF,NT/CT OR GENETIC TRANSFORMATION+UF,NT/CT OR GENETICALLY ENGINEERED FOODS+UF,NT/CT OR GENETICALLY ENGINEERED ORGANISMS+UF,NT/CT OR FOOD BIOTECHNOLOGY+UF,NT/CT

L37 QUE SPE=ON ABB=ON PLU=ON (WEED CONTROL+UF,NT/CT OR INSECT CONTROL+UF,NT/CT) AND (LEPIDOPTERA+UF,NT2/CT,ORGN OR COLEOPTERA +UF,NT2/CT,ORGN OR GLYPHOSATE+UF,NT/CT OR GLUFOSINATE+UF,NT/CT)

L38 QUE SPE=ON ABB=ON PLU=ON (HYBRIDIZATION+UF,NT/CT OR CROSSING+UF,NT/CT OR PLANT BREEDING METHODS+UF,NT/CT OR POLLINATION+UF,NT/CT OR MALE STERILITY+UF,NT/CT) AND GLYPHOSATE +UF,NT/CT

L39 QUE SPE=ON ABB=ON PLU=ON DROUGHT RESISTANCE+UF,NT/CT OR BIOMASS PRODUCTION+UF,NT/CT

Search in SciSearch Database:

FILE 'SCISEARCH' ENTERED AT 14:30:25 ON 09 JUN 2022

L40 22 SEA SPE=ON ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR L10 OR L11) AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L41 175 SEA SPE=ON ABB=ON PLU=ON (L12 OR L13 OR L14) AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L42 9463 SEA SPE=ON ABB=ON PLU=ON L15 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L43 6 SEA SPE=ON ABB=ON PLU=ON L41 AND L42

L44 365 SEA SPE=ON ABB=ON PLU=ON (L16 OR L17) AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L45 40 SEA SPE=ON ABB=ON PLU=ON (L18 OR L19) AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L46 3 SEA SPE=ON ABB=ON PLU=ON (L20 OR L21) AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L47 35 SEA SPE=ON ABB=ON PLU=ON L22 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L48 1 SEA SPE=ON ABB=ON PLU=ON L23 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L49 441 SEA SPE=ON ABB=ON PLU=ON L44 OR L45 OR L46 OR L47 OR L48

L50 10209 SEA SPE=ON ABB=ON PLU=ON L24 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L51 63 SEA SPE=ON ABB=ON PLU=ON L49 AND (L50 OR L42)

L52 83 SEA SPE=ON ABB=ON PLU=ON L25 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L53 126 SEA SPE=ON ABB=ON PLU=ON (L26 OR L27 OR L28 OR L29) AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L54 801 SEA SPE=ON ABB=ON PLU=ON L30 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L55 27 SEA SPE=ON ABB=ON PLU=ON L31 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L56 10234 SEA SPE=ON ABB=ON PLU=ON L32 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L57 36 SEA SPE=ON ABB=ON PLU=ON L33 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L58 8 SEA SPE=ON ABB=ON PLU=ON L34 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L59 11233 SEA SPE=ON ABB=ON PLU=ON L52 OR L53 OR L54 OR L56 OR L57 OR L58

L60 48 SEA SPE=ON ABB=ON PLU=ON L59 AND L50 AND L42

L61 22 SEA SPE=ON ABB=ON PLU=ON L55 AND L50

L62 56 SEA SPE=ON ABB=ON PLU=ON L61 OR L60

L63 125 SEA SPE=ON ABB=ON PLU=ON L40 OR L43 OR L51 OR L62

Search in CABA Database:

FILE 'CABA' ENTERED AT 15:31:09 ON 09 JUN 2022

L64 22 SEA SPE=ON ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR L10 OR L11) AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L65 40 SEA SPE=ON ABB=ON PLU=ON (L12 OR L13 OR L14) AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L66 5261 SEA SPE=ON ABB=ON PLU=ON L15 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

L67 3201 SEA SPE=ON ABB=ON PLU=ON L35 AND ED>=20220131 AND ED<=20220606 AND PY>=2021

		06 AND PY>=2021		
L68	5264	SEA SPE=ON ABB=ON PLU=ON	L66 OR L67	
L69	3	SEA SPE=ON ABB=ON PLU=ON	L65 AND L68	
L70	140	SEA SPE=ON ABB=ON PLU=ON	(L16 OR L17) AND ED>=20220131 AND	
		ED<=20220606 AND PY>=2021		
L71	29	SEA SPE=ON ABB=ON PLU=ON	(L18 OR L19) AND ED>=20220131 AND	
		ED<=20220606 AND PY>=2021		
L72	3	SEA SPE=ON ABB=ON PLU=ON	(L20 OR L21) AND ED>=20220131 AND	
		ED<=20220606 AND PY>=2021		
L73	3	SEA SPE=ON ABB=ON PLU=ON	L22 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L74	1	SEA SPE=ON ABB=ON PLU=ON	L23 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L75	173	SEA SPE=ON ABB=ON PLU=ON	L70 OR L71 OR L72 OR L73 OR L74	
L76	3882	SEA SPE=ON ABB=ON PLU=ON	L24 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L77	1727	SEA SPE=ON ABB=ON PLU=ON	L36 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L78	3892	SEA SPE=ON ABB=ON PLU=ON	L76 OR L77	
L79	58	SEA SPE=ON ABB=ON PLU=ON	L75 AND (L68 OR L78)	
L80	80	SEA SPE=ON ABB=ON PLU=ON	L25 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L81	126	SEA SPE=ON ABB=ON PLU=ON	(L26 OR L27 OR L28 OR L29) AND	
		ED>=20220131 AND ED<=20220606 AND PY>=2021		
L82	466	SEA SPE=ON ABB=ON PLU=ON	L30 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L83	18	SEA SPE=ON ABB=ON PLU=ON	L31 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L84	5289	SEA SPE=ON ABB=ON PLU=ON	L32 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L85	28	SEA SPE=ON ABB=ON PLU=ON	L33 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L86	8	SEA SPE=ON ABB=ON PLU=ON	L34 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L87	149	SEA SPE=ON ABB=ON PLU=ON	L37 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L88	3	SEA SPE=ON ABB=ON PLU=ON	L38 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L89	1711	SEA SPE=ON ABB=ON PLU=ON	L39 AND ED>=20220131 AND ED<=202206	
		06 AND PY>=2021		
L90	6460	SEA SPE=ON ABB=ON PLU=ON	L80 OR L81 OR L82 OR L84 OR L85 OR	
		L86 OR L87 OR L88 OR L89		
L91	47	SEA SPE=ON ABB=ON PLU=ON	L90 AND L78 AND L68	
L92	17	SEA SPE=ON ABB=ON PLU=ON	L83 AND L78	
L93	56	SEA SPE=ON ABB=ON PLU=ON	L92 OR L91	
L94	117	SEA SPE=ON ABB=ON PLU=ON	L64 OR L69 OR L79 OR L93	

Deduplication of Hit-sets from both sources:

FILE 'CABA, SCISEARCH' ENTERED AT 15:32:33 ON 09 JUN 2022
L95 224 DUP REM L94 L63 (18 DUPLICATES REMOVED)
ANSWERS '1-117' FROM FILE CABA
ANSWERS '118-224' FROM FILE SCISEARCH
D L95 1-224 ALL PY

FILE SCISEARCH

FILE COVERS 1974 TO 6 Jun 2022 (20220606/ED)

To bring you the most up-to-date SciSearch information,
SciSearch SDIs now run on Mondays.

FILE CABA

FILE LAST UPDATED: 7 JUN 2022 <20220607/UP>
FILE COVERS 1973 TO DATE

Annex III. List of reference publications used in identifying search terms and in validating the literature search strategy for MON 810 maize literature search

The list below includes reference publications used for each relevant key element, namely event name, trade name, newly expressed proteins and intended traits. For GMO general and crop name search terms, given the breadth of the terms and as they are used to focus the search to GM crops, reference publications were considered not applicable.

Castañera P, Farinós G, Ortego F and Andow D. (2016). Sixteen Years of BtMaize in the EU Hotspot: Why Has Resistance Not Evolved? Plos One, 1-13.

Farinós GP, Hernández-Crespo P, Ortego F and Castañera P. (2017). Monitoring of *Sesamia nonagrioides* resistance to MON 810 maize in the European Union: lessons from a long-term harmonized plan. Pest Management Science, 74, 557-568. Hammond BG, Dudek R,

Lemen JK and Nemeth MA. (2006). Results of a 90-day safety assurance study with rats fed grain from corn borer-protected corn. Food and Chemical Toxicology, 44, 1092-1099.

Thieme T, Buuk C, Gloyna K, Ortego F and Farinós G. (2017). Ten years of MON 810 resistance monitoring of field populations of *Ostrinia nubilalis* in Europe. Journal of Applied Entomology, 00, 1-9.

Annex IV. Literature search in internet pages of relevant key organisations for MON 810 maize covering time span 2021 - 2022

Relevant key organisations	Link to the relevant information and summary of the retrieved records
US EPA	<p>https://www.epa.gov/ingredients-used-pesticide-products/current-and-previously-registered-section-3-plant-incorporated – Accessed on 12 September 2022. The webpage dedicated to PIP registrations was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> 14 July 2020</p> <p><i>Limits applied:</i> The list of PIP active ingredients registered was sorted by ‘Year Registered’ and those registered starting from 01/01/2021 were assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “Zero”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> No record was retrieved.</p>
USDA	<p>https://www.aphis.usda.gov/aphis/ourfocus/biotechnology/permits-notifications-petitions/petitions/petition-status - Accessed on 12 September 2022. The webpage dedicated to petitions for determination of nonregulated status was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> 23 August 2022</p> <p><i>Limits applied:</i> The list of the petitions was sorted by ‘Effective Date’ and those deregulated starting from 01/01/2021 were assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “Six”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to MON 810.</p>
US FDA	<p>https://www.accessdata.fda.gov/scripts/fdcc/?set=Biocon – Accessed on 12 September 2022. The webpage dedicated to biotechnology consultations on food from GE plant varieties was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> 09 September 2022</p> <p><i>Limits applied:</i> The list of the consultations starting from the ‘FDA Letter Date’ of 01/01/2021 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “11”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to MON 810.</p>
CFIA	<p>https://inspection.canada.ca/industry-guidance/eng/1374161650885/1374161737236?gp=3&gc=25&ga=4#gdr_results - Accessed on 12 September 2022. The webpage dedicated to repository documents referring to plants with novel traits was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> Not clear (several dates mentioned)</p> <p><i>Limits applied:</i> The list of repository documents referring to plants with novel traits starting from ‘Date modified’ of 01/01/2021 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “43”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to MON 810.</p>

Health Canada	<p>https://www.canada.ca/en/health-canada/services/food-nutrition/genetically-modified-foods-other-novel-foods/approved-products.html - Accessed on 12 September 2022. The webpage dedicated to approved products of genetically modified (GM) foods and other novel foods was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> 10 August 2022</p> <p><i>Limits applied:</i> The list of novel food decisions starting from the ‘Decision Date (YYYY/MM/DD)’ of 01/01/2021 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “18”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to MON 810.</p>
FSANZ	<p>http://www.foodstandards.gov.au/consumer/gmfood/applications/Pages/default.aspx - Accessed on 04 October 2022. The webpage dedicated to current GM applications and approvals was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> May 2022</p> <p><i>Limits applied:</i> The list for GM applications and approvals with ‘Status’ approved or under assessment starting from 2021 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “Six”</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to MON 810.</p>
CTNBio	<p>http://ctnbio.mctic.gov.br/liberacao-comercial#/liberacao-comercial/consultar-processo – Accessed on 12 September 2022. The webpage dedicated to commercial releases (= Liberações Comerciais) was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> Not clear (several dates mentioned)</p> <p><i>Limits applied:</i> The list of commercial releases for plants (= plantas) starting from 01/01/2021 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “10”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to MON 810.</p>
CONABIA	<p>https://www.argentina.gob.ar/agroindustria/alimentos-y-bioeconomia/ogm-comerciales – Accessed on 12 September 2022. The webpage of the national advisory commission on agricultural biotechnology (= Comisión Nacional Asesora de Biotecnología Agropecuaria) was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> Not available</p> <p><i>Limits applied:</i> The list of events with commercial authorisation (= Eventos con autorización comercial) starting from 01/01/2021 were checked.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “Five”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to MON 810.</p>
MAFF	<p>https://www.maff.go.jp/j/syouan/nouan/carta/torikumi/attach/pdf/index-23.pdf Accessed on 12 September 2022. The weblink dedicated to list of approved genetically modified agricultural crops was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> 27 May, 2022</p> <p><i>Limits applied:</i> The list of GM agricultural crops with approval date (‘承認日’) starting from 01/01/2021 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “15”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to MON 810.</p>

Annex V. Results of the publication selection process for MON 810 maize literature search in SciSearch and CABA databases using STN[®] database catalogue

Table 1. Results of the publication selection process.

Review question captured in the search	Number of publications
Publications identified after searches of the scientific literature in SciSearch and CABA databases (following de-duplication)	540
Publications excluded after rapid assessment for relevance	521
Publications screened using full-text	19
Publications excluded after detailed assessment for relevance	8
Unobtainable publications	0
Unclear publications	4
Publications considered relevant	7

Table 2. List of all relevant publications retrieved after detailed assessment of full-text documents for relevance: ordered by category of information.

Products ¹	Study (author(s) and year)	Title	Source
Food/Feed safety assessment			
Toxicology - Animal feeding / In vitro / Nutrition			
MON 810	Gyurcsó <i>et al.</i> , 2022	Herbivorous juvenile grass carp (<i>Ctenopharyngodon idella</i>) fed with genetically modified MON 810 and DAS-59122 maize varieties containing cry toxins: intestinal histological, developmental, and immunological investigations	Toxins
Agronomic and phenotypic characteristics			
MON 810	Arias-Martín <i>et al.</i> , 2021	Role of <i>Sesamia nonagrioides</i> and <i>Ostrinia nubilalis</i> as vectors of <i>Fusarium</i> spp. and contribution of corn borer - resistant <i>Bt</i> maize to mycotoxin reduction	Toxins
MON 810	Bonea and Dunareanu, 2021	Behavior of some GM and conventional maize hybrids under drought and heat conditions	Scientific Papers Series - Management, Economic Engineering in Agriculture and Rural Development
Environmental safety assessment			
Insect resistance management			
MON 810	Chvátalová, 2021	The post-market environmental monitoring of GM maize in the EU has a limited capacity to identify adverse effects	Environmental Science & Policy
Non target organisms			
MON 810	Lanzoni <i>et al.</i> , 2022	Assessing the effects of <i>Bt</i> maize on the non-target pest <i>Rhopalosiphum maidis</i> by demographic and life-history	Bulletin of Entomological

		measurement endpoints	Research
Gene flow			
MON 810	Lohn <i>et al.</i> , 2021	Transgene behavior in genetically modified teosinte hybrid plants: transcriptome expression, insecticidal protein production and bioactivity against a target insect pest	PLoS One
Ecology			
MON 810	Caputi <i>et al.</i> , 2022	Trophic attractiveness for soil fauna of residues of Bt and near-isogenic maize: a C and N stable isotope-based study	Agriculture Ecosystems & Environment

Table 3. List of publications excluded from the risk assessment after detailed assessment of full-text documents, with the reasons for exclusion

Study authors	Year	Title	Source	Reasons for exclusion based on the eligibility/inclusion criteria
Adams <i>et al</i>	2021	Fall armyworm in corn production: evaluation of control methods	Revista Agrarian	The article is not a safety study on MON 810
Bogard <i>et al</i>	2021	Isogenic genetically-modified and non-genetically-modified corn yields and response to drought and N rates.	Agriculture and Natural Resources	The article is not a safety study on MON 810
Brandão-Dias <i>et al</i>	2021	Fate of environmental proteins (eProteins) from genetically engineered crops in streams is controlled by water pH and ecosystem metabolism	Environmental Science & Technology	The article is not a safety study on MON 810
Nie <i>et al</i>	2021	Spatial and temporal distribution of <i>Bt</i> proteins in Bt maize leaves	Food and Agricultural Immunology	The article is not a safety study on MON 810
Qiao <i>et al</i>	2021	Assessing the contribution of nitrogen fertilizer and soil quality to yield gaps: a study for irrigated and rainfed maize in China	Field Crops Research	The article is not a safety study on MON 810
Shen <i>et al</i>	2022	Evaluation of adverse effects/events of genetically modified food consumption: a systematic review of animal and human studies	Environmental Sciences Europe	Original/primary data were not presented in the publication
Towles <i>et al</i>	2021	Quantifying the contribution of seed blended refugia in field corn to <i>Helicoverpa zea</i> (Lepidoptera: Noctuidae) populations	Field Crops Research	The article is not a safety study on MON 810
Wang <i>et al</i>	2022	Unintended changes in transgenic maize cause no nontarget effects	Plants People Planet	The article is not a safety study on MON 810

Table 4. List of unclear publications, with explanation why they could not be classified

Study authors	Year	Title	Source	Explanation of why the publication could not be classified, with a description of methods used to resolve the remaining uncertainty
Dorman <i>et al</i>	2021	Soybeans as a non- <i>Bt</i> refuge for <i>Helicoverpa Zea</i> in maize-cotton agroecosystems.	Agriculture, Ecosystems & Environment	Based on the publicly available information, it was not possible to determine whether the event used in the study was MON 810
Macar <i>et al</i>	2021	Morphological and biochemical comparison of <i>Bt</i> corn seedlings with non-trangenic counterparts	Fresenius Environmental Bulletin	Based on the publicly available information, it was not possible to determine whether the event used in the study was MON 810
Orta <i>et al</i>	2022	The influence of planting periods on herbivore and natural enemy abundance on yellow sticky traps in <i>Bt</i> maize fields	Insects	Based on the publicly available information, it was not possible to determine whether the event used in the study was MON 810
Wang <i>et al</i>	2021	Do higher temperatures influence how yields respond to increasing planting density?	Agricultural and Resource Economics Review	Based on the publicly available information, it was not possible to determine whether the event used in the study was MON 810

Table 5. Report of the reliability and implications for the risk assessment of the relevant publication retrieved after detailed assessment of full-text document for relevance.

Study author(s) and year	Reliability appraisal	Implications for the risk assessment
Food/Feed Safety assessment		
Toxicology - Animal feeding / In vitro / Nutrition		
Gyurcsó <i>et al.</i> , 2022	Not reliable	None, because no new hazards, modified exposure, or new scientific uncertainties are reported
Agronomic and phenotypic characteristics		
Arias-Martín <i>et al.</i> , 2021	Moderate	None, because no new hazards, modified exposure, or new scientific uncertainties are reported
Bonea and Dunareanu, 2021	Low	None, because no new hazards, modified exposure, or new scientific uncertainties are reported
Environmental Safety assessment		
Insect resistance management		
Chvátalová, 2021	Not reliable	None, because no new hazards, modified exposure, or new scientific uncertainties are reported
Non target organisms		
Lanzoni <i>et al.</i> , 2022	Low	None, because no new hazards, modified exposure, or new scientific uncertainties are reported
Gene flow		
Lohn <i>et al.</i> , 2021	Moderate	None, because no new hazards, modified exposure, or new scientific uncertainties are reported ¹
Ecology		
Caputi <i>et al.</i> , 2022	Low	None, because no new hazards, modified exposure, or new scientific uncertainties are reported

- 1 The experimental approach of Lohn et al. was to collect “teosinte” seeds from the field in Spain, hand-cross (in both directions, with teosinte as either pollen donor or recipient) the resulting plants with plants of a commercial *Bt* maize hybrid, and grow seeds of the resulting F1 to V5-V7 for bioassays (transgene expression, Cry1Ab protein and bioactivity against ECB). The authors observed that F1 plants could be produced, particularly with *Bt* maize as the female parent, and that the F1 had comparable transgene expression and Cry1Ab levels to the *Bt* maize plants.

Limitations of the design start with the method of F1 production (hand-crossing), that overcomes various barriers to hybridization including temporal asynchrony, self-pollination, etc, and so can only demonstrate that hybridization may be possible. The rate of hybridization at the field-level, and the fitness of any such hybrids under field conditions, are not measured in this paper. This simple observation (that hybridization may be possible) is consistent with previous literature and not a new result. Transgene expression and Cry1Ab proteins levels were measured using standard methods. These methods (inclusive of how samples are taken and handled, and the measurement methods themselves) are inherently variable (at least 2-3-fold variability being common in relevant submissions and publications), and therefore lack of correlation between transgene expression and Cry1Ab level may simply reflect method variability. Therefore the authors conclusion that this lack of correlation is biologically real and a risk assessment concern cannot be drawn from these data.

Bioactivity against ECB was measured in a way that was not in keeping with the literature. First, ECB susceptibility to *Bt* proteins has been shown to decrease with larval instar size/development, so the choice of 2nd instar larvae for bioassays will tend to underestimate impacts of the plant lines on ECB (an odd choice given exposure in the field will be overwhelmingly at the first instar stage). Second, a short duration assay (4-day) and then only measuring larval survival also will underestimate effects of the Cry1Ab exposure because larvae will be able to survive the assay without feeding on the leaf disks. Therefore, the <100% mortality observed is likely an artefact of the assay design and the authors comment about incomplete control and resistance selection is not supported by the data. Similarly, the observed lack of correlation between Cry1Ab level and bioactivity is unsurprising because there is very little variability in the measured mortality (see Figure 4), so there is no ability to observe a correlation if present (and recognizing also the inadequacy of the bioassay measurement as described in the previous point). Thus the conclusion that there is no correlation between Cry1Ab level and ECB response, and that this is a concern for risk assessment, also is not supported by the data.

The authors claim that the transfer of the transgene will significantly increase the fitness/weediness of the “teosinte” in Spain. This is not supported by any direct evidence and equally important is not supported by a large literature on the characteristics of weed ecology and evolution.

REFERENCES

- Arias-Martín M, Haidukowski M, Farinós GP and Patiño B, 2021. Role of *Sesamia nonagrioides* and *Ostrinia nubilalis* as vectors of *Fusarium* spp. and contribution of corn borer-resistant Bt maize to mycotoxin reduction. *Toxins*, 13, 780.
- Bonea D and Dunareanu IC, 2021. Behavior of some GM and conventional maize hybrids under drought and heat conditions. *Scientific Papers: Management, Economic Engineering in Agriculture & Rural Development*, 21.
- Caputi SS, Rossi L, Pons X, Careddu G, Calizza E and Costantini ML, 2022. Trophic attractiveness for soil fauna of residues of Bt and near-isogenic maize: a C and N stable isotope-based study. *Agriculture, Ecosystems & Environment*, 329, 107868.
- Chvátalová V, 2021. The post-market environmental monitoring of GM maize in the EU has a limited capacity to identify adverse effects. *Environmental Science & Policy*, 121, 11-17.
- Gyurcsó G, Darvas B, Baska F, Simon L, Takács E, Klátyik S and Székács A, 2022. Herbivorous juvenile grass carp (*Ctenopharyngodon idella*) fed with genetically modified MON 810 and DAS-59122 maize varieties containing cry toxins: intestinal histological, developmental, and immunological investigations. *Toxins*, 14, 153.
- Lanzoni A, Bosi S, Bregola V, Camastra F, Ciaramella A, Staiano A, Dinelli G and Burgio G, 2022. Assessing the effects of Bt maize on the non-target pest *Rhopalosiphum maidis* by demographic and life-history measurement endpoints. *Bulletin of Entomological Research*, 112, 29-43.
- Lohn AF, Trtikova M, Chapela I, Binimelis R and Hilbeck A, 2021. Transgene behavior in genetically modified teosinte hybrid plants: transcriptome expression, insecticidal protein production and bioactivity against a target insect pest. *Environmental Sciences Europe*, 33, 1-13.

Annex VI. List of relevant publications retrieved from SciSearch and CABA databases using STN[®] database catalogue (provided in .RIS format)

The list of the relevant publications is enclosed with this report (*see* MON 810_RIS.txt file).