

Appendix 3.	Literature search for annual monitoring on the general surveillance of Bayer GM oilseed rape in the EU and GB
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APPENDIX 3

LITERATURE SEARCH TO SUPPORT GENERAL SURVEILLANCE OF 2020/2021 ANNUAL POST MARKET ENVIRONMENTAL MONITORING REPORTS OF BAYER GM OILSEED RAPE PRODUCTS

Data protection.

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

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SUMMARY

This literature search was conducted in accordance with the 2019 EFSA explanatory note on literature searching conducted in the context of GMO applications¹ (EFSA, 2019) to support general surveillance of 2020/2021 annual post market environmental monitoring reports. It addresses the review question “Do Bayer GM oilseed rape products, derived food/feed products and their respective introduced traits have adverse effects on human and animal health and the environment?”.

In accordance with the 2019 EFSA explanatory note on literature searching (EFSA, 2019), eligibility/inclusion criteria to establish the relevance of retrieved publications was determined. Two electronic bibliographic databases (SciSearch and CABA databases) were selected for the literature search. Search strategies were developed together with an information specialist to perform the searches. In addition, literature searches were conducted in internet pages of relevant key organisations for Bayer GM oilseed rape products.

The literature search covered the time span 2020 – 2021 and retrieved 350 and 224 hits in SciSearch and CABA databases, respectively, and a total of 71 records in the internet pages of the relevant key organisations. From these, one publication was identified as relevant. This publication did not have any implication on the risk assessment, because no new hazard, modified exposure, or new scientific uncertainty is reported.

The comprehensive literature search found no new information that would invalidate the conclusions of the risk assessment for Bayer GM oilseed rape products.

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

1. INTRODUCTION

As part of the general surveillance requirements for Bayer GM oilseed rape products authorised in the European Union (EU) market under regulation (EC) No 1829/2003, Bayer Agriculture BV² has actively monitored the oilseed rape products by conducting quarterly literature searches covering the time span between June 2020 and May 2021.

The results of the literature search that were analysed in detail according to the relevance for the risk assessment of the Bayer GM oilseed rape products are presented here.

The completed form of EFSA Appendix E completeness checklist (EFSA, 2019) is provided as an attachment to 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 oilseed rape 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 2020/2021 annual post market environmental monitoring (PMEM) reports in accordance with the 2019 EFSA explanatory note on literature searching (EFSA, 2019).

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

² Hereafter, referenced as Bayer

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

Key elements	Criteria
Population	Humans, animals and the environment (taking into account the scope of the applications) <i>i.e.</i> authorisation for all uses as any other oilseed rape but excluding the cultivation of Bayer GM oilseed rape products are addressed as general protection goals.
Intervention/exposure	Bayer GM oilseed rape 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 oilseed rape as a comparator.
Outcomes	Adverse effects on human and animal health and the environment are addressed (taking into consideration the scope of the applications).
Additional key elements	
Information/ data requirements, including source of publications data	The publication potentially contributes to the knowledge of the risk assessment of Bayer GM oilseed rape products for all uses as any other oilseed rape but excluding cultivation. Original/primary data are presented in the publication.

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 (EFSA, 2010) and the 2019 EFSA explanatory note on literature searching (EFSA, 2019), identification of bibliographic sources and development of search strategies was 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)³ and the CABA⁴ (CAB Abstracts®)⁵ 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 catalogue⁶.

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*”⁴. 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*”^{Error! Bookmark not defined.}. The database is updated on a weekly basis.

All journals included in the two databases must go through a verification process and as a minimum requirement, non-English language journals must include English-language bibliographic information (title, abstract, keywords) and be peer-reviewed^{6,7}. 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

³ SciSearch: <https://www.stn-international.com/sites/default/files/stn/dbss/SCISEARCH.pdf> - Accessed on 27 August 2021

⁴ CABA: <https://www.stn-international.com/sites/default/files/stn/dbss/CABA.pdf> – Accessed on 27 August 2021

⁵ CAB Abstracts®: <https://www.cabi.org/publishing-products/online-information-resources/cab-abstracts/> - Accessed on 17 August 2021

⁶ STN®: <http://stn-international.de/sites/default/files/STN/brochures/stnfile-kat.pdf> - Accessed on 17 August 2021

⁷ Web of Science group; <https://clarivate.com/webofsciencegroup/solutions/webofscience-core-collection-editorial-selection-process/> - Accessed on 17 August 2021

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

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

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

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

Of the 14 key organisations cited in the 2019 Explanatory note on literature searching for GMO applications (EFSA, 2019), nine⁸ are involved in risk assessment of Bayer GM oilseed rape products. Three of the remaining six (CIBIOGEM, Environment and Climate Change Canada and OECD) are not involved in GM risk assessment while two (OGTR and GEAC), for the time being, only assess GM cotton and the US EPA is only involved in the assessment of events containing Plant-Incorporated Protectants (PIP). Therefore, the internet search focused on the nine key organisations relevant for Bayer GM oilseed rape 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 (EFSA, 2019):

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

⁸ Internet pages of the relevant key organisations for Bayer GM oilseed rape products:

US EPA (<https://www.epa.gov/environmental-topics/science-topics>) - Accessed on 06 July 21;

USDA (<https://www.usda.gov/media>) - Accessed on 06 July 21;

US FDA (<https://www.fda.gov/>) - Accessed on 06 July 21;

CFIA (<http://www.inspection.gc.ca/eng/1297964599443/1297965645317>) - Accessed on 06 July 21;

Health Canada (<https://www.canada.ca/en/health-canada.html>) - Accessed on 06 July 21;

FSANZ (<http://www.foodstandards.gov.au/Pages/default.aspx>) - Accessed on 06 July 21;

CTNBio (<http://ctnbio.mctic.gov.br/>) - Accessed on 06 July 21;

CONABIA (<https://www.argentina.gob.ar/>) - Accessed on 06 July 21;

Japan MAFF (<http://www.maff.go.jp/e/>) - Accessed on 06 July 21;

OGTR (<http://ogtr.gov.au/internet/ogtr/publishing.nsf/Content/home-1>) - Accessed on 06 July 21.

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 oilseed rape products.

Annex I presents the translation of the intervention key elements into search terms. 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 (Karlsruhe, 2007) 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 both⁹. 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 (Karlsruhe, 2007; STN, 2018a, 2018b). 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 terms¹⁰. 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**.

⁹ STNindex user guide: https://www.stn-international.com/sites/default/files/stn_training_center_document/User%20Documentation/mastering_stn_commands.pdf - Accessed on 27 08 2021

¹⁰ 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 17 08 2021

3.2.3. Language

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

3.2.4. Time period

The literature searches covered the time span 1 June 2020 - 31 May 2021.

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
06 October 2021	SciSearch: 05 October 2020	28 May 2020 – 05 October 2020
	CABA: 30 September 2021	28 May 2020 – 05 October 2020
01 February 2021	SciSearch: 26 January 2021	05 October 2020– 26 January 2021
	CABA: 25 January 2021	05 October 2020– 26 January 2021
01 June 2021	SciSearch: 31 May 2021	26 January 2021– 31 May 2021
	CABA: 26 May 2021	26 January 2021– 31 May 2021

The literature search in the internet pages of the relevant key organisations was conducted on 06 July 2021.

3.2.5. Reference publications

In accordance with the 2019 EFSA explanatory note on literature searching (EFSA, 2019), a list of reference publications is provided in **Annex III**.

3.3. Search strategy (relevant key organisations)

Information regarding the selection process for relevant records in the webpages are shown in **Annex IV**. For the selection of relevant publications, all records concerning 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**. Afterwards, all the records within the specified limits were assessed for their relevance to Bayer GM oilseed rape products.

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

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. Each reviewer performed its assessment in an independent sequential manner.

The reviewers involved in the publication screening process have adequate expertise and experience in the risk assessment of GM plants as well as in selection of relevant publications in literature searches for GM applications. Retrieved publications are screened by each reviewer independently and assessed against each other to conclude on inclusion or exclusion based on eligibility/relevance criteria. In case of disagreements, the reviewers discuss together considering the eligibility/ inclusion criteria for relevance. If uncertainty remains, the publication is *de facto* included for further consideration.

Internal and external reviewers were in constant communication and met on a regular basis to ensure consistent interpretation and implementation of eligibility/relevance criteria and/or screening process. When necessary, these 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.

This approach assures a high-quality process as it allows a harmonised continuous publication screening process across different GM applications in accordance with 2019 EFSA explanatory note on literature searching (EFSA, 2019) 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 oilseed rape products for all uses as any other oilseed rape but excluding cultivation in the EU and iii) the eligibility criteria to establish the relevance of retrieved publications, the list of retrieved hits was 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 (EFSA, 2019) by at least two individuals with technical expertise on the topic using the following steps categorised in two main areas:

Credibility of the publication

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

Appropriateness of the publication for the EFSA risk assessment

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

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

5. 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 350 and 224 hits in SciSearch and CABA databases, respectively (*see Annex II*). After de-duplication, the total number resulted in 475 hits.

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 71 records. The links to the results of the literature search and the summary of the retrieved data are shown in **Annex IV**.

5.2. Results of the publication selection process

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

The results of the publication selection process for the retrieved hits from the electronic databases are provided in **Annex V**. One relevant publication was retrieved after detailed assessment of the full text documents. For bibliographic details regarding this publication in .RIS format, *see Annex VI*. For the full-text document of the relevant publication, *see* the references folder within the literature searching folder.

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

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

5.3. Implications of the retrieved relevant publications for the risk assessment

The comprehensive literature search relevant to the food, feed, and environmental safety of Bayer GM oilseed rape products found no new information that would invalidate the conclusions of the risk assessments for Bayer GM oilseed rape products.

The relevant publication as well as its reliability and implications for the risk assessment is provided in **Annex V**.

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 (EFSA, 2019) to support the general surveillance in the context of 2020/2021 annual PMEM for Bayer GM oilseed rape products, identified no relevant publications that would invalidate the conclusions of the Bayer GM oilseed rape products previous risk assessments. Therefore, the conclusions of the risk assessment as presented in the initial applications of the Bayer GM oilseed rape products remain unchanged.

REFERENCES

References highlighted in grey are EFSA publications. Therefore, their pdfs are not provided.

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EFSA, 2010. Application of systematic review methodology to food and feed safety assessments to support decision making The EFSA Journal, 1637, 1-90.

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.

Karlsruhe F 2007. Command Summary Chart for bibliographic and full-text databases. 1-26.

STN 2018a. CABA. 1-12.

STN 2018b. SciSearch - Science Citation Index. 1-8.

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

1. Free-text search terms for Bayer GM Oilseed rape 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	GT73 or RT73 or MON-ØØØ73-7 MON 88302 or MON-883Ø2-9 MS8 or ACS-BNØØ5-8 RF3 or ACS-BNØØ3-6	GT!73 OR GT73 OR GT 73 OR RT!73 OR RT73 OR RT 73 OR MON!OOO73? OR MONOOO73? OR MON OOO73? OR MON!00073 OR MON00073? OR MON 00073? OR MON!EMPTY SETEMPTY SETEMPTY SET73? OR MONEMPTY SETEMPTY SETEMPTY SET73? OR MON EMPTY SETEMPTY SETEMPTY SET73? MON!88302? OR MON88302? OR MON 88302? OR MON!883O2? OR MON883O2? OR MON 883O2? OR MON!883EMPTYSET2? OR MON883EMPTY SET2? OR MON 883EMPTY SET2? MS!8 OR MS8 OR MS 8 OR ACS!BN005? OR ACSBN005? OR ACS BN005? OR ACS!BNOO5? OR ACSBNOO5? OR ACS BNOO5? OR ACS!BNEMPTY SETEMPTY SET5? OR ACSBNEMPTY SETEMPTY SET5? OR ACS BNEMPTY SETEMPTY SET5? OR RF!3 OR RF3 OR RF 3 OR ACS!BN003? OR ACSBN003? OR ACS BN003? OR ACS!BNOO3? OR ACSBNOO3? OR ACS BNOO3? OR ACS!BNEMPTY SETEMPTY SET3? OR ACSBNEMPTY SETEMPTY SET3? OR ACS BNEMPTY SETEMPTY SET3?
Trade names	Roundup Ready [®] canola TruFlex [™] canola with Roundup Ready [®] technology InVigor [™] Canola	ROUNDUPREADY? OR ROUND!UP!READY? ROUND UP READY? OR ROUNDUP READY? OR ROUND!UP READY? OR TRU!FLEX? OR TRU FLEX? OR TRUFLEX OR IN!VIGOR? OR INVIGOR? OR IN VIGOR?
Newly expressed proteins	CP4 EPSPS GOX PAT Barnase	CP4EPSPS? OR CP4 EPSPS? OR 5(W)(ENOLPYRUVYLSHIKIMATE OR ENOL PYRUVYL SHIKIMATE OR ENOLPYRUVYL SHIKIMATE OR ENOL PYRUVYLSHIKIMATE OR ENOL!PYRUVYL! SHIKIMATE!)(W)3 PHOSPHATE SYNTHASE OR OXIDOREDUCTASE OR GOX

	Barnase inhibitor	PAT OR PHOSPHINOTHRICIN OR N ACETYLTRANSFERASE OR N ACETYLTRANSFERASE OR N ACETYL!TRANSFERASE OR N!ACETYLTRANSFERASE OR N!ACETYL TRANSFERASE OR N!ACETYL!TRANSFERASE BARNASE OR BAR OR BARSTAR
Intended traits: Herbicide tolerance traits	Glyphosate/roundup tolerance, Glufosinate tolerance	(TOLERAN? OR RESISTAN? OR PROTEC?)(5A)(GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP? OR GLUFOSINATE OR GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)
Intended traits: Male sterility; male fertility restorer	Male sterility Male fertility restorer	(CONTROL? OR FERTIL? OR STERIL?) (5A) (POLLEN OR POLLINATION OR MALE)
Crop name	Rape, rapeseed, oilseed rape, canola, <i>Brassica</i>	RAPESEED OR RAPE SEED OR OILSEEDRAPE OR OILSEED RAPE OR CANOLA OR BRASSICA
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 Oilseed rape 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 : herbicide tolerance traits	Glyphosate tolerance Glufosinate tolerance	(WEED CONTROL+UF,NT/CT AND (GLYPHOSATE+UF,NT/CT OR GLUFOSINATE+UF,NT/CT)) OR MALE STERILITY +UF,NT/CT OR
Intended traits: male sterility; male fertility restorer	Male sterility Male fertility restorer	MALE FERTILITY +UF,NT/CT OR RESTORER GENES +UF,NT/CT
Crop name	Rape, rapeseed, oilseed rape, canola, <i>Brassica</i>	RAPESEED+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 oilseed rape products literature search in SciSearch and CABA databases using STN® database catalogue, and outcomes of the search (2020 - 2021)

Bayer GM Oilseed rape products literature search – First quarter (June 2020 - September 2020)

Translation of query terms into STN search language:

(FILE 'STNGUIDE' ENTERED AT 10:12:41 ON 06 OCT 2020)

L1 QUE SPE=ON ABB=ON PLU=ON GT!73 OR GT73 OR GT 73 OR RT!73 OR RT73 OR RT 73 OR MON!00073? OR MON00073? OR MON 00073? OR MON!00073 OR MON00073? OR MON 00073? OR MON!EMPTY SETEMPTY SETEMPTY SET73? OR MONEMPTY SETEMPTY SETEMPTY SET73? OR MON EMPTY SETEMPTY SETEMPTY SET73?

L2 QUE SPE=ON ABB=ON PLU=ON MON!88302? OR MON88302? OR MON 88302? OR MON!88302? OR MON88302? OR MON 88302? OR MON!883EMPTY SET2? OR MON883EMPTY SET2? OR MON 883EMPTY SET2?

L3 QUE SPE=ON ABB=ON PLU=ON MS!8 OR MS8 OR MS 8 OR RF!3 OR RF3 OR RF 3 OR ACS!BN005? OR ACSBN005? OR ACS BN005? OR ACS!BNOO5? OR ACSBNOO5? OR ACS BNOO5? OR ACS!BNEMPTY SETEMPTY SET5? OR ACSBNEMPTY SETEMPTY SET5? OR ACS BNEMPTY SETEMPTY SET5?

L4 QUE SPE=ON ABB=ON PLU=ON ACS!BN003? OR ACSBN003? OR ACS BN003? OR ACS!BNOO3? OR ACSBNOO3? OR ACS BNOO3? OR ACS!BNEMPTY SETEMPTY SET3? OR ACSBNEMPTY SETEMPTY SET3? OR ACS BNEMPTY SETEMPTY SET3?

L5 QUE SPE=ON ABB=ON PLU=ON ROUNDUPREADY? OR ROUND!UP!READY? ROUND UP READY? OR ROUNDUP READY? OR ROUND!UP READY? OR TRU!FLEX? OR TRU FLEX? OR TRUFLEX OR IN!VIGOR? OR INVIGOR? OR IN VIGOR?

L6 QUE SPE=ON ABB=ON PLU=ON RAPESEED OR RAPE SEED OR OILSEEDRAP E OR OILSEED RAPE OR CANOLA OR BRASSICA

L7 QUE SPE=ON ABB=ON PLU=ON CP4EPSPS? OR CP4 EPSPS? OR 5(W) (ENOLPYRUVYLSHIKIMATE OR ENOL PYRUVYL SHIKIMATE OR ENOLPYRUVYL SHIKIMATE OR ENOL PYRUVYLSHIKIMATE OR ENOL!PYRUVYL! SHIKIMATE!) (W) 3 PHOSPHATE SYNTHASE OR OXIDOREDUCTASE

L8 QUE SPE=ON ABB=ON PLU=ON N ACETYLTRANSFERASE OR N ACETYL TRANSFERASE OR N ACETYL!TRANSFERASE OR N!ACETYLTRANSFERASE OR N!ACETYL TRANSFERASE OR N!ACETYL!TRANSFERASE OR BARNASE OR BAR OR BARSTAR OR GOX OR PAT OR PHOSPHINOTHRICIN

L9 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?))

L10 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP? OR GLUFOSINATE OR GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)

L11 QUE SPE=ON ABB=ON PLU=ON (CONTROL? OR FERTIL? OR STERIL?) (5A) (POLLEN OR POLLINATION OR MALE)

L12 QUE SPE=ON ABB=ON PLU=ON RAPESEED+UF,NT/CT,ORGN

L13 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

L14 QUE SPE=ON ABB=ON PLU=ON (WEED CONTROL+UF,NT/CT AND (GLYPHOSATE+UF,NT/CT OR GLUFOSINATE+UF,NT/CT)) OR MALE STERILITY +UF,NT/CT OR MALE FERTILITY +UF,NT/CT OR RESTORER GENES +UF,NT/CT

Appendix 3 – Annual general surveillance report in 2020/2021 season

Literature search - Bayer oilseed rape GM products

Bayer Agriculture BV

Search in SciSearch Database:

FILE 'SCISEARCH' ENTERED AT 10:13:35 ON 06 OCT 2020

L15 37 SEA SPE=ON ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4) AND
ED>=20200528 AND ED<=20201005 AND PY>=2020
L16 108 SEA SPE=ON ABB=ON PLU=ON L5 AND ED>=20200528 AND ED<=2020100
5 AND PY>=2020
L17 1362 SEA SPE=ON ABB=ON PLU=ON L6 AND ED>=20200528 AND ED<=2020100
5 AND PY>=2020
L18 1 SEA SPE=ON ABB=ON PLU=ON L16 AND L17
L19 472 SEA SPE=ON ABB=ON PLU=ON L7 AND ED>=20200528 AND ED<=2020100
5 AND PY>=2020
L20 6734 SEA SPE=ON ABB=ON PLU=ON L8 AND ED>=20200528 AND ED<=2020100
5 AND PY>=2020
L21 7203 SEA SPE=ON ABB=ON PLU=ON L19 OR L20
L22 9777 SEA SPE=ON ABB=ON PLU=ON L9 AND ED>=20200528 AND ED<=2020100
5 AND PY>=2020
L23 89 SEA SPE=ON ABB=ON PLU=ON L21 AND (L22 OR L17)
L24 98 SEA SPE=ON ABB=ON PLU=ON L10 AND ED>=20200528 AND ED<=202010
05 AND PY>=2020
L25 1136 SEA SPE=ON ABB=ON PLU=ON L11 AND ED>=20200528 AND ED<=202010
05 AND PY>=2020
L26 1232 SEA SPE=ON ABB=ON PLU=ON L24 OR L25
L27 13 SEA SPE=ON ABB=ON PLU=ON L26 AND L22 AND L17
L28 136 SEA SPE=ON ABB=ON PLU=ON L15 OR L18 OR L23 OR L27

Search in CABA Database:

FILE 'CABA' ENTERED AT 10:14:00 ON 06 OCT 2020

L29 8 SEA SPE=ON ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4) AND
ED>=20200528 AND ED<=20201005 AND PY>=2020
L30 27 SEA SPE=ON ABB=ON PLU=ON L5 AND ED>=20200528 AND ED<=2020100
5 AND PY>=2020
L31 1055 SEA SPE=ON ABB=ON PLU=ON L6 AND ED>=20200528 AND ED<=2020100
5 AND PY>=2020
L32 100 SEA SPE=ON ABB=ON PLU=ON L12 AND ED>=20200528 AND ED<=202010
05 AND PY>=2020
L33 1055 SEA SPE=ON ABB=ON PLU=ON L31 OR L32
L34 1 SEA SPE=ON ABB=ON PLU=ON L30 AND L33
L35 473 SEA SPE=ON ABB=ON PLU=ON L7 AND ED>=20200528 AND ED<=2020100
5 AND PY>=2020
L36 409 SEA SPE=ON ABB=ON PLU=ON L8 AND ED>=20200528 AND ED<=2020100
5 AND PY>=2020
L37 877 SEA SPE=ON ABB=ON PLU=ON L35 OR L36
L38 2457 SEA SPE=ON ABB=ON PLU=ON L9 AND ED>=20200528 AND ED<=2020100
5 AND PY>=2020
L39 1007 SEA SPE=ON ABB=ON PLU=ON L13 AND ED>=20200528 AND ED<=202010
05 AND PY>=2020
L40 2461 SEA SPE=ON ABB=ON PLU=ON L38 OR L39
L41 47 SEA SPE=ON ABB=ON PLU=ON L37 AND (L40 OR L33)
L42 64 SEA SPE=ON ABB=ON PLU=ON L10 AND ED>=20200528 AND ED<=202010

05 AND PY>=2020
 L43 415 SEA SPE=ON ABB=ON PLU=ON L11 AND ED>=20200528 AND ED<=202010
 05 AND PY>=2020
 L44 196 SEA SPE=ON ABB=ON PLU=ON L14 AND ED>=20200528 AND ED<=202010
 05 AND PY>=2020
 L45 507 SEA SPE=ON ABB=ON PLU=ON L42 OR L43 OR L44
 L46 7 SEA SPE=ON ABB=ON PLU=ON L45 AND L40 AND L33
 L47 61 SEA SPE=ON ABB=ON PLU=ON L29 OR L34 OR L41 OR L46

Deduplication of Hit-sets from both sources:

FILE 'CABA, SCISEARCH' ENTERED AT 10:14:39 ON 06 OCT 2020
 CHARGED TO COST=SLB76724REGEU
 L48 189 DUP REM L47 L28 (8 DUPLICATES REMOVED)
 ANSWERS '1-61' FROM FILE CABA
 ANSWERS '62-189' FROM FILE SCISEARCH
 D L48 1-189 ALL PY

FILE SCISEARCH

FILE COVERS 1974 TO 5 Oct 2020 (20201005/ED)

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

FILE CABA

FILE LAST UPDATED: 30 SEP 2020 <20200930/UP>
 FILE COVERS 1973 TO DATE

Bayer GM Oilseed rape products literature search – Second quarter (October 2020 – January 2021)

Translation of query terms into STN search language:

(FILE 'STNGUIDE' ENTERED AT 13:37:48 ON 01 FEB 2021)

- L1 QUE SPE=ON ABB=ON PLU=ON GT!73 OR GT73 OR GT 73 OR RT!73 OR RT73 OR RT 73 OR MON!00073? OR MON00073? OR MON 00073? OR MON!00073 OR MON00073? OR MON 00073? OR MON!EMPTY SETEMPTY SETEMPTY SET73? OR MONEMPTY SETEMPTY SETEMPTY SET73? OR MON EMPTY SETEMPTY SETEMPTY SET73?
- L2 QUE SPE=ON ABB=ON PLU=ON MON!88302? OR MON88302? OR MON 88302? OR MON!88302? OR MON88302? OR MON 88302? OR MON!883EMPTY SET2? OR MON883EMPTY SET2? OR MON 883EMPTY SET2?
- L3 QUE SPE=ON ABB=ON PLU=ON MS!8 OR MS8 OR MS 8 OR RF!3 OR RF3 OR RF 3 OR ACS!BN005? OR ACSBN005? OR ACS BN005? OR ACS!BNO05? OR ACSBN005? OR ACS BNO05? OR ACS!BNEMPTY SETEMPTY SET5? OR ACSBNEMPTY SETEMPTY SET5? OR ACS BEMPTY SETEMPTY SET5?
- L4 QUE SPE=ON ABB=ON PLU=ON ACS!BN003? OR ACSBN003? OR ACS BN003? OR ACS!BNO03? OR ACSBN003? OR ACS BNO03? OR ACS!BNEMPTY SETEMPTY SET3? OR ACSBNEMPTY SETEMPTY SET3? OR ACS BEMPTY SETEMPTY SET3?
- L5 QUE SPE=ON ABB=ON PLU=ON ROUNDUPREADY? OR ROUND!UP!READY? ROUND UP READY? OR ROUNDUP READY? OR ROUND!UP READY? OR TRU!FLEX? OR TRU FLEX? OR TRUFLEX OR IN!VIGOR? OR INVIGOR? OR IN VIGOR?
- L6 QUE SPE=ON ABB=ON PLU=ON RAPESEED OR RAPE SEED OR OILSEEDRAPE OR OILSEED RAPE OR CANOLA OR BRASSICA
- L7 QUE SPE=ON ABB=ON PLU=ON CP4EPSPS? OR CP4 EPSPS? OR 5(W) (ENOLPYRUVYLSHIKIMATE OR ENOL PYRUVYL SHIKIMATE OR ENOLPYRUVYL SHIKIMATE OR ENOL PYRUVYLSHIKIMATE OR ENOL!PYRUVYL!SHIKIMATE!) (W) 3 PHOSPHATE SYNTHASE OR OXIDOREDUCTASE
- L8 QUE SPE=ON ABB=ON PLU=ON N ACETYLTRANSFERASE OR N ACETYLTRANSFERASE OR N ACETYL!TRANSFERASE OR N!ACETYLTRANSFERASE OR N!ACETYL TRANSFERASE OR N!ACETYL!TRANSFERASE OR BARNASE OR BAR OR BARSTAR OR GOX OR PAT OR PHOSPHINOTHRICIN
- L9 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?))
- L10 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP? OR GLUFOSINATE OR GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)
- L11 QUE SPE=ON ABB=ON PLU=ON (CONTROL? OR FERTIL? OR STERIL?) (5A) (POLLEN OR POLLINATION OR MALE)
- L12 QUE SPE=ON ABB=ON PLU=ON RAPESEED+UF,NT/CT,ORGN
- L13 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
- L14 QUE SPE=ON ABB=ON PLU=ON (WEED CONTROL+UF,NT/CT AND (GLYPHOSATE+UF,NT/CT OR GLUFOSINATE+UF,NT/CT)) OR MALE STERILITY +UF,NT/CT OR MALE FERTILITY +UF,NT/CT OR RESTORER GENES +UF,NT/CT

Search in SciSearch Database:

FILE 'SCISEARCH' ENTERED AT 13:38:35 ON 01 FEB 2021

```
L15      32 SEA SPE=ON  ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4) AND
          ED>=20201005 AND ED<=20210126 AND PY>=2020
L16      78 SEA SPE=ON  ABB=ON  PLU=ON  L5 AND ED>=20201005 AND ED<=2021012
          6 AND PY>=2020
L17     1203 SEA SPE=ON  ABB=ON  PLU=ON  L6 AND ED>=20201005 AND ED<=2021012
          6 AND PY>=2020
L18       1 SEA SPE=ON  ABB=ON  PLU=ON  L16 AND L17
L19     407 SEA SPE=ON  ABB=ON  PLU=ON  L7 AND ED>=20201005 AND ED<=2021012
          6 AND PY>=2020
L20     5701 SEA SPE=ON  ABB=ON  PLU=ON  L8 AND ED>=20201005 AND ED<=2021012
          6 AND PY>=2020
L21     6106 SEA SPE=ON  ABB=ON  PLU=ON  L19 OR L20
L22     8641 SEA SPE=ON  ABB=ON  PLU=ON  L9 AND ED>=20201005 AND ED<=2021012
          6 AND PY>=2020
L23       60 SEA SPE=ON  ABB=ON  PLU=ON  L21 AND (L22 OR L17)
L24       76 SEA SPE=ON  ABB=ON  PLU=ON  L10 AND ED>=20201005 AND ED<=202101
          26 AND PY>=2020
L25     1114 SEA SPE=ON  ABB=ON  PLU=ON  L11 AND ED>=20201005 AND ED<=202101
          26 AND PY>=2020
L26     1190 SEA SPE=ON  ABB=ON  PLU=ON  L24 OR L25
L27       5 SEA SPE=ON  ABB=ON  PLU=ON  L26 AND L22 AND L17
L28      98 SEA SPE=ON  ABB=ON  PLU=ON  L15 OR L18 OR L23 OR L27
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Search in CABA Database:

FILE 'CABA' ENTERED AT 13:38:57 ON 01 FEB 2021

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L29       8 SEA SPE=ON  ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4) AND
          ED>=20201005 AND ED<=20210126 AND PY>=2020
L30     31 SEA SPE=ON  ABB=ON  PLU=ON  L5 AND ED>=20201005 AND ED<=2021012
          6 AND PY>=2020
L31     1142 SEA SPE=ON  ABB=ON  PLU=ON  L6 AND ED>=20201005 AND ED<=2021012
          6 AND PY>=2020
L32     121 SEA SPE=ON  ABB=ON  PLU=ON  L12 AND ED>=20201005 AND ED<=202101
          26 AND PY>=2020
L33     1142 SEA SPE=ON  ABB=ON  PLU=ON  L31 OR L32
L34       3 SEA SPE=ON  ABB=ON  PLU=ON  L30 AND L33
L35     435 SEA SPE=ON  ABB=ON  PLU=ON  L7 AND ED>=20201005 AND ED<=2021012
          6 AND PY>=2020
L36     385 SEA SPE=ON  ABB=ON  PLU=ON  L8 AND ED>=20201005 AND ED<=2021012
          6 AND PY>=2020
L37     817 SEA SPE=ON  ABB=ON  PLU=ON  L35 OR L36
L38     2546 SEA SPE=ON  ABB=ON  PLU=ON  L9 AND ED>=20201005 AND ED<=2021012
          6 AND PY>=2020
L39     1173 SEA SPE=ON  ABB=ON  PLU=ON  L13 AND ED>=20201005 AND ED<=202101
          26 AND PY>=2020
L40     2551 SEA SPE=ON  ABB=ON  PLU=ON  L38 OR L39
L41      59 SEA SPE=ON  ABB=ON  PLU=ON  L37 AND (L40 OR L33)
L42      62 SEA SPE=ON  ABB=ON  PLU=ON  L10 AND ED>=20201005 AND ED<=202101
          26 AND PY>=2020
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L43 406 SEA SPE=ON ABB=ON PLU=ON L11 AND ED>=20201005 AND ED<=202101
26 AND PY>=2020
L44 209 SEA SPE=ON ABB=ON PLU=ON L14 AND ED>=20201005 AND ED<=202101
26 AND PY>=2020
L45 500 SEA SPE=ON ABB=ON PLU=ON L42 OR L43 OR L44
L46 4 SEA SPE=ON ABB=ON PLU=ON L45 AND L40 AND L33
L47 71 SEA SPE=ON ABB=ON PLU=ON L29 OR L34 OR L41 OR L46

Deduplication of Hit-sets from both sources:

FILE 'CABA, SCISEARCH' ENTERED AT 13:39:35 ON 01 FEB 2021
CHARGED TO COST=SLB76724 REG EU
L48 160 DUP REM L47 L28 (9 DUPLICATES REMOVED)
ANSWERS '1-71' FROM FILE CABA
ANSWERS '72-160' FROM FILE SCISEARCH
D L48 1-160 ALL PY

FILE SCISEARCH

FILE COVERS 1974 TO 26 Jan 2021 (20210126/ED)

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

FILE CABA

FILE LAST UPDATED: 25 JAN 2021 <20210125/UP>
FILE COVERS 1973 TO DATE

Bayer GM Oilseed rape products literature search – Third quarter (February 2021 – May 2021)

Translation of query terms into STN search language:

(FILE 'STNGUIDE' ENTERED AT 11:57:02 ON 01 JUN 2021)

- L1 QUE SPE=ON ABB=ON PLU=ON GT!73 OR GT73 OR GT 73 OR RT!73 OR RT73 OR RT 73 OR MON!00073? OR MON00073? OR MON 00073? OR MON!00073 OR MON00073? OR MON 00073? OR MON!EMPTY SETEMPTY SETEMPTY SET73? OR MONEMPTY SETEMPTY SETEMPTY SET73? OR MON EMPTY SETEMPTY SETEMPTY SET73?
- L2 QUE SPE=ON ABB=ON PLU=ON MON!88302? OR MON88302? OR MON 88302? OR MON!88302? OR MON88302? OR MON 88302? OR MON!883EMPTY SET2? OR MON883EMPTY SET2? OR MON 883EMPTY SET2?
- L3 QUE SPE=ON ABB=ON PLU=ON MS!8 OR MS8 OR MS 8 OR RF!3 OR RF3 OR RF 3 OR ACS!BN005? OR ACSBN005? OR ACS BN005? OR ACS!BNO05? OR ACSBN005? OR ACS BNO05? OR ACS!BNEMPTY SETEMPTY SET5? OR ACSBNEMPTY SETEMPTY SET5? OR ACS BNEMPTY SETEMPTY SET5?
- L4 QUE SPE=ON ABB=ON PLU=ON ACS!BN003? OR ACSBN003? OR ACS BN003? OR ACS!BNO03? OR ACSBN003? OR ACS BNO03? OR ACS!BNEMPTY SETEMPTY SET3? OR ACSBNEMPTY SETEMPTY SET3? OR ACS BNEMPTY SETEMPTY SET3?
- L5 QUE SPE=ON ABB=ON PLU=ON ROUNDUPREADY? OR ROUND!UP!READY? ROUND UP READY? OR ROUNDUP READY? OR ROUND!UP READY? OR TRU!FLEX? OR TRU FLEX? OR TRUFLEX OR IN!VIGOR? OR INVIGOR? OR IN VIGOR?
- L6 QUE SPE=ON ABB=ON PLU=ON RAPESEED OR RAPE SEED OR OILSEEDRAPE OR OILSEED RAPE OR CANOLA OR BRASSICA
- L7 QUE SPE=ON ABB=ON PLU=ON CP4EPSPS? OR CP4 EPSPS? OR 5(W) (ENOLPYRUVYL SHIKIMATE OR ENOL PYRUVYL SHIKIMATE OR ENOLPYRUVYL SHIKIMATE OR ENOL PYRUVYL SHIKIMATE OR ENOL!PYRUVYL! SHIKIMATE!) (W) 3 PHOSPHATE SYNTHASE OR OXIDOREDUCTASE
- L8 QUE SPE=ON ABB=ON PLU=ON N ACETYLTRANSFERASE OR N ACETYL TRANSFERASE OR N ACETYL!TRANSFERASE OR N!ACETYLTRANSFERASE OR N!ACETYL TRANSFERASE OR N!ACETYL!TRANSFERASE OR BARNASE OR BAR OR BARSTAR OR GOX OR PAT OR PHOSPHINOTHRICIN
- L9 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?))
- L10 QUE SPE=ON ABB=ON PLU=ON (TOLERAN? OR RESISTAN? OR PROTEC?) (5A) (GL!PHOSATE OR GL!FOSATE OR ROUNDUP? OR ROUND UP? OR ROUND!UP? OR GLUFOSINATE OR GLUPHOSINATE OR BASTA OR IGNITE OR LIBERTY)
- L11 QUE SPE=ON ABB=ON PLU=ON (CONTROL? OR FERTIL? OR STERIL?) (5A) (POLLEN OR POLLINATION OR MALE)
- L12 QUE SPE=ON ABB=ON PLU=ON RAPESEED+UF,NT/CT,ORGN
- L13 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
- L14 QUE SPE=ON ABB=ON PLU=ON (WEED CONTROL+UF,NT/CT AND (GLYPHOSATE+UF,NT/CT OR GLUFOSINATE+UF,NT/CT)) OR MALE STERILITY +UF,NT/CT OR MALE FERTILITY +UF,NT/CT OR RESTORER GENES +UF,NT/CT

Search in SciSearch Database:

FILE 'SCISEARCH' ENTERED AT 11:57:51 ON 01 JUN 2021

L15 44 SEA SPE=ON ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4) AND
ED>=20210126 AND ED<=20210531 AND PY>=2020
L16 117 SEA SPE=ON ABB=ON PLU=ON L5 AND ED>=20210126 AND ED<=2021053
1 AND PY>=2020
L17 1182 SEA SPE=ON ABB=ON PLU=ON L6 AND ED>=20210126 AND ED<=2021053
1 AND PY>=2020
L18 2 SEA SPE=ON ABB=ON PLU=ON L16 AND L17
L19 494 SEA SPE=ON ABB=ON PLU=ON L7 AND ED>=20210126 AND ED<=2021053
1 AND PY>=2020
L20 6348 SEA SPE=ON ABB=ON PLU=ON L8 AND ED>=20210126 AND ED<=2021053
1 AND PY>=2020
L21 6838 SEA SPE=ON ABB=ON PLU=ON L19 OR L20
L22 9833 SEA SPE=ON ABB=ON PLU=ON L9 AND ED>=20210126 AND ED<=2021053
1 AND PY>=2020
L23 64 SEA SPE=ON ABB=ON PLU=ON L21 AND (L22 OR L17)
L24 98 SEA SPE=ON ABB=ON PLU=ON L10 AND ED>=20210126 AND ED<=202105
31 AND PY>=2020
L25 1131 SEA SPE=ON ABB=ON PLU=ON L11 AND ED>=20210126 AND ED<=202105
31 AND PY>=2020
L26 1229 SEA SPE=ON ABB=ON PLU=ON L24 OR L25
L27 6 SEA SPE=ON ABB=ON PLU=ON L26 AND L22 AND L17
L28 116 SEA SPE=ON ABB=ON PLU=ON L15 OR L18 OR L23 OR L27

Search in CABA Database:

FILE 'CABA' ENTERED AT 11:58:09 ON 01 JUN 2021

L29 13 SEA SPE=ON ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4) AND
ED>=20210126 AND ED<=20210531 AND PY>=2020
L30 62 SEA SPE=ON ABB=ON PLU=ON L5 AND ED>=20210126 AND ED<=2021053
1 AND PY>=2020
L31 1418 SEA SPE=ON ABB=ON PLU=ON L6 AND ED>=20210126 AND ED<=2021053
1 AND PY>=2020
L32 147 SEA SPE=ON ABB=ON PLU=ON L12 AND ED>=20210126 AND ED<=202105
31 AND PY>=2020
L33 1418 SEA SPE=ON ABB=ON PLU=ON L31 OR L32
L34 3 SEA SPE=ON ABB=ON PLU=ON L30 AND L33
L35 546 SEA SPE=ON ABB=ON PLU=ON L7 AND ED>=20210126 AND ED<=2021053
1 AND PY>=2020
L36 492 SEA SPE=ON ABB=ON PLU=ON L8 AND ED>=20210126 AND ED<=2021053
1 AND PY>=2020
L37 1032 SEA SPE=ON ABB=ON PLU=ON L35 OR L36
L38 3005 SEA SPE=ON ABB=ON PLU=ON L9 AND ED>=20210126 AND ED<=2021053
1 AND PY>=2020
L39 1244 SEA SPE=ON ABB=ON PLU=ON L13 AND ED>=20210126 AND ED<=202105
31 AND PY>=2020
L40 3005 SEA SPE=ON ABB=ON PLU=ON L38 OR L39
L41 70 SEA SPE=ON ABB=ON PLU=ON L37 AND (L40 OR L33)
L42 116 SEA SPE=ON ABB=ON PLU=ON L10 AND ED>=20210126 AND ED<=202105
31 AND PY>=2020
L43 545 SEA SPE=ON ABB=ON PLU=ON L11 AND ED>=20210126 AND ED<=202105
31 AND PY>=2020

L44 270 SEA SPE=ON ABB=ON PLU=ON L14 AND ED>=20210126 AND ED<=202105
31 AND PY>=2020
L45 709 SEA SPE=ON ABB=ON PLU=ON L42 OR L43 OR L44
L46 7 SEA SPE=ON ABB=ON PLU=ON L45 AND L40 AND L33
L47 92 SEA SPE=ON ABB=ON PLU=ON L29 OR L34 OR L41 OR L46

Deduplication of Hit-sets from both sources:

FILE 'CABA, SCISEARCH' ENTERED AT 11:58:41 ON 01 JUN 2021
CHARGED TO COST=SLB76724 REG EU
L48 196 DUP REM L47 L28 (12 DUPLICATES REMOVED)
ANSWERS '1-92' FROM FILE CABA
ANSWERS '93-196' FROM FILE SCISEARCH
D L48 1-196 ALL PY

FILE SCISEARCH

FILE COVERS 1974 TO 31 May 2021 (20210531/ED)

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

FILE CABA

FILE LAST UPDATED: 26 MAY 2021 <20210526/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 oilseed rape 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.

Brown, PB; Wilson, KA; Jonker, Y; Nickson, TE (2003). Glyphosate tolerant canola meal is equivalent to the parental line in diets fed to rainbow trout. *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY*. Volume: 51, Issue: 15, Pages: 4268-4272, DOI: 10.1021/jf034018f

Taylor, ML; Stanisiewski, EP; Riordan, SG; Nemeth, MA; George, B; Hartnell, GF (2004). Comparison of broiler performance when fed diets containing roundup ready (Event RT73), nontransgenic control, or commercial canola meal. *POULTRY SCIENCE*. Volume: 83, Issue: 3, Pages: 456-461, DOI: 10.1093/ps/83.3.456

EFSA (2017). Scientific Opinion on application EFSA-GMO-NL-2013-119 for authorisation of genetically modified glufosinate-ammonium- and glyphosate-tolerant oilseed rape MON 88302 × MS8 × RF3 and subcombinations independently of their origin, for food and feed uses, import and processing submitted in accordance with Regulation (EC) No 1829/2003 by Monsanto Company and Bayer CropScience, *EFSA Journal*, 10.2903/j.efsa.2017.4767, **15**, 4.

EFSA (2005). Opinion of the Scientific Panel on Genetically Modified Organisms on a request from the Commission related to the application (Reference C/BE/96/01) for the placing on the market of glufosinate-tolerant hybrid oilseed rape Ms8xRf3, derived from genetically modified parental lines (Ms8, Rf3), for import and processing for feed and industrial uses, under Part C of Directive 2001/18/EC from Bayer CropScience. *EFSA Journal* 2005; **3**(10): 281, 23 pp. doi:[10.2903/j.efsa.2005.281](https://doi.org/10.2903/j.efsa.2005.281)

EFSA (2012). Scientific Opinion on application (EFSAGMO-BE-2010-81) for the placing on the market of genetically modified herbicide-tolerant oilseed rape Ms8, Rf3 and Ms8 9 Rf3 for food containing or consisting of, and food produced from or containing ingredients produced from, oilseed rape Ms8, Rf3 and Ms8 9 Rf3 (with the exception of processed oil) under Regulation (EC) No 1829/2003 from Bayer. *EFSA Journal* 2012; **10**(9): 2875, 32 pp. doi:[10.2903/j.efsa.2012.2875](https://doi.org/10.2903/j.efsa.2012.2875)

EFSA (2014). Scientific Opinion on application (EFSA-GMO-BE-2011-101) for the placing on the market of herbicide-tolerant genetically modified oilseed rape MON 88302 for food and feed uses, import and processing under Regulation (EC) No 1829/2003 from Monsanto. *EFSA Journal* 2014; **12**(6): 3701, 37 pp. doi:[10.2903/j.efsa.2014.3701](https://doi.org/10.2903/j.efsa.2014.3701)

Annex IV. Literature search in internet pages of relevant key organisations for Bayer GM oilseed rape products covering time span 2020 - 2021

Relevant key organisations	Link to the relevant information and summary of the retrieved records
USDA	<p>https://www.aphis.usda.gov/aphis/ourfocus/biotechnology/permits-notifications-petitions/petitions/petition-status - Accessed on 06 July 2021. The webpage dedicated to petitions for determination of nonregulated status was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> 24 June 2021</p> <p><i>Limits applied:</i> The list of the petitions was sorted by ‘Effective Date’ and those completed/ released starting from 01/01/2020 were assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “4”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to Bayer GM oilseed rape products.</p>
US FDA	<p>https://www.accessdata.fda.gov/scripts/fdcc/?set=Biocon – Accessed on 06 July 2021. The webpage dedicated to biotechnology consultations on food from GE plant varieties was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> 16 March 2021</p> <p><i>Limits applied:</i> The list of the consultations starting from the ‘FDA Letter Date’ of 01 01, 2020 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “2”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to Bayer GM oilseed rape products.</p>
CFIA	<p>https://inspection.canada.ca/industry-guidance/eng/1374161650885/1374161737236?gp=3&gc=25&ga=4#gdr_results - Accessed on 06 July 2021. The webpage dedicated to repository documents referring to plants with novel traits was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> not clear</p> <p><i>Limits applied:</i> The list of repository documents referring to plants with novel traits starting from ‘Date modified’ of 2020-01-01 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “21”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to Bayer GM oilseed rape products.</p>

Health Canada	<p>https://www.canada.ca/en/health-canada/services/food-nutrition/genetically-modified-foods-other-novel-foods/approved-products.html - Accessed on 06 July 2021. The webpage dedicated to approved products of genetically modified (GM) foods and other novel foods was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> 29 June 2021</p> <p><i>Limits applied:</i> The list of novel food decisions starting from the ‘Decision Date (20YY/MM/DD)’ of 2020/01/01 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “12”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to Bayer GM oilseed rape products.</p>
FSANZ	<p>http://www.foodstandards.gov.au/consumer/gmfood/applications/Pages/default.aspx - Accessed on 06 July 2021. The webpage dedicated to current GM applications and approvals was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> June 2021</p> <p><i>Limits applied:</i> The list for GM applications and approvals with ‘Status’ approved or under assessment starting from 2020 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “7”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to Bayer GM oilseed rape products.</p>
CTNBio	<p>http://ctnbio.mctic.gov.br/liberacao-comercial#/liberacao-comercial/consultar-processo – Accessed on 06 July 2021. The webpage dedicated to commercial releases (= Liberações Comerciais) was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> Not clear (several dates mentioned)</p> <p><i>Limits applied:</i> The list of commercial releases for plants (= plantas) starting from 2020 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “2”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to Bayer GM oilseed rape products.</p>
CONABIA	<p>https://www.argentina.gob.ar/agroindustria/alimentos-y-bioeconomia/ogm-comerciales – Accessed on 06 July 2021. The webpage of the national advisory commission on agricultural biotechnology (= Comisión Nacional Asesora de Biotecnología Agropecuaria) was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> Not available</p> <p><i>Limits applied:</i> The list of events with commercial authorisation (= Eventos con autorización comercial) starting from 2020 were checked.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “1”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved record is not relevant to Bayer GM oilseed rape products.</p>

MAFF	<p>https://www.maff.go.jp/j/syouan/nouan/carta/torikumi/attach/pdf/index-254.pdf - Accessed on 06 July 2021. The weblink dedicated to list of approved genetically modified agricultural crops was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> 03 March 2021</p> <p><i>Limits applied:</i> The list of GM agricultural crops with approval date (‘承認日’) starting from 01 01, 2020 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “10”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to Bayer GM oilseed rape products.</p>
OGTR	<p>http://ogtr.gov.au/internet/ogtr/publishing.nsf/Content/ir-1 - Accessed on 06 July 2021. The webpage dedicated to list of GMOs released into the environment was checked.</p> <p><i>Date of the most recent website update at the time of the search:</i> Not clear (several dates mentioned)</p> <p><i>Limits applied:</i> Table of applications and authorisations for Dealings involving Intentional Release (DIR) into the environment starting from ‘Issue Date’ of 01 01 2020 was assessed.</p> <p><i>Number of records retrieved matching the abovementioned criteria:</i> “12”.</p> <p><i>Number of relevant records or full-text documents retrieved:</i> The retrieved records are not relevant to Bayer GM oilseed rape products.</p>

Annex V. Results of the publication selection process for Bayer GM oilseed rape 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
Publications identified after searches of the scientific literature in SciSearch and CABA databases (following de-duplication)	475
Publications excluded after rapid assessment for relevance	474
Publications screened using full-text documents	1
Publications excluded after detailed assessment for relevance	0
Unobtainable publications	0
Unclear publications	0
Publications considered relevant	1

Table 2. List of all relevant publications for Bayer GM oilseed rape products 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			
<i>Ag/Pheno</i>			
GT73	(Duncan <i>et al.</i> , 2021)	Evolve Roundup Ready [®] high erucic acid, low glucosinolate hybrid summer rape	Canadian Journal of Plant Science

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

Table 3. 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 ¹
Food/Feed Safety assessment		
Ag/Pheno		
(Duncan <i>et al.</i> , 2021)	Low	None, because no new hazards, modified exposure, or new scientific uncertainties are reported

¹ Identification of a new hazard, modified exposure, or new scientific uncertainty requiring further consideration in the risk assessment; **None**, because no new hazards, modified exposure, or new scientific uncertainties are reported; **None**, because the findings reported in the study are not reliable; Implications for risk assessment were previously considered by EFSA and/or its GMO Panel, and are therefore not addressed further here (EFSA, 2019).

REFERENCES

References highlighted in grey are EFSA publications. Therefore, their pdfs are not provided.

Duncan RW, McVetty PBE, Nugent-Rigby JA, Fernando WGD and Li G, 2021. Evolve Roundup ready ® high erucic acid, low glucosinolate hybrid summer rape. *Can. J. Plant Sci.* , 101, 140-142.

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.

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* Oilseed rape.txt file).