APPENDIX 3

LITERATURE SEARCH TO SUPPORT GENERAL SURVEILLANCE OF 2021/2022 ANNUAL POST MARKET ENVIRONMENTAL MONITORING REPORTS OF BAYER GM SOYBEAN PRODUCTS

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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 Bayer GM soybean products, derived food/feed products and their respective introduced traits 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 searching[2]. Literature searching for Bayer GM soybean products 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 searching[2] 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.

Additionally, a literature search was conducted for Bayer GM soybean product newly authorised during the 2021 – 2022 monitoring season, *i.e.* MON 87769 × MON89788. The search covered the time span from the adoption of the EFSA opinion till the time of the authorisation (2015 – 2022).

The literature searches 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 searches found no new information that would invalidate the conclusions of the risk assessment for Bayer GM soybean products.

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[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.

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1. INTRODUCTION

As part of the general surveillance requirements for Bayer GM soybean products authorised in the European Union (EU) market under regulation (EC) No 1829/2003[3], Bayer Agriculture BV has actively monitored the soybean products by conducting quarterly literature searches covering the time span between June 2021 and May 2022.

Additionally, a literature search was conducted for Bayer GM soybean product newly authorised during the 2021 – 2022 monitoring season, *i.e.* MON 87769 × MON89788. The search covered the time span from the adoption of the EFSA opinion till the time of the authorisation (2015 – 2022).

The results of the literature searches that were analysed in detail according to the relevance for the risk assessment of the Bayer GM soybean products 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 Bayer GM soybean products, 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 searching[2].

Key elements used for the review question are humans, animals, and/or the environment (= population), Bayer GM soybean products, derived food/feed products and respective introduced traits (= intervention/exposure), conventional counterpart or non-GM soybean (= 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** .

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[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.

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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.e.* authorisation for all uses as any other soybean but excluding the cultivation of Bayer GM soybean products are addressed as general protection goals.
Intervention/exposure	Bayer GM soybean products derived food/feed products and corresponding 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 soybean 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	
Stacked events	The single events addressed in the publication are the single events in stacked Bayer GM soybean products. Stacked Bayer GM soybean products are addressed in the study.
Information/ data requirements, including source of publications data	The publication potentially contributes to the knowledge of the risk assessment of Bayer GM soybean products for all uses as any other soybean but excluding 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 searching[2]. Following a conservative approach, Bayer selected the broad inclusion/eligibility criteria that align with the review question and the scope of the Bayer GM soybean products' 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.

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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 making [4] and the 2019 EFSA explanatory note on literature searching[2], 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 selects the SciSearch (Science Citation Index)[5] and the CABA[6] (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 catalogue[8].

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

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[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.

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 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[2], 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[2], nine[10] are involved in risk assessment of Bayer GM soybean products. 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 Bayer GM soybean products.

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 searching[2]:

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

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

[10] Internet pages of the relevant key organisations for Bayer GM soybean products:
US EPA (https://www.epa.gov/environmental-topics/science-topics) - Accessed on 19 September 2022;
USDA (https://www.usda.gov/media) - Accessed on 19 September 2022;
US FDA (https://www.fda.gov/) - Accessed on 19 September 2022;
CFIA (http://www.inspection.gc.ca/eng/1297964599443/1297965645317) - Accessed on 19 September 2022;
Health Canada (https://www.canada.ca/en/health-canada.html) - Accessed on 19 September 2022;
FSANZ (http://www.foodstandards.gov.au/Pages/default.aspx) - Accessed on 19 September 2022;
CTNBio (http://ctnbio.mctic.gov.br/) - Accessed on 19 September 2022;
CONABIA (https://www.argentina.gob.ar/) - Accessed on 19 September 2022;
Japan MAFF (http://www.maff.go.jp/e/) - Accessed on 19 September 2022.

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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 to give an excellent coverage and retrieve the broadest possible number of articles related to Bayer GM soybean products.

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® commands[11] 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 both[12]. 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 terms[13]. 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.

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[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.

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.

3.2.4. Time period

The literature searches covered the time span 1 June 2021 - 31 May 2022[14].

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 searching[2], 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 Bayer GM soybean products.

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 Bayer GM soybean products.

The literature search in the internet pages of the relevant key organisations was conducted on 08 September/04 October 2022 and covered the time span 01 January 2021 – 08 September/04 October 2022. Additional search in the internet pages of the relevant key organisations for the Bayer GM soybean product newly authorised during the 2021-2022 monitoring season was conducted on 22 September 2022[15].

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[14] In addition, following the authorisation of MON 87769 × MON 89788 (Commission Implementing Decision (EU) 2022/798) a literature search covering the timespan from the adoption of EFSA scientific opinion till the time of the authorisation, *i.e.* 01 January 2015 – 01 August 2022 was performed. In the subsequent literature searches, the newly authorised product has been incorporated in the Bayer GM soybean products search as shown in Annex I and Annex II.

[15] Additional search in the internet pages of the relevant key organisations for the Bayer GM soybean product newly authorised during the 2021-2022 monitoring season, *i.e.* MON 87769 × MON 89788, was conducted on 22 September 2022 covering the timespan from the adoption of EFSA scientific opinion till the date of the search.

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

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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 searching[2] 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 Bayer GM soybean products for all uses as any other soybean but excluding 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

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 searching[2] 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.

<u>Appropriateness of the publication for the EFSA risk assessment</u>

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. SUMMARISING AND 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 276 and 257 hits in SciSearch and CABA databases, respectively (see **Annex II).** After de-duplication[16], the total number resulted in 390 hits (*see* **Annex V**).

Additionally, the literature search on Bayer GM soybean products newly authorised during the 2021-2022 monitoring season, *i.e.* MON 87769 × MON 89788, identified 1226 and 1032 hits in SciSearch and CABA databases, respectively (see **Annex II**). After de-duplication[16], the total number resulted in 1512 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 113 records. The links to the results of the literature search and the summary of the retrieved data are shown in **Annex IV.**

Additionally, the literature search in the internet pages of two relevant key organisations on the Bayer GM soybean products newly authorised during the 2021-2022 monitoring season, *i.e. MON* 87769 × MON 89788, retrieved a total of 95 records. The links to the results of the literature search and the summary of the retrieved data are shown in **Annex IV.**

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[16] Corresponds to the unique publications after STN® and manual de-duplication.

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**. Four relevant publications were retrieved after detailed assessment of the full text documents.

For bibliographic details regarding these publication(s) 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**. Three records were identified as relevant. For the full-text documents of the relevant publications, see **Annex IV**.

5.3. Considering the implications of the findings

The reliability assessment for the relevant publications is provided in **Annex V.** The three relevant records retrieved from the relevant key organisations (see **Annex IV**) are reliable since the rationale for the positive conclusions in those records are consistent with the results reported in the data package provided by Bayer. All the relevant publications have no implications for the risk assessment of Bayer GM soybean products 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 Bayer GM soybean products found no new information that would invalidate the conclusions of the risk assessment Bayer GM soybean products.

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 searching[2] to support the general surveillance in the context of 2021/2022 annual PMEM for Bayer GM soybean products, identified no relevant publications that would invalidate the conclusions of the Bayer GM soybean products previous risk assessments. Therefore, the conclusions of the risk assessment as presented in the initial applications of the Bayer GM soybean products remain unchanged.

Annex I.   Translation of intervention/exposure key elements into search terms for Bayer GM soybean products literature search in STN® database catalogue

1. Free-text search terms for Bayer GM Soybean 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	40-3-2 or MON-Ø4Ø32-6 MON 89788 or MON-89788-1 MON 87769 or MON-87769-7 MON 87701 or MON-877Ø1-2 MON 87705 or MON-877Ø5-6 MON 87708 or MON-877Ø8-9 MON 87751 or MON-87751-7 A5547-127 or ACS-GMØØ6-4	40!3!2 OR MON 04032? OR MON04032? OR MON O4O32? OR MONO4O32? OR MON EMPTY SET4EMPTY SET32? OR MONEMPTY SET4EMPTY SET32? OR MON!04032? OR MON!O4O32? OR MON!EMPTY SET4EMPTY SET32? MON 89788? OR MON89788? OR MON!89788? OR MON 87769? OR MON87769? OR MON!87769? MON87769? OR MON!87769? MON 87701? OR MON87701? OR MON 877O1? OR MON877O1? OR MON 877EMPTY SET1? OR MON877EMPTY SET1? OR MON!87701? OR MON!877O1? OR MON!877EMPTY SET1? MON 87705? OR MON87705? OR MON 877O5? OR MON877O5? OR MON 877EMPTY SET5? OR MON877EMPTY SET5? OR MON!87705? OR MON!877O5? OR MON!877EMPTY SET5? MON 87708? OR MON87708? OR MON 877O8? OR MON877O8? OR MON 877EMPTY SET8? OR MON877EMPTY SET8? OR MON!87708? OR MON!877O8? OR MON!877EMPTY SET8? MON 87751? OR MON87751? OR MON!87751? A5547!127 OR A5547 127 OR ACS!GM006? OR ACS!GMOO6? OR ACS!GMEMPTY SETEMPTY SET6? OR ACS GM006? OR ACS GMOO6? OR ACS GMEMPTY SETEMPTY SET6?
Trade names	Roundup Ready® soybean Roundup Ready 2 Yield® soybean Vistive Gold™ soybean	ROUNDUPREADY? OR ROUND!UP!READY? OR ROUND!UP READY? OR ROUNDUP READY? OR ROUND UP READY? OR RR2Y? OR RRIIY? OR INTACTA OR RR2 PRO? OR RRII PRO? OR VISTIVE? OR VISTIVE? GOLD? OR XTEND?

	Intacta RR2 Pro® soybean	OR XTENDFLEX? OR XTEND FLEX?
	Roundup Ready 2 Xtend® soybean	
	Intacta 2 Xtend™	
	XtendFlex™ Soybean	
Newly expressed proteins	CP4 EPSPS	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
	DMO	
	PAT	OR DICAMBA ?OXYGENASE OR DICAMBA ?DEMETHYLASE OR DMO?
	Cry1Ac	OR PAT OR PHOSPHINOTHRICIN OR N!ACETYL!TRANSFERASE OR N!ACETYLTRANSFERASE OR N!ACETYL TRANSFERASE OR N ACETYL!TRANSFERASE OR N ACETYLTRANSFERASE OR N ACETYL TRANSFERASE
	Cry1A.105	
	Cry2Ab2	
	Primula juliae Δ6 desaturase (Pj.D6D) and Neurospora crassa Δ15 desaturase (Nc.Fad3)	OR CRY1AC OR CRYIAC OR CRY1 AC OR CRY 1 AC OR CRY 1AC OR CRYI AC OR CRY I AC OR CRY IAC OR
		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 CRYIIAB? OR CRYII AB? OR CRY II AB? OR CRY IIAB? OR
		OR PJ!D6D OR PJD6D OR PJ D6D OR NC!FAD3 OR NCFAD3 OR NC FAD3 OR NC!FAD 3 OR NCFAD 3 OR NC FAD 3 OR DESATURASE?
Newly expressed RNAs	FATB1-A and FAD2-1A gene segments	(RNA? OR DSRNA? OR SIRNA?)(5A)
		(FAT! B? OR FAD!2? OR FAT B? OR FAD 2? OR FADB? OR FAD2? OR THIOESTERASE? OR DESATURASE?)
Intended traits: Herbicide tolerance traits	Glyphosate/roundup tolerance	(TOLERAN? OR RESISTAN? OR PROTEC?)(5A)
	Dicamba tolerance	(GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND!UP? OR ROUND UP? OR DICAMBA OR METHOXYBENZOIC ACID
	Glufosinate tolerance	OR GLUFOSINATE OR GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)

Intended traits: Insect protection traits	Bt soy (soybean)/ *Bacillus thuringiensis* soybean providing Lepidopteran protection or protection against soybean looper (SBL) or Sunflower looper (SFL) or Black armyworm or corn earworm (CEW) or cotton bollworm (CBW) or soybean podworm or old world bollworm or african bollworm or american bollworm or cotton bollworm or corn earworm (CEW) or sunflower looper or soybean anxil borer or soybean budborer or *Anticarsia gemmatalis* or *Chrysodeixis includens* or *Pseudoplusia includens* or *Rachiplusia nu* or *Spodoptera frugipeda* or *Helicoverpa zea* or *Helicoverpa armigera* *Crocidosema aporema* or *Epinotia aporema*	(BT SOY? OR BTSOY? OR BT!SOY? OR THURINGIENSIS SOY? OR THURINGIENSISSOY? OR THURINGIENSIS!SOY?) (TOLERAN? OR RESISTAN? OR PROTEC?)(5A)(CATERPILLAR? OR LOOPER? OR BORER? OR BUDBORER? OR LEPIDOPTERA? OR EREBIDAE OR NOCTUIDAE OR TORTRICIDAE OR ANTICARSIA OR GEMMATALIS OR CHRYSODEIXIS OR PSEUDOPLUSIA) OR INCLUDENS OR EPINOTIA OR CROCIDOSEMA OR APOREMA OR RACHIPLUSIA OR R. NU OR CHLORIDEA OR VIRESCENS OR VBC OR SBL OR SFL OR ARMYWORM? OR ARMY WORM? OR EARWORM? OR EAR WORM? OR BOLLWORM? OR BOLL WORM? OR PODWORM? OR POD WORM? OR SPODOPTERA OR COSMIOIDES OR FRUGIPERDA OR HELICOVERPA OR ZEA OR ARMIGERA OR FAW OR CEW OR CBW)
Intended traits: improved fatty acid profile	Expression of stearidonic acid (SDA; 18:4) Improved fatty acid profile (high monounsaturated fatty acids and low saturated and polyunsaturated fatty acids)	STEARIDONIC ACID OR SDA OR (HIGH? OR INCRE? OR CHANG?)(5A)(OLEIC OR MONOUNSATURATED OR MONO!UNSATURATED OR MONO UNSATURATED OR MUFA OR FAT?) (LOW? OR DECRE? OR REDUC?)(5A)(SATURATED OR PALMITIC OR STEARIC OR LINOLEIC OR POLYUNSATURATED OR POLY!UNSATURATED OR POLY UNSATURATED OR PUFA)
Crop name	Soybean, Soy, *Glycine max*	SOYBEAN? OR SOY? OR GLYCINE MAX OR G. MAX OR SOY BEAN
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.	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?))

2. Controlled vocabulary, if applicable. Bayer GM Soybean 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	Bt soy (soybean)/ *Bacillus thuringiensis* soybean providing Lepidopteran protection or protection against soybean looper (SBL) or Sunflower looper (SFL) or Black armyworm or corn earworm (CEW) or cotton bollworm (CBW) or soybean podworm or old world bollworm or 18merica bollworm or 18merican bollworm or cotton bollworm or corn earworm (CEW) or sunflower looper or soybean anxil borer or soybean budborer or *Anticarsia gemmatalis* or *Chrysodeixis includens* or *Pseudoplusia includens* or *Rachiplusia nu* or *Spodoptera frugipeda* or *Helicoverpa zea* or *Helicoverpa armigera Crocidosema aporema* or *Epinotia aporema* Glyphosate/roundup tolerance Dicamba tolerance Glufosinate tolerance	WEED CONTROL+UF,NT/CT OR INSECT CONTROL+UF,NT/CT) AND (GLYPHOSATE+UF,NT/CT OR DICAMBA+UF,NT/CT OR GLUFOSINATE+UF,NT/CT OR LEPIDOPTERA+UF,NT2/CT,ORGN)
Intended traits: Improved fatty acid profile	Improved fatty acid profile	SATURATED FATTY ACIDS+UF,NT/CT OR UNSATURATED FATTY ACIDS+UF,NT/CT
Crop name	Soybean, Soy, *Glycine max*	SOYABEANS+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 Bayer GM soybean products literature search in SciSearch and CABA databases using STN® database catalogue, and outcomes of the search (2021-2022)

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

Translation of query terms into STN search language:

```
          (FILE 'STNGUIDE' ENTERED AT 14:39:50 ON 12 OCT 2021)
                    DEL HIS Y
L1        QUE SPE=ON  ABB=ON  PLU=ON  40!3!2 OR MON 04032? OR MON04032?
                    OR MON O4O32? OR MONO4O32? OR MON EMPTY SET4EMPTY SET32? OR
                    MONEMPTY SET4EMPTY SET32? OR MON!04032? OR MON!O4O32? OR
                    MON!EMPTY SET4EMPTY SET32?
L2        QUE SPE=ON  ABB=ON  PLU=ON  MON 89788? OR MON89788? OR
                    MON!89788? OR MON 87769? OR MON87769? OR MON!87769?
L3        QUE SPE=ON  ABB=ON  PLU=ON  MON 87701? OR MON87701? OR MON
                    877O1? OR MON877O1? OR MON 877EMPTY SET1? OR MON877EMPTY SET1?
                    OR MON!87701? OR MON!877O1? OR MON!877EMPTY SET1?
L4        QUE SPE=ON  ABB=ON  PLU=ON  MON 87705? OR MON87705? OR MON
                    877O5? OR MON877O5? OR MON 877EMPTY SET5? OR MON877EMPTY SET5?
                    OR MON!87705? OR MON!877O5? OR MON!877EMPTY SET5?
L5        QUE SPE=ON  ABB=ON  PLU=ON  MON 87708? OR MON87708? OR MON
                    877O8? OR MON877O8? OR MON 877EMPTY SET8? OR MON877EMPTY SET8?
                    OR MON!87708? OR MON!877O8? OR MON!877EMPTY SET8?
L6        QUE SPE=ON  ABB=ON  PLU=ON  MON 87751? OR MON87751? OR
                    MON!87751?
L7        QUE SPE=ON  ABB=ON  PLU=ON  A5547!127 OR A5547 127 OR ACS!GM006
                    ? OR ACS!GMOO6? OR ACS!GMEMPTY SETEMPTY SET6? OR ACS GM006? OR
                    ACS GMOO6? OR ACS GMEMPTY SETEMPTY SET6?
L8        QUE SPE=ON  ABB=ON  PLU=ON  ROUNDUPREADY? OR ROUND!UP!READY?
                    OR ROUND!UP READY? OR ROUNDUP READY? OR ROUND UP READY? OR
                    RR2Y? OR RRIIY? OR INTACTA OR RR2 PRO? OR RRII PRO? OR
                    VISTIVE? OR VISTIVE? GOLD? OR XTEND? OR XTENDFLEX? OR XTEND
                    FLEX?
L9        QUE SPE=ON  ABB=ON  PLU=ON  SOYBEAN? OR SOY? OR GLYCINE MAX OR
                    G. MAX OR SOY BEAN
L10       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
L11       QUE SPE=ON  ABB=ON  PLU=ON  DICAMBA ?OXYGENASE OR DICAMBA
                    ?DEMETHYLASE OR DMO? PAT OR PHOSPHINOTHRICIN OR N!ACETYL!TRANSF
                    ERASE OR N!ACETYLTRANSFERASE OR N!ACETYL TRANSFERASE OR N
                    ACETYL!TRANSFERASE OR N ACETYLTRANSFERASE OR N ACETYL TRANSFERA
                    SE
L12       QUE SPE=ON  ABB=ON  PLU=ON  CRY1AC OR CRYIAC OR CRY1 AC OR CRY
                    1 AC OR CRY 1AC OR CRYI AC OR CRY I AC OR CRY IAC 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
L13       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?
L14       QUE SPE=ON  ABB=ON  PLU=ON  PJ!D6D OR PJD6D OR PJ D6D OR
                    NC!FAD3 OR NCFAD3 OR NC FAD3 OR NC!FAD 3 OR NCFAD 3 OR NC FAD
                    3 OR DESATURASE?
L15       QUE SPE=ON  ABB=ON  PLU=ON  (RNA? OR DSRNA? OR SIRNA?)(5A)(FAT!
                    B? OR FAD!2? OR FAT B? OR FAD 2? OR FADB? OR FAD2? OR THIOESTER
                    ASE? OR DESATURASE?)
L16       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
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                    TRANSFORM? OR MANIPULAT? OR IMPROV? OR ENGINEER? OR DERIV?))
L17            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 DICAMBA OR METHOXYBENZOIC ACID OR GLUFOSINATE OR
                    GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)
L18            QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?)(
                    5A)(CATERPILLAR? OR LOOPER? OR BORER? OR BUDBORER? OR LEPIDOPTE
                    RA? OR EREBIDAE OR NOCTUIDAE OR TORTRICIDAE OR ANTICARSIA OR
                    GEMMATALIS OR CHRYSODEIXIS OR PSEUDOPLUSIA)
L19            QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?)(
                    5A)(INCLUDENS OR EPINOTIA OR CROCIDOSEMA OR APOREMA OR
                    RACHIPLUSIA OR R. NU OR CHLORIDEA OR VIRESCENS OR VBC OR SBL
                    OR SFL OR ARMYWORM? OR ARMY WORM? OR EARWORM? OR EAR WORM?)
L20            QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?)(
                    5A)(BOLLWORM? OR BOLL WORM? OR PODWORM? OR POD WORM? OR
                    SPODOPTERA OR COSMIOIDES OR FRUGIPERDA OR HELICOVERPA OR ZEA
                    OR ARMIGERA OR FAW OR CEW OR CBW)
L21            QUE SPE=ON ABB=ON PLU=ON (BT SOY? OR BTSOY? OR BT!SOY? OR
                    THURINGIENSIS SOY? OR THURINGIENSISSOY? OR THURINGIENSIS!SOY?)
L22            QUE SPE=ON ABB=ON PLU=ON STEARIDONIC ACID OR SDA OR (HIGH?
                    OR INCRE? OR CHANG?)(5A)(OLEIC OR MONOUNSATURATED OR MONO!UNSAT
                    URATED OR MONO UNSATURATED OR MUFA OR FAT?)
L23            QUE SPE=ON ABB=ON PLU=ON (LOW? OR DECRE? OR REDUC?)(5A)(SATU
                    RATED OR PALMITIC OR STEARIC OR LINOLEIC OR POLYUNSATURATED OR
                    POLY!UNSATURATED OR POLY UNSATURATED OR PUFA)
L24            QUE SPE=ON ABB=ON PLU=ON SOYABEANS+UF,NT/CT,ORGN
L25            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
L26            QUE SPE=ON ABB=ON PLU=ON (WEED CONTROL+UF,NT/CT OR INSECT
                    CONTROL+UF,NT/CT) AND (GLYPHOSATE+UF,NT/CT OR DICAMBA+UF,NT/CT
                    OR GLUFOSINATE+UF,NT/CT OR LEPIDOPTERA+UF,NT2/CT,ORGN)
L27            QUE SPE=ON ABB=ON PLU=ON SATURATED FATTY ACIDS+UF,NT/CT OR
                    UNSATURATED FATTY ACIDS+UF,NT/CT
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Search in SciSearch Database:

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FILE 'SCISEARCH' ENTERED AT 14:40:23 ON 12 OCT 2021
L28            4 SEA SPE=ON ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5 OR L6
                    OR L7) AND ED>=20210531 AND ED<=20211011 AND PY>=2021
L29           12 SEA SPE=ON ABB=ON PLU=ON L8 AND ED>=20210531 AND ED<=2021101
                    1 AND PY>=2021
L30         3454 SEA SPE=ON ABB=ON PLU=ON L9 AND ED>=20210531 AND ED<=2021101
                    1 AND PY>=2021
L31            3 SEA SPE=ON ABB=ON PLU=ON L29 AND L30
L32           99 SEA SPE=ON ABB=ON PLU=ON (L10 OR L11) AND ED>=20210531 AND
                    ED<=20211011 AND PY>=2021
L33           58 SEA SPE=ON ABB=ON PLU=ON (L12 OR L13) AND ED>=20210531 AND
                    ED<=20211011 AND PY>=2021
L34          282 SEA SPE=ON ABB=ON PLU=ON L14 AND ED>=20210531 AND ED<=202110
                    11 AND PY>=2021
L35            3 SEA SPE=ON ABB=ON PLU=ON L15 AND ED>=20210531 AND ED<=202110
                    11 AND PY>=2021
L36          438 SEA SPE=ON ABB=ON PLU=ON L32 OR L33 OR L34 OR L35
L37        11060 SEA SPE=ON ABB=ON PLU=ON L16 AND ED>=20210531 AND ED<=202110
                    11 AND PY>=2021
L38           93 SEA SPE=ON ABB=ON PLU=ON L36 AND (L37 OR L30)
L39          120 SEA SPE=ON ABB=ON PLU=ON L17 AND ED>=20210531 AND ED<=202110
                    11 AND PY>=2021
L40          116 SEA SPE=ON ABB=ON PLU=ON (L18 OR L19 OR L20) AND ED>=2021053
                    1 AND ED<=20211011 AND PY>=2021
L41            4 SEA SPE=ON ABB=ON PLU=ON L21 AND ED>=20210531 AND ED<=202110
                    11 AND PY>=2021
L42         7545 SEA SPE=ON ABB=ON PLU=ON (L22 OR L23) AND ED>=20210531 AND
                    ED<=20211011 AND PY>=2021
L43         7774 SEA SPE=ON ABB=ON PLU=ON L39 OR L40 OR L42
```

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L44         24 SEA SPE=ON  ABB=ON  PLU=ON  L43 AND L37 AND L30
L45          4 SEA SPE=ON  ABB=ON  PLU=ON  L41 AND L37
L46         27 SEA SPE=ON  ABB=ON  PLU=ON  L44 OR L45
L47        118 SEA SPE=ON  ABB=ON  PLU=ON  L28 OR L31 OR L38 OR L46
```

Search in CABA Database:

```
     FILE 'CABA' ENTERED AT 14:40:54 ON 12 OCT 2021
L48          2 SEA SPE=ON  ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5 OR L6
                OR L7) AND ED>=20210531 AND ED<=20211011 AND PY>=2021
L49          6 SEA SPE=ON  ABB=ON  PLU=ON  L8 AND ED>=20210531 AND ED<=2021101
                1 AND PY>=2021
L50       2106 SEA SPE=ON  ABB=ON  PLU=ON  L9 AND ED>=20210531 AND ED<=2021101
                1 AND PY>=2021
L51       1481 SEA SPE=ON  ABB=ON  PLU=ON  L24 AND ED>=20210531 AND ED<=202110
                11 AND PY>=2021
L52       2106 SEA SPE=ON  ABB=ON  PLU=ON  L50 OR L51
L53          3 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND L52
L54         36 SEA SPE=ON  ABB=ON  PLU=ON  (L10 OR L11) AND ED>=20210531 AND
                ED<=20211011 AND PY>=2021
L55         28 SEA SPE=ON  ABB=ON  PLU=ON  (L12 OR L13) AND ED>=20210531 AND
                ED<=20211011 AND PY>=2021
L56        123 SEA SPE=ON  ABB=ON  PLU=ON  L14 AND ED>=20210531 AND ED<=202110
                11 AND PY>=2021
L57          4 SEA SPE=ON  ABB=ON  PLU=ON  L15 AND ED>=20210531 AND ED<=202110
                11 AND PY>=2021
L58        191 SEA SPE=ON  ABB=ON  PLU=ON  L54 OR L55 OR L56 OR L57
L59       3063 SEA SPE=ON  ABB=ON  PLU=ON  L16 AND ED>=20210531 AND ED<=202110
                11 AND PY>=2021
L60       1353 SEA SPE=ON  ABB=ON  PLU=ON  L25 AND ED>=20210531 AND ED<=202110
                11 AND PY>=2021
L61       3071 SEA SPE=ON  ABB=ON  PLU=ON  L59 OR L60
L62         58 SEA SPE=ON  ABB=ON  PLU=ON  L58 AND (L52 OR L61)
L63         66 SEA SPE=ON  ABB=ON  PLU=ON  L17 AND ED>=20210531 AND ED<=202110
                11 AND PY>=2021
L64         88 SEA SPE=ON  ABB=ON  PLU=ON  (L18 OR L19 OR L20) AND ED>=2021053
                1 AND ED<=20211011 AND PY>=2021
L65          2 SEA SPE=ON  ABB=ON  PLU=ON  L21 AND ED>=20210531 AND ED<=202110
                11 AND PY>=2021
L66       2756 SEA SPE=ON  ABB=ON  PLU=ON  (L22 OR L23) AND ED>=20210531 AND
                ED<=20211011 AND PY>=2021
L67       1872 SEA SPE=ON  ABB=ON  PLU=ON  (L26 OR L27) AND ED>=20210531 AND
                ED<=20211011 AND PY>=2021
L68       4084 SEA SPE=ON  ABB=ON  PLU=ON  L63 OR L64 OR L66 OR L67
L69         14 SEA SPE=ON  ABB=ON  PLU=ON  L68 AND L61 AND L52
L70          1 SEA SPE=ON  ABB=ON  PLU=ON  L65 AND L61
L71         15 SEA SPE=ON  ABB=ON  PLU=ON  L70 OR L69
L72         73 SEA SPE=ON  ABB=ON  PLU=ON  L48 OR L53 OR L62 OR L71
```

Deduplication of Hit-sets from both sources:

```
FILE 'CABA, SCISEARCH' ENTERED AT 14:42:01 ON 12 OCT 2021
L73        167 DUP REM L72 L47 (24 DUPLICATES REMOVED)
                    ANSWERS '1-73' FROM FILE CABA
                    ANSWERS '74-167' FROM FILE SCISEARCH
              D L73 1-167 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 Soybean products literature search – Second quarter (October 2021 - January 2022)

Translation of query terms into STN search language:

```
         (FILE 'STNGUIDE' ENTERED AT 10:12:45 ON 02 FEB 2022)
         DEL HIS Y
L1       QUE SPE=ON  ABB=ON  PLU=ON  40!3!2 OR MON 04032? OR MON04032?
         OR MON O4O32? OR MONO4O32? OR MON EMPTY SET4EMPTY SET32? OR
         MONEMPTY SET4EMPTY SET32? OR MON!04032? OR MON!O4O32? OR
         MON!EMPTY SET4EMPTY SET32?
L2       QUE SPE=ON  ABB=ON  PLU=ON  MON 89788? OR MON89788? OR
         MON!89788? OR MON 87769? OR MON87769? OR MON!87769?
L3       QUE SPE=ON  ABB=ON  PLU=ON  MON 87701? OR MON87701? OR MON
         877O1? OR MON877O1? OR MON 877EMPTY SET1? OR MON877EMPTY SET1?
         OR MON!87701? OR MON!877O1? OR MON!877EMPTY SET1?
L4       QUE SPE=ON  ABB=ON  PLU=ON  MON 87705? OR MON87705? OR MON
         877O5? OR MON877O5? OR MON 877EMPTY SET5? OR MON877EMPTY SET5?
         OR MON!87705? OR MON!877O5? OR MON!877EMPTY SET5?
L5       QUE SPE=ON  ABB=ON  PLU=ON  MON 87708? OR MON87708? OR MON
         877O8? OR MON877O8? OR MON 877EMPTY SET8? OR MON877EMPTY SET8?
         OR MON!87708? OR MON!877O8? OR MON!877EMPTY SET8?
L6       QUE SPE=ON  ABB=ON  PLU=ON  MON 87751? OR MON87751? OR
         MON!87751?
L7       QUE SPE=ON  ABB=ON  PLU=ON  A5547!127 OR A5547 127 OR ACS!GM006
         ? OR ACS!GMOO6? OR ACS!GMEMPTY SETEMPTY SET6? OR ACS GM006? OR
         ACS GMOO6? OR ACS GMEMPTY SETEMPTY SET6?
L8       QUE SPE=ON  ABB=ON  PLU=ON  ROUNDUPREADY? OR ROUND!UP!READY?
         OR ROUND!UP READY? OR ROUNDUP READY? OR ROUND UP READY? OR
         RR2Y? OR RRIIY? OR INTACTA OR RR2 PRO? OR RRII PRO? OR
         VISTIVE? OR VISTIVE? GOLD? OR XTEND? OR XTENDFLEX? OR XTEND
         FLEX?
L9       QUE SPE=ON  ABB=ON  PLU=ON  SOYBEAN? OR SOY? OR GLYCINE MAX OR
         G. MAX OR SOY BEAN
L10      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
L11      QUE SPE=ON  ABB=ON  PLU=ON  DICAMBA ?OXYGENASE OR DICAMBA
         ?DEMETHYLASE OR DMO? PAT OR PHOSPHINOTHRICIN OR N!ACETYL!TRANSF
         ERASE OR N!ACETYLTRANSFERASE OR N!ACETYL TRANSFERASE OR N
         ACETYL!TRANSFERASE OR N ACETYLTRANSFERASE OR N ACETYL TRANSFERA
         SE
L12      QUE SPE=ON  ABB=ON  PLU=ON  CRY1AC OR CRYIAC OR CRY1 AC OR CRY
         1 AC OR CRY 1AC OR CRYI AC OR CRY I AC OR CRY IAC 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
L13      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?
L14      QUE SPE=ON  ABB=ON  PLU=ON  PJ!D6D OR PJD6D OR PJ D6D OR
         NC!FAD3 OR NCFAD3 OR NC FAD3 OR NC!FAD 3 OR NCFAD 3 OR NC FAD
         3 OR DESATURASE?
L15      QUE SPE=ON  ABB=ON  PLU=ON  (RNA? OR DSRNA? OR SIRNA?)(5A)(FAT!
         B? OR FAD!2? OR FAT B? OR FAD 2? OR FADB? OR FAD2? OR THIOESTER
         ASE? OR DESATURASE?)
L16      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?))
L17      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 DICAMBA OR METHOXYBENZOIC ACID OR GLUFOSINATE OR
         GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)
L18      QUE SPE=ON  ABB=ON  PLU=ON  (TOLERAN? OR RESISTAN? OR PROTEC?)(
         5A)(CATERPILLAR? OR LOOPER? OR BORER? OR BUDBORER? OR LEPIDOPTE
         RA? OR EREBIDAE OR NOCTUIDAE OR TORTRICIDAE OR ANTICARSIA OR
         GEMMATALIS OR CHRYSODEIXIS OR PSEUDOPLUSIA)
L19      QUE SPE=ON  ABB=ON  PLU=ON  (TOLERAN? OR RESISTAN? OR PROTEC?)(
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                    5A)(INCLUDENS OR EPINOTIA OR CROCIDOSEMA OR APOREMA OR
                    RACHIPLUSIA OR R. NU OR CHLORIDEA OR VIRESCENS OR VBC OR SBL
                    OR SFL OR ARMYWORM? OR ARMY WORM? OR EARWORM? OR EAR WORM?)
L20            QUE SPE=ON ABB=ON PLU=ON  (TOLERAN? OR RESISTAN? OR PROTEC?)(
                    5A)(BOLLWORM? OR BOLL WORM? OR PODWORM? OR POD WORM? OR
                    SPODOPTERA OR COSMIOIDES OR FRUGIPERDA OR HELICOVERPA OR ZEA
                    OR ARMIGERA OR FAW OR CEW OR CBW)
L21            QUE SPE=ON ABB=ON PLU=ON  (BT SOY? OR BTSOY? OR BT!SOY? OR
                    THURINGIENSIS SOY? OR THURINGIENSISSOY? OR THURINGIENSIS!SOY?)
L22            QUE SPE=ON ABB=ON PLU=ON  STEARIDONIC ACID OR SDA OR (HIGH?
                    OR INCRE? OR CHANG?)(5A)(OLEIC OR MONOUNSATURATED OR MONO!UNSAT
                    URATED OR MONO UNSATURATED OR MUFA OR FAT?)
L23            QUE SPE=ON ABB=ON PLU=ON  (LOW? OR DECRE? OR REDUC?)(5A)(SATU
                    RATED OR PALMITIC OR STEARIC OR LINOLEIC OR POLYUNSATURATED OR
                    POLY!UNSATURATED OR POLY UNSATURATED OR PUFA)
L24            QUE SPE=ON ABB=ON PLU=ON  SOYABEANS+UF,NT/CT,ORGN
L25            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
L26            QUE SPE=ON ABB=ON PLU=ON  (WEED CONTROL+UF,NT/CT OR INSECT
                    CONTROL+UF,NT/CT) AND (GLYPHOSATE+UF,NT/CT OR DICAMBA+UF,NT/CT
                    OR GLUFOSINATE+UF,NT/CT OR LEPIDOPTERA+UF,NT2/CT,ORGN)
L27            QUE SPE=ON ABB=ON PLU=ON  SATURATED FATTY ACIDS+UF,NT/CT OR
                    UNSATURATED FATTY ACIDS+UF,NT/CT
```

Search in SciSearch Database:

```
    FILE 'SCISEARCH' ENTERED AT 10:13:24 ON 02 FEB 2022
L28        1 SEA SPE=ON ABB=ON PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5 OR L6
                    OR L7) AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L29       11 SEA SPE=ON ABB=ON PLU=ON  L8 AND ED>=20211005 AND ED<=2022013
                    1 AND PY>=2021
L30     2700 SEA SPE=ON ABB=ON PLU=ON  L9 AND ED>=20211005 AND ED<=2022013
                    1 AND PY>=2021
L31        4 SEA SPE=ON ABB=ON PLU=ON  L29 AND L30
L32       78 SEA SPE=ON ABB=ON PLU=ON  (L10 OR L11) AND ED>=20211005 AND
                    ED<=20220131 AND PY>=2021
L33       37 SEA SPE=ON ABB=ON PLU=ON  (L12 OR L13) AND ED>=20211005 AND
                    ED<=20220131 AND PY>=2021
L34      228 SEA SPE=ON ABB=ON PLU=ON  L14 AND ED>=20211005 AND ED<=202201
                    31 AND PY>=2021
L35        6 SEA SPE=ON ABB=ON PLU=ON  L15 AND ED>=20211005 AND ED<=202201
                    31 AND PY>=2021
L36      348 SEA SPE=ON ABB=ON PLU=ON  L32 OR L33 OR L34 OR L35
L37     8810 SEA SPE=ON ABB=ON PLU=ON  L16 AND ED>=20211005 AND ED<=202201
                    31 AND PY>=2021
L38       55 SEA SPE=ON ABB=ON PLU=ON  L36 AND (L37 OR L30)
L39       78 SEA SPE=ON ABB=ON PLU=ON  L17 AND ED>=20211005 AND ED<=202201
                    31 AND PY>=2021
L40       81 SEA SPE=ON ABB=ON PLU=ON  (L18 OR L19 OR L20) AND ED>=2021100
                    5 AND ED<=20220131 AND PY>=2021
L41        4 SEA SPE=ON ABB=ON PLU=ON  L21 AND ED>=20211005 AND ED<=202201
                    31 AND PY>=2021
L42     5594 SEA SPE=ON ABB=ON PLU=ON  (L22 OR L23) AND ED>=20211005 AND
                    ED<=20220131 AND PY>=2021
L43     5751 SEA SPE=ON ABB=ON PLU=ON  L39 OR L40 OR L42
L44       21 SEA SPE=ON ABB=ON PLU=ON  L43 AND L37 AND L30
L45        3 SEA SPE=ON ABB=ON PLU=ON  L41 AND L37
L46       24 SEA SPE=ON ABB=ON PLU=ON  L44 OR L45
L47       73 SEA SPE=ON ABB=ON PLU=ON  L28 OR L31 OR L38 OR L46
```

Search in CABA Database:

```
       FILE 'CABA' ENTERED AT 10:13:54 ON 02 FEB 2022
L48          3 SEA SPE=ON  ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5 OR L6
                OR L7) AND ED>=20211005 AND ED<=20220131 AND PY>=2021
L49          6 SEA SPE=ON  ABB=ON  PLU=ON  L8 AND ED>=20211005 AND ED<=2022013
                1 AND PY>=2021
L50       2766 SEA SPE=ON  ABB=ON  PLU=ON  L9 AND ED>=20211005 AND ED<=2022013
                1 AND PY>=2021
L51       1901 SEA SPE=ON  ABB=ON  PLU=ON  L24 AND ED>=20211005 AND ED<=202201
                31 AND PY>=2021
L52       2766 SEA SPE=ON  ABB=ON  PLU=ON  L50 OR L51
L53          1 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND L52
L54         64 SEA SPE=ON  ABB=ON  PLU=ON  (L10 OR L11) AND ED>=20211005 AND
                ED<=20220131 AND PY>=2021
L55         36 SEA SPE=ON  ABB=ON  PLU=ON  (L12 OR L13) AND ED>=20211005 AND
                ED<=20220131 AND PY>=2021
L56        156 SEA SPE=ON  ABB=ON  PLU=ON  L14 AND ED>=20211005 AND ED<=202201
                31 AND PY>=2021
L57          5 SEA SPE=ON  ABB=ON  PLU=ON  L15 AND ED>=20211005 AND ED<=202201
                31 AND PY>=2021
L58        258 SEA SPE=ON  ABB=ON  PLU=ON  L54 OR L55 OR L56 OR L57
L59       4277 SEA SPE=ON  ABB=ON  PLU=ON  L16 AND ED>=20211005 AND ED<=202201
                31 AND PY>=2021
L60       1943 SEA SPE=ON  ABB=ON  PLU=ON  L25 AND ED>=20211005 AND ED<=202201
                31 AND PY>=2021
L61       4284 SEA SPE=ON  ABB=ON  PLU=ON  L59 OR L60
L62         73 SEA SPE=ON  ABB=ON  PLU=ON  L58 AND (L52 OR L61)
L63        105 SEA SPE=ON  ABB=ON  PLU=ON  L17 AND ED>=20211005 AND ED<=202201
                31 AND PY>=2021
L64        138 SEA SPE=ON  ABB=ON  PLU=ON  (L18 OR L19 OR L20) AND ED>=2021100
                5 AND ED<=20220131 AND PY>=2021
L65          1 SEA SPE=ON  ABB=ON  PLU=ON  L21 AND ED>=20211005 AND ED<=202201
                31 AND PY>=2021
L66       3309 SEA SPE=ON  ABB=ON  PLU=ON  (L22 OR L23) AND ED>=20211005 AND
                ED<=20220131 AND PY>=2021
L67       2223 SEA SPE=ON  ABB=ON  PLU=ON  (L26 OR L27) AND ED>=20211005 AND
                ED<=20220131 AND PY>=2021
L68       4916 SEA SPE=ON  ABB=ON  PLU=ON  L63 OR L64 OR L66 OR L67
L69         24 SEA SPE=ON  ABB=ON  PLU=ON  L68 AND L61 AND L52
L70          1 SEA SPE=ON  ABB=ON  PLU=ON  L65 AND L61
L71         25 SEA SPE=ON  ABB=ON  PLU=ON  L70 OR L69
L72         94 SEA SPE=ON  ABB=ON  PLU=ON  L48 OR L53 OR L62 OR L71
```

Deduplication of Hit-sets from both sources:

```
FILE 'CABA, SCISEARCH' ENTERED AT 10:15:04 ON 02 FEB 2022
L73        154 DUP REM L72 L47 (13 DUPLICATES REMOVED)
                    ANSWERS '1-94' FROM FILE CABA
                    ANSWERS '95-154' FROM FILE SCISEARCH
               D L73 1-154 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
```

Translation of query terms into STN search language:

```
(FILE 'STNGUIDE' ENTERED AT 14:14:04 ON 09 JUN 2022)
                DEL HIS Y
L1              QUE SPE=ON  ABB=ON  PLU=ON  40!3!2 OR MON 04032? OR MON04032?
                OR MON O4O32? OR MONO4O32? OR MON EMPTY SET4EMPTY SET32? OR
                MONEMPTY SET4EMPTY SET32? OR MON!04032? OR MON!O4O32? OR
                MON!EMPTY SET4EMPTY SET32?
L2              QUE SPE=ON  ABB=ON  PLU=ON  MON 89788? OR MON89788? OR
                MON!89788? OR MON 87769? OR MON87769? OR MON!87769?
L3              QUE SPE=ON  ABB=ON  PLU=ON  MON 87701? OR MON87701? OR MON
                877O1? OR MON877O1? OR MON 877EMPTY SET1? OR MON877EMPTY SET1?
                OR MON!87701? OR MON!877O1? OR MON!877EMPTY SET1?
L4              QUE SPE=ON  ABB=ON  PLU=ON  MON 87705? OR MON87705? OR MON
                877O5? OR MON877O5? OR MON 877EMPTY SET5? OR MON877EMPTY SET5?
                OR MON!87705? OR MON!877O5? OR MON!877EMPTY SET5?
L5              QUE SPE=ON  ABB=ON  PLU=ON  MON 87708? OR MON87708? OR MON
                877O8? OR MON877O8? OR MON 877EMPTY SET8? OR MON877EMPTY SET8?
                OR MON!87708? OR MON!877O8? OR MON!877EMPTY SET8?
L6              QUE SPE=ON  ABB=ON  PLU=ON  MON 87751? OR MON87751? OR
                MON!87751?
L7              QUE SPE=ON  ABB=ON  PLU=ON  A5547!127 OR A5547 127 OR ACS!GM006
                ? OR ACS!GMOO6? OR ACS!GMEMPTY SETEMPTY SET6? OR ACS GM006? OR
                ACS GMOO6? OR ACS GMEMPTY SETEMPTY SET6?
L8              QUE SPE=ON  ABB=ON  PLU=ON  ROUNDUPREADY? OR ROUND!UP!READY?
                OR ROUND!UP READY? OR ROUNDUP READY? OR ROUND UP READY? OR
                RR2Y? OR RRIIY? OR INTACTA OR RR2 PRO? OR RRII PRO? OR
                VISTIVE? OR VISTIVE? GOLD? OR XTEND? OR XTENDFLEX? OR XTEND
                FLEX?
L9              QUE SPE=ON  ABB=ON  PLU=ON  SOYBEAN? OR SOY? OR GLYCINE MAX OR
                G. MAX OR SOY BEAN
L10             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
L11             QUE SPE=ON  ABB=ON  PLU=ON  DICAMBA ?OXYGENASE OR DICAMBA
                ?DEMETHYLASE OR DMO? PAT OR PHOSPHINOTHRICIN OR N!ACETYL!TRANSF
                ERASE OR N!ACETYLTRANSFERASE OR N!ACETYL TRANSFERASE OR N
                ACETYL!TRANSFERASE OR N ACETYLTRANSFERASE OR N ACETYL TRANSFERA
                SE
L12             QUE SPE=ON  ABB=ON  PLU=ON  CRY1AC OR CRYIAC OR CRY1 AC OR CRY
                1 AC OR CRY 1AC OR CRYI AC OR CRY I AC OR CRY IAC 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
L13             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?
L14             QUE SPE=ON  ABB=ON  PLU=ON  PJ!D6D OR PJD6D OR PJ D6D OR
                NC!FAD3 OR NCFAD3 OR NC FAD3 OR NC!FAD 3 OR NCFAD 3 OR NC FAD
                3 OR DESATURASE?
L15             QUE SPE=ON  ABB=ON  PLU=ON  (RNA? OR DSRNA? OR SIRNA?)(5A)(FAT!
                B? OR FAD!2? OR FAT B? OR FAD 2? OR FADB? OR FAD2? OR THIOESTER
                ASE? OR DESATURASE?)
L16             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?))
L17             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 DICAMBA OR METHOXYBENZOIC ACID OR GLUFOSINATE OR
                GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)
L18             QUE SPE=ON  ABB=ON  PLU=ON  (TOLERAN? OR RESISTAN? OR PROTEC?)(
                5A)(CATERPILLAR? OR LOOPER? OR BORER? OR BUDBORER? OR LEPIDOPTE
                RA? OR EREBIDAE OR NOCTUIDAE OR TORTRICIDAE OR ANTICARSIA OR
                GEMMATALIS OR CHRYSODEIXIS OR PSEUDOPLUSIA)
L19             QUE SPE=ON  ABB=ON  PLU=ON  (TOLERAN? OR RESISTAN? OR PROTEC?)(
```

```
                  5A) (INCLUDENS OR EPINOTIA OR CROCIDOSEMA OR APOREMA OR
                  RACHIPLUSIA OR R. NU OR CHLORIDEA OR VIRESCENS OR VBC OR SBL
                  OR SFL OR ARMYWORM? OR ARMY WORM? OR EARWORM? OR EAR WORM?)
L20               QUE SPE=ON  ABB=ON  PLU=ON   (TOLERAN? OR RESISTAN? OR PROTEC?)(
                  5A) (BOLLWORM? OR BOLL WORM? OR PODWORM? OR POD WORM? OR
                  SPODOPTERA OR COSMIOIDES OR FRUGIPERDA OR HELICOVERPA OR ZEA
                  OR ARMIGERA OR FAW OR CEW OR CBW)
L21               QUE SPE=ON  ABB=ON  PLU=ON   (BT SOY? OR BTSOY? OR BT!SOY? OR
                  THURINGIENSIS SOY? OR THURINGIENSISSOY? OR THURINGIENSIS!SOY?)
L22               QUE SPE=ON  ABB=ON  PLU=ON   STEARIDONIC ACID OR SDA OR (HIGH?
                  OR INCRE? OR CHANG?)(5A)(OLEIC OR MONOUNSATURATED OR MONO!UNSAT
                  URATED OR MONO UNSATURATED OR MUFA OR FAT?)
L23               QUE SPE=ON  ABB=ON  PLU=ON   (LOW? OR DECRE? OR REDUC?)(5A)(SATU
                  RATED OR PALMITIC OR STEARIC OR LINOLEIC OR POLYUNSATURATED OR
                  POLY!UNSATURATED OR POLY UNSATURATED OR PUFA)
L24               QUE SPE=ON  ABB=ON  PLU=ON   SOYABEANS+UF,NT/CT,ORGN
L25               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
L26               QUE SPE=ON  ABB=ON  PLU=ON   (WEED CONTROL+UF,NT/CT OR INSECT
                  CONTROL+UF,NT/CT) AND (GLYPHOSATE+UF,NT/CT OR DICAMBA+UF,NT/CT
                  OR GLUFOSINATE+UF,NT/CT OR LEPIDOPTERA+UF,NT2/CT,ORGN)
L27               QUE SPE=ON  ABB=ON  PLU=ON   SATURATED FATTY ACIDS+UF,NT/CT OR
                  UNSATURATED FATTY ACIDS+UF,NT/CT
```

Search in SciSearch Database:

```
                  FILE 'SCISEARCH' ENTERED AT 14:14:29 ON 09 JUN 2022
L28          0 SEA SPE=ON  ABB=ON  PLU=ON   (L1 OR L2 OR L3 OR L4 OR L5 OR L6
                  OR L7) AND ED>=20220131 AND ED<=20220606 AND PY>=2021
L29         13 SEA SPE=ON  ABB=ON  PLU=ON   L8 AND ED>=20220131 AND ED<=2022060
                  6 AND PY>=2021
L30       3052 SEA SPE=ON  ABB=ON  PLU=ON   L9 AND ED>=20220131 AND ED<=2022060
                  6 AND PY>=2021
L31          3 SEA SPE=ON  ABB=ON  PLU=ON   L29 AND L30
L32        100 SEA SPE=ON  ABB=ON  PLU=ON   (L10 OR L11) AND ED>=20220131 AND
                  ED<=20220606 AND PY>=2021
L33         43 SEA SPE=ON  ABB=ON  PLU=ON   (L12 OR L13) AND ED>=20220131 AND
                  ED<=20220606 AND PY>=2021
L34        242 SEA SPE=ON  ABB=ON  PLU=ON   L14 AND ED>=20220131 AND ED<=202206
                  06 AND PY>=2021
L35          4 SEA SPE=ON  ABB=ON  PLU=ON   L15 AND ED>=20220131 AND ED<=202206
                  06 AND PY>=2021
L36        387 SEA SPE=ON  ABB=ON  PLU=ON   L32 OR L33 OR L34 OR L35
L37      10209 SEA SPE=ON  ABB=ON  PLU=ON   L16 AND ED>=20220131 AND ED<=202206
                  06 AND PY>=2021
L38         74 SEA SPE=ON  ABB=ON  PLU=ON   L36 AND (L37 OR L30)
L39         95 SEA SPE=ON  ABB=ON  PLU=ON   L17 AND ED>=20220131 AND ED<=202206
                  06 AND PY>=2021
L40        114 SEA SPE=ON  ABB=ON  PLU=ON   (L18 OR L19 OR L20) AND ED>=2022013
                  1 AND ED<=20220606 AND PY>=2021
L41          1 SEA SPE=ON  ABB=ON  PLU=ON   L21 AND ED>=20220131 AND ED<=202206
                  06 AND PY>=2021
L42       6519 SEA SPE=ON  ABB=ON  PLU=ON   (L22 OR L23) AND ED>=20220131 AND
                  ED<=20220606 AND PY>=2021
L43       6727 SEA SPE=ON  ABB=ON  PLU=ON   L39 OR L40 OR L42
L44         11 SEA SPE=ON  ABB=ON  PLU=ON   L43 AND L37 AND L30
L45          1 SEA SPE=ON  ABB=ON  PLU=ON   L41 AND L37
L46         12 SEA SPE=ON  ABB=ON  PLU=ON   L44 OR L45
L47         85 SEA SPE=ON  ABB=ON  PLU=ON   L28 OR L31 OR L38 OR L46
```

Search in CABA Database:

```
FILE 'CABA' ENTERED AT 14:14:54 ON 09 JUN 2022
L48          0 SEA SPE=ON  ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5 OR L6
                 OR L7) AND ED>=20220131 AND ED<=20220606 AND PY>=2021
L49         10 SEA SPE=ON  ABB=ON  PLU=ON  L8 AND ED>=20220131 AND ED<=2022060
                 6 AND PY>=2021
L50       2688 SEA SPE=ON  ABB=ON  PLU=ON  L9 AND ED>=20220131 AND ED<=2022060
                 6 AND PY>=2021
L51       1758 SEA SPE=ON  ABB=ON  PLU=ON  L24 AND ED>=20220131 AND ED<=202206
                 06 AND PY>=2021
L52       2688 SEA SPE=ON  ABB=ON  PLU=ON  L50 OR L51
L53          8 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND L52
L54         80 SEA SPE=ON  ABB=ON  PLU=ON  (L10 OR L11) AND ED>=20220131 AND
                 ED<=20220606 AND PY>=2021
L55         33 SEA SPE=ON  ABB=ON  PLU=ON  (L12 OR L13) AND ED>=20220131 AND
                 ED<=20220606 AND PY>=2021
L56        129 SEA SPE=ON  ABB=ON  PLU=ON  L14 AND ED>=20220131 AND ED<=202206
                 06 AND PY>=2021
L57          2 SEA SPE=ON  ABB=ON  PLU=ON  L15 AND ED>=20220131 AND ED<=202206
                 06 AND PY>=2021
L58        241 SEA SPE=ON  ABB=ON  PLU=ON  L54 OR L55 OR L56 OR L57
L59       3882 SEA SPE=ON  ABB=ON  PLU=ON  L16 AND ED>=20220131 AND ED<=202206
                 06 AND PY>=2021
L60       1727 SEA SPE=ON  ABB=ON  PLU=ON  L25 AND ED>=20220131 AND ED<=202206
                 06 AND PY>=2021
L61       3892 SEA SPE=ON  ABB=ON  PLU=ON  L59 OR L60
L62         75 SEA SPE=ON  ABB=ON  PLU=ON  L58 AND (L52 OR L61)
L63         90 SEA SPE=ON  ABB=ON  PLU=ON  L17 AND ED>=20220131 AND ED<=202206
                 06 AND PY>=2021
L64        121 SEA SPE=ON  ABB=ON  PLU=ON  (L18 OR L19 OR L20) AND ED>=2022013
                 1 AND ED<=20220606 AND PY>=2021
L65          2 SEA SPE=ON  ABB=ON  PLU=ON  L21 AND ED>=20220131 AND ED<=202206
                 06 AND PY>=2021
L66       3259 SEA SPE=ON  ABB=ON  PLU=ON  (L22 OR L23) AND ED>=20220131 AND
                 ED<=20220606 AND PY>=2021
L67       2171 SEA SPE=ON  ABB=ON  PLU=ON  (L26 OR L27) AND ED>=20220131 AND
                 ED<=20220606 AND PY>=2021
L68       4848 SEA SPE=ON  ABB=ON  PLU=ON  L63 OR L64 OR L66 OR L67
L69         10 SEA SPE=ON  ABB=ON  PLU=ON  L68 AND L61 AND L52
L70          2 SEA SPE=ON  ABB=ON  PLU=ON  L65 AND L61
L71         12 SEA SPE=ON  ABB=ON  PLU=ON  L70 OR L69
L72         90 SEA SPE=ON  ABB=ON  PLU=ON  L48 OR L53 OR L62 OR L71
```

Deduplication of Hit-sets from both sources:

```
    FILE 'CABA, SCISEARCH' ENTERED AT 14:15:55 ON 09 JUN 2022
L73        166 DUP REM L72 L47 (9 DUPLICATES REMOVED)
                   ANSWERS '1-90' FROM FILE CABA
                   ANSWERS '91-166' FROM FILE SCISEARCH
             D L73 1-166 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
```

Literature search for the newly authorised product MON 87769 × MON 89788 covering the timespan from the adoption of EFSA scientific opinion till the time of the authorisation (2015 – 2022)

Translation of query terms into STN search language:

```
        (FILE 'STNGUIDE' ENTERED AT 11:20:56 ON 04 AUG 2022)
                DEL HIS Y
L1              QUE SPE=ON  ABB=ON  PLU=ON  MON 89788? OR MON89788? OR
                MON!89788? OR MON 87769? OR MON87769? OR MON!87769?
L2              QUE SPE=ON  ABB=ON  PLU=ON  (RR2Y? OR RRIIY? OR ROUND!UP
                READY? OR ROUNDUP READY? OR ROUNDUP!READY? OR ROUND UP!READY?
                OR ROUND UPREADY? OR ROUND!UPREADY?)
L3              QUE SPE=ON  ABB=ON  PLU=ON  SOYBEAN? OR SOY? OR GLYCINE MAX OR
                G. MAX OR SOY BEAN
L4              QUE SPE=ON  ABB=ON  PLU=ON  CP4EPSPS? OR CP4 EPSPS? OR
                5(W)(ENOL PYRUVYL SHIKIMATE OR ENOLPYRUVYL SHIKIMATE OR ENOL
                PYRUVYLSHIKIMATE OR ENOL!PYRUVYL!SHIKIMATE OR ENOLPYRUVYLSHIKIM
                ATE)(W)3 PHOSPHATE(1W)SYNTHASE
L5              QUE SPE=ON  ABB=ON  PLU=ON  PJ D6D OR PJ!D6D OR PJD6D OR NC
                FAD3 OR NC!FAD3 OR NCFAD3 OR NC FAD 3 OR NC!FAD 3 OR NCFAD 3
                OR DESATURASE?
L6              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?)
L7              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?)
L8              QUE SPE=ON  ABB=ON  PLU=ON  STEARIDONIC ACID OR SDA OR (HIGH?
                OR INCRE? OR CHANG?)(5A)(OLEIC OR MONOUNSATURATED OR MONO!UNSAT
                URATED OR MONO UNSATURATED OR MUFA OR FAT?)
L9              QUE SPE=ON  ABB=ON  PLU=ON  (LOW? OR DECRE? OR REDUC?)(5A)(SATU
                RATED OR PALMITIC OR STEARIC OR LINOLEIC OR POLYUNSATURATED OR
                POLY!UNSATURATED OR POLY UNSATURATED OR PUFA)
L10             QUE SPE=ON  ABB=ON  PLU=ON  SOYABEANS+UF,NT/CT,ORGN
L11             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
L12             QUE SPE=ON  ABB=ON  PLU=ON  WEED CONTROL+UF,NT/CT AND (GLYPHOSA
                TE+UF,NT/CT OR UNSATURATED FATTY ACIDS+UF,NT/CT)
```

Search in SciSearch Database:

```
     FILE 'SCISEARCH' ENTERED AT 11:22:01 ON 04 AUG 2022
L13          46 SEA SPE=ON  ABB=ON  PLU=ON  L1 AND ED>=20150101 AND ED<=2022080
                1 AND PY>=2015
L14         162 SEA SPE=ON  ABB=ON  PLU=ON  L2 AND ED>=20150101 AND ED<=2022080
                1 AND PY>=2015
L15       53323 SEA SPE=ON  ABB=ON  PLU=ON  L3 AND ED>=20150101 AND ED<=2022080
                1 AND PY>=2015
L16         105 SEA SPE=ON  ABB=ON  PLU=ON  L14 AND L15
L17         393 SEA SPE=ON  ABB=ON  PLU=ON  L4 AND ED>=20150101 AND ED<=2022080
                1 AND PY>=2015
L18        4837 SEA SPE=ON  ABB=ON  PLU=ON  L5 AND ED>=20150101 AND ED<=2022080
                1 AND PY>=2015
L19        5224 SEA SPE=ON  ABB=ON  PLU=ON  L17 OR L18
L20      183683 SEA SPE=ON  ABB=ON  PLU=ON  L6 AND ED>=20150101 AND ED<=2022080
                1 AND PY>=2015
L21         899 SEA SPE=ON  ABB=ON  PLU=ON  L19 AND (L20 OR L15)
L22        1553 SEA SPE=ON  ABB=ON  PLU=ON  L7 AND ED>=20150101 AND ED<=2022080
                1 AND PY>=2015
L23      110945 SEA SPE=ON  ABB=ON  PLU=ON  (L8 OR L9) AND ED>=20150101 AND
                ED<=20220801 AND PY>=2015
L24      112494 SEA SPE=ON  ABB=ON  PLU=ON  L22 OR L23
L25         268 SEA SPE=ON  ABB=ON  PLU=ON  L24 AND L20 AND L15
```

Bayer Agriculture BV

```
L26          1226 SEA SPE=ON  ABB=ON  PLU=ON  L13 OR L16 OR L21 OR L25
```

Search in CABA Database:

```
FILE 'CABA' ENTERED AT 11:22:13 ON 04 AUG 2022
L27            48 SEA SPE=ON  ABB=ON  PLU=ON  L1 AND ED>=20150101 AND ED<=2022080
                  1 AND PY>=2015
L28           183 SEA SPE=ON  ABB=ON  PLU=ON  L2 AND ED>=20150101 AND ED<=2022080
                  1 AND PY>=2015
L29         52081 SEA SPE=ON  ABB=ON  PLU=ON  L3 AND ED>=20150101 AND ED<=2022080
                  1 AND PY>=2015
L30         35625 SEA SPE=ON  ABB=ON  PLU=ON  L10 AND ED>=20150101 AND ED<=202208
                  01 AND PY>=2015
L31         52081 SEA SPE=ON  ABB=ON  PLU=ON  L29 OR L30
L32           131 SEA SPE=ON  ABB=ON  PLU=ON  L28 AND L31
L33           318 SEA SPE=ON  ABB=ON  PLU=ON  L4 AND ED>=20150101 AND ED<=2022080
                  1 AND PY>=2015
L34          2521 SEA SPE=ON  ABB=ON  PLU=ON  L5 AND ED>=20150101 AND ED<=2022080
                  1 AND PY>=2015
L35          2835 SEA SPE=ON  ABB=ON  PLU=ON  L33 OR L34
L36         68278 SEA SPE=ON  ABB=ON  PLU=ON  L6 AND ED>=20150101 AND ED<=2022080
                  1 AND PY>=2015
L37         32162 SEA SPE=ON  ABB=ON  PLU=ON  L11 AND ED>=20150101 AND ED<=202208
                  01 AND PY>=2015
L38         68440 SEA SPE=ON  ABB=ON  PLU=ON  L36 OR L37
L39           642 SEA SPE=ON  ABB=ON  PLU=ON  L35 AND (L38 OR L31)
L40          1604 SEA SPE=ON  ABB=ON  PLU=ON  L7 AND ED>=20150101 AND ED<=2022080
                  1 AND PY>=2015
L41         58120 SEA SPE=ON  ABB=ON  PLU=ON  (L8 OR L9) AND ED>=20150101 AND
                  ED<=20220801 AND PY>=2015
L42          1333 SEA SPE=ON  ABB=ON  PLU=ON  L12 AND ED>=20150101 AND ED<=202208
                  01 AND PY>=2015
L43         60636 SEA SPE=ON  ABB=ON  PLU=ON  L40 OR L41 OR L42
L44           296 SEA SPE=ON  ABB=ON  PLU=ON  L43 AND L38 AND L31
L45          1032 SEA SPE=ON  ABB=ON  PLU=ON  L27 OR L32 OR L39 OR L44
```

Deduplication of Hit-sets from both sources:

```
FILE 'CABA, SCISEARCH' ENTERED AT 11:22:50 ON 04 AUG 2022
L46        1673 DUP REM L45 L26 (585 DUPLICATES REMOVED)
                     ANSWERS '1-1029' FROM FILE CABA
                     ANSWERS '1030-1673' FROM FILE SCISEARCH
                D L46 1-1673 ALL PY


FILE SCISEARCH
     FILE COVERS 1974 TO 1 Aug 2022 (20220801/ED)

FILE CABA
     FILE LAST UPDATED: 3 AUG 2022       <20220803/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 Bayer GM soybean products 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.

Berman KH, Harrigan GG, Riordan SG, Nemeth MA, Hanson C, Smith M, Sorbet R, Zhu E, Ridley WP. (2009). Compositions of seed, forage, and processed fractions from insect-protected soybean MON 87701 are equivalent to those of conventional soybean. Journal of Agricultural and Food Chemistry, 57, 11360-11369.

Berman KH, Harrigan GG, Riordan SG, Nemeth MA, Hanson C, Smith M, Sorbet R, Zhu E, Ridley WP. (2010) Compositions of forage and seed from second-generation glyphosate-tolerant soybean MON 89788 and insect-protected soybean MON 87701 from Brazil are equivalent to those of conventional soybean (Glycine max). Journal of Agricultural and Food Chemistry, 58, 6270-6276.

Berman KH, Harrigan GG, Riordan SG, Nemeth MA, Oliveira W, Tagliaferro F and Berger GU, (2011). Compositional equivalence of insect-protected glyphosate-tolerant soybean, MON 87701 x MON 89788, to conventional soybean extends across different world regions and multiple growing seasons. Journal of Agricultural and Food Chemistry, 59, 11643-11651.

Harrigan GG, Ridley WP, Riordan SG, Nemeth MA, Sorbet R, Trujillo WA, Breeze ML, Schneider RW. (2007). Chemical composition of glyphosate-tolerant sobyean 40-3-2 grown in Europe remains equivalent with that of conventional soybean (Glycine max L.). Journal of Agricultural and Food Chemistry, 55, 6160-6168.

Horak MJ, Rosenbaum EW, Kendrick DL, Sammons B, Phillips SL, Nickson TE, Dobert RC, Perez T. (2015) Plant characterization of Roundup Ready 2 Yield® soybean, MON 89788, for use in ecological risk assessment. TRANSGENIC RESEARCH, 24, 213-225

Lundry DR, Ridley WP, Meyer JJ, Riordan SG, Nemeth MA, Trujillo WA, Breeze ML, Sorbet R. (2008) Composition of grain, forage, and processed fractions from second-generation glyphosate-tolerant soybean, MON 89788, is equivalent to that of conventional soybean (Glycine max L.). Journal of Agricultural and Food Chemistry, 56, 4611-4622.

McCann MC, Liu K, Trujillo WA, Dobert RC. (2005). Glyphosate-tolerant soybeans remain compositionally equivalent to conventional soybeans (Glycine max L.) during three years of field testing. Journal of Agricultural and Food Chemistry, 53, 5331-5335.

Taylor NB, Fuchs RL, MacDonald J, Shariff AR, Padgette SR. (1999). Compositional analysis of glyphosate-tolerant soybeans treated with glyphosate. Journal of Agricultural and Food Chemistry, 47, 4469- 4473.

Taylor M, Bickel A, Mannion R, Bell E, Harrigan GG. (2017). Dicamba-tolerant soybeans (Glycine max L.) MON 87708 and MON 87708 × MON 89788 are compositionally equivalent to conventional soybean. Journal of Agricultural and Food Chemistry, 65, 8037−8045.

Vries BD, Fehr WR. (2011) Impact of the MON89788 event for glyphosate tolerance on agronomic and seed traits of soybean. Crop Science, 51, 1023-1027.

Zhou J, Harrigan GG, Berman KH, Webb EG, Klusmeyer TH, Nemeth MA. (2011). Stability in the composition equivalence of grain from insect-protected maize and seed from glyphosate-tolerant soybean to conventional counterparts over multiple seasons, locations, and breeding germplasms. Journal of Agricultural and Food Chemistry, 59, 8822-8828.

Annex IV. Literature search in internet pages of relevant key organisations for Bayer GM soybean products covering time span 2021 - 2022

Relevant key organisations	Link to the relevant information and summary of the retrieved records
US EPA	https://www.epa.gov/ingredients-used-pesticide-products/current-and-previously-registered-section-3-plant-incorporated – Accessed on 08 September 2022. The webpage dedicated to PIP registrations was checked. *Date of the most recent website update at the time of the search*: 14 July 2020 *Limits applied*: The list of PIP active ingredients registered was sorted by 'Year Registered' and those registered starting from 01/01/2021 were assessed. *Number of records retrieved matching the abovementioned criteria*: "Zero". *Number of relevant records or full-text documents retrieved*: No record was retrieved.
USDA	https://www.aphis.usda.gov/aphis/ourfocus/biotechnology/permits-notifications-petitions/petitions/petition-status - Accessed on 08 September 2022. The webpage dedicated to petitions for determination of nonregulated status was checked. *Date of the most recent website update at the time of the search*: 23 August 2022 *Limits applied*: The list of the petitions was sorted by 'Effective Date' and those deregulated starting from 01/01/2021 were assessed. *Number of records retrieved matching the abovementioned criteria*: "Six". *Number of relevant records or full-text documents retrieved*: The retrieved records are not relevant to Bayer GM soybean products.
US FDA	https://www.accessdata.fda.gov/scripts/fdcc/?set=Biocon – Accessed on 08 September 2022. The webpage dedicated to biotechnology consultations on food from GE plant varieties was checked. *Date of the most recent website update at the time of the search*: 01 September 2022 *Limits applied*: The list of the consultations starting from the 'FDA Letter Date' of 01/01/2021 was assessed. *Number of records retrieved matching the abovementioned criteria*: "10". *Number of relevant records or full-text documents retrieved*: The retrieved records are not relevant to Bayer GM soybean products.

CFIA	https://inspection.canada.ca/industry-guidance/eng/1374161650885/1374161737236?gp=3&gc=25&ga=4#gdr_results - Accessed on 08 September 2022. The webpage dedicated to repository documents referring to plants with novel traits was checked. *Date of the most recent website update at the time of the search*: Not clear (several dates mentioned) *Limits applied*: The list of repository documents referring to plants with novel traits starting from 'Date modified' of 01/01/2021 was assessed. *Number of records retrieved matching the abovementioned criteria*: "43". *Number of relevant records or full-text documents retrieved*: Two[17] of the retrieved records are relevant to Bayer GM soybean. They do not have any implication on the risk assessment, because no new hazards, modified exposure, or new scientific uncertainties are reported.
Health Canada	https://www.canada.ca/en/health-canada/services/food-nutrition/genetically-modified-foods-other-novel-foods/approved-products.html - Accessed on 08 September 2022. The webpage dedicated to approved products of genetically modified (GM) foods and other novel foods was checked. *Date of the most recent website update at the time of the search*: 10 August 2022 *Limits applied*: The list of novel food decisions starting from the 'Decision Date (YYYY/MM/DD)' of 01/01/2021 was assessed. *Number of records retrieved matching the abovementioned criteria*: "18". *Number of relevant records or full-text documents retrieved:* The retrieved records are not relevant to Bayer GM soybean products.
FSANZ	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. *Date of the most recent website update at the time of the search*: May 2022 *Limits applied*: The list for GM applications and approvals with 'Status' approved or under assessment starting from 2021 was assessed. *Number of records retrieved matching the abovementioned criteria*: "Six". *Number of relevant records or full-text documents retrieved*: The retrieved records are not relevant to Bayer GM soybean products.
CTNBio	http://ctnbio.mctic.gov.br/liberacao-comercial#/liberacao-comercial/consultar-processo – Accessed on 08 September 2022. The webpage dedicated to commercial releases (= Liberações Comerciais) was checked. *Date of the most recent website update at the time of the search*: Not clear (several dates mentioned) *Limits applied*: The list of commercial releases for plants (= plantas) starting from 01/01/2021 was assessed. *Number of records retrieved matching the abovementioned criteria*: "10". *Number of relevant records or full-text documents retrieved*: The retrieved records are not relevant to Bayer GM soybean products.

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[17] CFIA, 2022:
Decision document DD2014-107: Determination of the safety of Monsanto Canada Inc.'s soybean (Glycine max (L.) Merr.) event MON 87751.
Decision document 2012-94: Determination of the safety of Monsanto Canada Inc.'s soybean (Glycine max (L.) Merr.) event MON 87708.

CONABIA	https://www.argentina.gob.ar/agroindustria/alimentos-y-bioeconomia/ogm-comerciales – Accessed on 08 September 2022. The webpage of the national advisory commission on agricultural biotechnology (= Comisión Nacional Asesora de Biotecnología Agropecuaria) was checked. *Date of the most recent website update at the time of the search*: Not available *Limits applied*: The list of events with commercial authorisation (= Eventos con autorización comercial) starting from 01/01/2021 were checked. *Number of records retrieved matching the abovementioned criteria*: "Five". *Number of relevant records or full-text documents retrieved*: One[18] of the retrieved records is relevant to Bayer GM soybean products. It does not have any implication on the risk assessment, because no new hazards, modified exposure, or new scientific uncertainties are reported.
MAFF	https://www.maff.go.jp/j/syouan/nouan/carta/torikumi/attach/pdf/index-23.pdf Accessed on 08 September 2022. The weblink dedicated to list of approved genetically modified agricultural crops was checked. *Date of the most recent website update at the time of the search*: 27 May, 2022 *Limits applied*: The list of GM agricultural crops with approval date ('承認日') starting from 01/01/2021 was assessed. *Number of records retrieved matching the abovementioned criteria*: "15". *Number of relevant records or full-text documents retrieved:* The retrieved records are not relevant to Bayer GM soybean products.

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[18] CONABIA, 2022: Procesamiento agroindustrial (MON-87751-7)

Additional literature search in internet pages of key organisations[19] relevant for the newly authorised product MON 87769 × MON 89788 soybean to cover the timespan from the adoption of EFSA scientific opinion till the time of the authorisation (2015 - 2022)

Relevant key organisations	Link to the relevant information and summary of the retrieved records
CTNBio	http://ctnbio.mctic.gov.br/liberacao-comercial#/liberacao-comercial/consultar-processo – Accessed on 22 September 2022. The webpage dedicated to commercial releases (= Liberações Comerciais) was checked. *Date of the most recent website update at the time of the search*: Not clear (several dates mentioned) *Limits applied*: The list of commercial releases for plants (= plantas) starting from 01/01/2015 was assessed. *Number of records retrieved matching the abovementioned criteria*: "58". *Number of relevant records or full-text documents retrieved*: The retrieved records are not relevant to MON 87769 × MON 89788.
CONABIA	https://www.argentina.gob.ar/agroindustria/alimentos-y-bioeconomia/ogm-comerciales – Accessed on 22 September 2022. The webpage of the national advisory commission on agricultural biotechnology (= Comisión Nacional Asesora de Biotecnología Agropecuaria) was checked. *Date of the most recent website update at the time of the search*: Not available *Limits applied*: The list of events with commercial authorisation (= Eventos con autorización comercial) starting from 01/01/2015 were checked. *Number of records retrieved matching the abovementioned criteria*: "37". *Number of relevant records or full-text documents retrieved*: The retrieved records are not relevant to MON 87769 × MON 89788

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[19] Of the 14 key organisations cited in the 2019 Explanatory note on literature searching[2], three (Environment and Climate Change Canada, CIBIOGEM and OECD) are not involved in the risk assessment of GM plants. Six (USDA, FDA, CFIA, Health Canada, FSANZ and MAFF) do not regulate stack products. Two (OGTR and GEAC), for the time being, only assess cotton and oilseed rape. From the remaining three, US EPA regulates only stacks with Plant-Incorporated Protectants (PIP) combinations while CTNBio and CONABIA regulate stack products. Therefore, the internet search focused on the last two organisations (CTNBio and CONABIA) relevant for MON 87769 × MON 89788.

Annex V. Results of the publication selection process for Bayer GM soybean products 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	
	Bayer GM soybean products[1]	MON 87769 × MON 89788[2]
Publications identified after searches of the scientific literature in SciSearch and CABA databases (following de-duplication)	390	1512
Publications excluded after rapid assessment for relevance	386	1511
Publications screened using full-text	4	1
Publications excluded after detailed assessment for relevance	1	0
Unobtainable publications	0	0
Unclear publications	0	0
Publications considered relevant	3	1
Publications considered relevant, excluding duplicates	4	

[1] The numbers refer to the results of the publication selection process for the Bayer GM soybean products literature search performed covering the time span of 1 June 2021 - 31 May 2022.

[2] The numbers refer to the results of the publication selection process for MON 87769 × MON 89788 literature search performed on 04 August 2022, covering the time span from the adoption of EFSA scientific opinion till the time of the authorisation.

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			
Crop composition			
MON 87701 × MON 89788	Benevenuto *et al.*, 2021	Proteomic profile of glyphosate - resistant soybean under combined herbicide and drought stress conditions	Plants - Basel
40-3-2	da Costa *et al.*, 2021	Ionomics and lipidomics for evaluating the transgenic (cp4 - EPSPS gene) and non- transgenic soybean seed generations	Microchemical Journal
Allergenicity of the protein or the whole food/feed			
40-3-2	Kutateladze *et al.*, 2021	Development of multiplex PCR coupled DNA chip technology for assessment of endogenous and exogenous allergens in GM soybean	Biosensors - Basel
MON 87769 × MON 89788			
Protein expression			
MON 87769 × MON 89788	Chinnadurai *et al.*, 2018	Variability of CP4 EPSPS expression in genetically engineered soybean (*Glycine max L. Merrill*).	Transgenic Research

[1] Products not listed above don't have relevant publication retrieved in this monitoring season.

Table 3. **List of publications excluded from the risk assessment after detailed assessment of full-text documents, with the reason(s) for exclusion**

Study authors	Year	Title	Source	Reasons for exclusion based on the eligibility/inclusion criteria
Filippi *et al*	2021	Concentration and removal of macronutrients by soybean seeds over 45 years in Brazil: a meta-analysis	Revista Brazileira de Ciencia do Solo	Original/primary data were not presented in the publication

Table 4. **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		
Crop composition		
Benevenuto *et al.*, 2021	Low/Not reliable	None, because no new hazards, modified exposure, or new scientific uncertainties are reported
da Costa *et al.*, 2021	Low	None, because no new hazards, modified exposure, or new scientific uncertainties are reported
Allergenicity of the protein or the whole food/feed		
Kutateladze *et al.*, 2021	Low	None, because no new hazards, modified exposure, or new scientific uncertainties are reported
MON 87769 × MON 89788		
Protein expression		
Chinnadurai *et al.*, 2018	High	None, because no new hazards, modified exposure, or new scientific uncertainties are reported

REFERENCES

Benevenuto RF, Zanatta CB, Guerra MP, Nodari RO and Agapito-Tenfen SZ, 2021. Proteomic profile of glyphosate-resistant soybean under combined herbicide and drought stress conditions. Plants, 10, 2381.

Chinnadurai P, Stojšin D, Liu K, Frierdich GE, Glenn KC, Geng T, Schapaugh A, Huang K, Deffenbaugh AE and Liu ZL, 2018. Variability of CP4 EPSPS expression in genetically engineered soybean (*Glycine max L. Merrill*). Transgenic research, 27, 511-524.

da Costa LF, Tormena CF and Arruda MAZ, 2021. Ionomics and lipidomics for evaluating the transgenic (cp4-EPSPS gene) and non-transgenic soybean seed generations. Microchemical Journal, 165, 106130.

Kutateladze T, Bitskinashvili K, Sapojnikova N, Kartvelishvili T, Asatiani N, Vishnepolsky B and Datukishvili N, 2021. Development of multiplex PCR coupled DNA chip technology for assessment of endogenous and exogenous allergens in GM soybean. Biosensors, 11, 481.

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* soybean.txt file).