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Outcome of the consultation with Member States and EFSA on the basic substance application for vinegar for the extension of use in plant protection as a herbicide

European Food Safety Authority (EFSA)

Abstract

The European Food Safety Authority (EFSA) was asked by the European Commission to provide scientific assistance with respect to the evaluation of applications received by the European Commission concerning basic substances. In this context, EFSA's scientific views on the specific points raised during the commenting phase conducted with Member States and EFSA on the basic substance application for vinegar are presented. The context of the evaluation was that required by the European Commission in accordance with Article 23 of Regulation (EC) No 1107/2009 following the submission of an application for approval of extension of use of vinegar as a basic substance for use in plant protection as a herbicide. The current report summarises the outcome of the consultation process organised by EFSA and presents EFSA's scientific views on the individual comments received.

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Keywords: vinegar, basic substance, application, consultation, plant protection, pesticide, herbicide

Requestor: European Commission

Question number: EFSA-Q-2017-00417

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Summary

Vinegar is an active substance for which, in accordance with Article 23(3) of Regulation (EC) No 1107/2009, the European Commission received an application from Charbonneaux - Brabant S.A. for approval of extension use as a 'basic substance'. Regulation (EC) No 1107/2009 introduced the new category of 'basic substances', which are described, among others, as active substances, not predominantly used as plant protection products but which may be of value for plant protection and for which the economic interest in applying for approval may be limited. Article 23 of Regulation (EC) No 1107/2009 lays down specific provisions for consideration of applications for approval of basic substances.

In March 2013, the European Commission requested the European Food Safety Authority (EFSA) to provide scientific assistance with respect to the evaluation of applications received by the European Commission concerning basic substances. On 21 March 2014 EFSA received a first request from the European Commission to organize a consultation on the basic substance application submitted by the applicants Institut Technique de L'Agriculture Biologique (ITAB) and Mairie de Paris for vinegar, to consult the applicants on the comments received, and to deliver its scientific views on the specific points raised in the format of a reporting table. A Technical Report containing the finalised reporting table was issued by EFSA on 31 July 2014. Vinegar was approved on 1 July 2015 by Commission Implementing Regulation (EU) 2015/1108 in accordance with Article 23 of Regulation (EC) No 1107/2009, for the uses as a fungicide and bactericide.

By a further specific request, received from the European Commission in May 2017, EFSA was asked to organise a consultation on the basic substance application for the extension of use of vinegar as a herbicide, to consult the applicant on the comments received, and to deliver its scientific views on the specific points raised in the format of a reporting table within three months of acceptance of the specific request.

A consultation on the basic substance application for the extension of use of vinegar, organised by EFSA, was conducted with Member States via a written procedure in February-April 2017. Subsequently, EFSA also provided comments and the applicant was invited to address all the comments received in the format of a reporting table and to provide an application update as appropriate, within a period of 30 days.

The current report summarises the outcome of the consultation process organised by EFSA on the basic substance application for the extension of use of vinegar and presents EFSA's scientific views on the individual comments received in the format of a reporting table.

Vinegar is a liquid produced from suitable products containing starch and/or sugars by the process of double fermentation, first alcoholic and then acetous. It should be of food grade containing a maximum of 10 % acetic acid. Vinegar may contain optional ingredients.

Vinegar is mainly used as foodstuff for preservation and dressing for human consumption. It is also used as basic substance as a fungicide and bactericide.

The active substance of vinegar, acetic acid, was already approved as a herbicide in pome fruit, stone fruit, paths and roads, ornamental trees and shrubs, turf and lawns. As previously commented by EFSA (EFSA, 2013) considering the inhalation toxicity effects of acetic acid in humans, vinegar could be considered as a substance of concern. The applicant provided non-dietary estimates and compared them to consumption figures. However, the main route of concern is inhalation exposure. Inhalation exposure should have been compared to the agreed Acceptable Operator Exposure Concentration (AOEC) of 1 mg/m³ and not to dietary intake or consumption figures. On the basis of the current assessment as presented by the applicant it is not possible to EFSA to judge if non-dietary exposure estimates according to the intended uses will exceed the AOEC of 1 mg/m³. It is noted that for similar herbicide uses of acetic acid, indicated exposure levels of up to 117% of the AOEC were found. The highest application rate in the EFSA conclusion on acetic acid was 102 kg a.s./ha.

In view of the requested use patterns and provided the active substance is food grade vinegar, an assessment of residues is not considered relevant.

The acetic acid in vinegar has the potential to contaminate groundwater (due to its very low soil adsorption). Groundwater exposure calculations for acetic acid from the requested uses of vinegar as a herbicide are not available but the potential for groundwater exposure consequent to the similar herbicide uses of acetic acid indicated that the legal parametric limit of 0.1µg/L used for the assessment of groundwater exposure would be exceeded for the major acetic acid component of vinegar. Information was not provided that might be used for an environmental exposure assessment of the components of vinegar, except for the major component acetic acid.

No information has been presented allowing a proper consideration of the level of exposure to non-target organisms, except to soil organisms, for the requested use patterns. Therefore, a conclusion on the risk assessment for birds, mammals, aquatic organisms, bees, non-target arthropods and non-target terrestrial plants cannot be drawn. Similarly, the assessment for organisms employed in sewage treatment plants cannot be considered as conclusive.

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1. Introduction

1.1. Background and Terms of Reference as provided by the requestor

Regulation (EC) No 1107/2009¹ (hereinafter referred to as 'the Regulation') introduced the new category of 'basic substances', which are described, among others, as active substances, not predominantly used as plant protection products but which may be of value for plant protection and for which the economic interest of applying for approval may be limited. Article 23 of the Regulation lays down specific provisions to identify a substance as a basic substance with a view to ensure that such active substances that do not have an immediate or delayed harmful effect on human and animal health nor an unacceptable effect on the environment can be approved as 'basic' and used for plant protection purposes. Vinegar is an active substance for which, in accordance with Article 23(3) of the Regulation, the European Commission received a first application from Institut Technique de L'Agriculture Biologique (ITAB) and Mairie de Paris for approval as a 'basic substance' of use in plant protection as a fungicide and bactericide in seed treatment and for disinfecting mechanical cutting tools. On 21 March 2014 EFSA was requested by European Commission to organise a consultation on the basic substance application submitted, to consult the applicant on the comments received, and to deliver its scientific views on the specific points raised in the format of a reporting table. A Technical Report containing the finalised reporting table was issued by EFSA on 31 July 2014 (EFSA, 2014). Vinegar has been approved on 1 July 2015 by Commission Implementing Regulation (EU) 2015/1108² in accordance with Article 23 of Regulation (EC) No 1107/2009, for the uses as fungicide and bactericide.

On May 2017, the European Commission received a further application from Charbonneaux - Brabant S.A. for the extension of use of the basic substance vinegar as a herbicide in plant protection.

The European Food Safety Authority (EFSA) organised a consultation with Member States on the basic substance application for extension of use of vinegar, which was conducted via a written procedure in February-April 2017. The comments received, including EFSA's comments, were consolidated by EFSA in the format of a reporting table. Subsequently, the applicant was invited to address the comments in column 4 of the reporting table and to provide an application update as appropriate. The comments received and the response of the applicant thereon, together with the application update submitted by the applicant, were considered by EFSA in column 5 of the reporting table.

The current report aims to summarise the outcome of the consultation process organised by EFSA on the basic substance application for the extension of use of vinegar and to present EFSA's scientific views on the individual comments received in the format of a reporting table.

The application and, where relevant, any update thereof submitted by the applicant for approval of extension of use of vinegar as a 'basic substance' in the context of Article 23 of the Regulation, is a key supporting documentation, therefore it is considered as a background documentation to this report and will also be made publicly available, excluding its appendices (Charbonneaux - Brabant, 2017 a,b).

1.2. Interpretation of the Terms of Reference

On 6 March 2013 the European Commission requested EFSA to provide scientific assistance with respect to the evaluation of applications received by the European Commission concerning basic substances. By a further specific request, received by EFSA on 15 May 2017, EFSA was asked to organise a consultation on the basic substance application for extension of use of vinegar, to consult the applicant on the comments received, and to deliver its scientific views on the specific points raised in the format of a reporting table.

¹ Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC. OJ L 309, 24.11.2009, p. 1-50.

² Commission Implementing Regulation (EU) 2015/1108 of 8 July 2015 approving the basic substance vinegar in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market, and amending the Annex to Commission Implementing Regulation (EU) No 540/2011. OJ L 181, 9.7.2015, p. 75.

To this end, a technical report containing the finalised reporting table is being prepared by EFSA. The agreed deadline for providing the finalised report is 15 August 2017.

On the basis of the reporting table, the European Commission may decide to further consult EFSA to conduct a full or focussed peer review and to provide its conclusions on certain specific points.

2. Assessment

The comments received on the basic substance application for extension of use of vinegar and the conclusions drawn by EFSA are presented in the format of a reporting table.

The comments received are summarised in columns 2 and 3 of the reporting table. The applicant's considerations of the comments, where available, are provided in column 4, while EFSA's scientific views and conclusions are outlined in column 5 of the table.

The finalised reporting table is provided in Appendix A of this report. In addition, an overview table on the identity and biological properties of the substance and the list of intended uses in plant protection (GAP table) are provided in Appendix B and C, respectively.

Documentation provided to EFSA

1. Charbonneaux - Brabant, 2017a. Basic substance application on vinegar submitted in the context of Article 23 of Regulation (EC) No 1107/2009. February 2017. Documentation made available to EFSA by the European Commission.
2. Charbonneaux - Brabant, 2017b. Basic substance application update on vinegar submitted in the context of Article 23 of Regulation (EC) No 1107/2009. June 2017. Documentation made available to EFSA by the applicant.

References

- EFSA (European Food Safety Authority) 2013. Conclusion on the peer review of the pesticide risk assessment of the active substance acetic acid. EFSA Journal 2013;11(1):3060. 57 pp. doi:10.2903/j.efsa.2013.3060.
- EFSA (European Food Safety Authority), 2014. Outcome of the consultation with Member States and EFSA on the basic substance application for vinegar as a fungicide and bactericide in seed treatment and for disinfecting mechanical cutting tools. EFSA Supporting Publication 2014; 11(8):EN-641. 37 pp. doi:10.2903/sp.efsa.2014.EN-641
- European Commission, 2002. Guidance Document on Terrestrial Ecotoxicology under Council Directive 91/414/EEC. SANCO/10329/2002-rev. 2 final, 17 October 2002
- European Commission, 2013. Guidance document on the procedures for submission and assessment of confirmatory information following approval of an active substance in accordance with Regulation (EC) No 1107/2009. SANCO 5634/2009-rev. 6.1

Abbreviations

ADI	Acceptable Daily intake
ArfD	Acute reference Dose
a.s.	active substance
AL	Any other Liquid
AOEC	Acceptable Operator Exposure Concentration
DAR	draft assessment report
DT ₅₀	period required for 50% dissipation (define method of estimation)
EU	European Union
FOCUS	FORum for the Co-ordination of pesticide fate models
GAP	good agricultural practice
Koc	organic carbon linear adsorption coefficient
LC ₅₀	lethal concentration, median
LD ₅₀	lethal dose, median; dosis letalis media
MS	Member State
PAN	Pesticide action network
PEC	predicted environmental concentration
PEC _{gw}	predicted environmental concentration in ground water
PEC _{soil}	predicted environmental concentration in soil
PEC _{sw}	predicted environmental concentration in surface water
PPDB	Pesticide Properties DataBase
RMS	rappporteur Member State
SL	Soluble Concentrate
TER	toxicity exposure ratio
TLV	threshold limit value
UK POEM	UK Predictive Operator Exposure Model
US EPA	United States Environmental Protection Agency

Appendix A – Collation of comments from Member States and EFSA on the basic substance application for extension of use of vinegar and the conclusions drawn by EFSA on the specific points raised

1. Purpose of the application

General					
No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application

No comments

2. Identity of the substance/product as available on the market and predominant use

2.1. Identity and Physical and chemical properties of the substance and product to be used

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
2(1)	2.1.1.	DE: The German name for vinegar should be corrected to "Essig" (typo).		Corrected	Addressed
2(2)	2.2.1 Common name, p.5	EFSA: there is no ISO common name for this 'substance'		Corrected	Addressed
2(3)	2.2.2. IUPAC names	EFSA: the IUPAC names are acetic acid, citric acid, tartaric acid, malic acid, malonic acid, succinic acid, propionic acid, glycerol as these are retained names.		Corrected	The IUPAC names were not updated.

2.2. Current Former and in case proposed trade names

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
No comments					

2.3. Manufacturer of the substance/products

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
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No comments

2.4. Type of preparation

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
2(4)	2.4 Formulation type	EFSA: the code 'AL', any other liquid, is mainly attributed to a liquid to be applied undiluted	As vinegar is diluted according to the GAP in 1000 or 100 l of water, probably this would be an 'SL'	'AL' maintained. Applied undiluted, 1000 L of water corresponding to 100 kg of active ingredient.	Addressed: The 10% solution is applied undiluted.

2.5. Description of the recipe for the product to be used

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
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No comments.

3. Uses of the substance and its product

3.1. Field of use

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
3(1)	3.3.1.	DE: Some Member States (including Germany) issued restrictions against the use of herbicides on non-agricultural areas which were as part of national legislation notified to the Commission. The extension of the approval as requested is likely to create a legal contradiction to those restrictions on Member State level.		Restrictions and circumvention of the European phytopharmaceutical regulation Reg. (EC) No 1107/2009 made by certain MS (i.e. illegal uses of non-approved basic substances under the "plant strengthener" concept) do not have to be taken into consideration in the applications.	Noted.
3(2)	3.2 Effects on harmful organisms, p.15	EFSA: there are no real data on effectiveness of vinegar as a weed killer. The GAP is slightly misleading as acetic acid doesn't kill the weed plant.	Vinegar may kill the young plants, probably this would be important to note in the GAP	References of efficacy are described in the §3 but sentence added in GAP.	Addressed. It was added to the GAP that vinegar is phytotoxic to plants; it may kill the young plants.

3.2. Effects on harmful organisms or on plants

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
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No comments

3.3. Summary of intended uses

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
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No comments

4. Classification and labelling of the substance

Classification and labelling of the substance

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
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No comments

5. Impact on Human and Animal Health

5.1. Toxicokinetics and metabolism in humans

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
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No comments

5.2. Acute toxicity

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
5(1)		<p>PL: Acceptable.</p> <p>Acetic acid shows a low acute oral and inhalation toxicity. A study on acute dermal toxicity is not required. The toxicological information on the substance/product, vinegar, is sufficient. No further studies on the substance are considered necessary. The substance has not an immediate harmful effect on human health.</p>		Vinegar as foodstuff, food additive is use for human purpose undiluted.	See comment 5(10)

5.3. Short-term toxicity

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
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No comments

5.4. Genotoxicity

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
5(2)		PL: Acceptable. Acetic acid is not considered to be a genotoxic compound.		Vinegar is an allowed foodstuff all over the world. No genotoxic consideration was ever mentioned.	See comment 5(10)

5.5. Long-term toxicity

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
5(3)		PL: Acceptable The substance does not have a delayed harmful effect on human or animal health.		Vinegar is an allowed foodstuff food additive and food technological auxiliary all over the world with daily uses.	See comment 5(10)

5.6. Reproductive toxicity

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
5(4)		PL: Acceptable. Reproductive toxicity studies detected no evidence for a primary embryotoxic or teratogenic potential of acetic acid.		Vinegar is an allowed foodstuff food additive and food technological auxiliary all over the world with daily uses for millenary uses.	See comment 5(10)

5.7. Neurotoxicity

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 4 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
5(5)		PL: Acceptable Acetic acid is a food ingredient and food additive which does not produce signs of neurotoxicity after ingestion at quantities relevant for human consumption.		No comments from applicant	See comment 5(10)

5.8. Toxicity studies on metabolites

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
5(6)		PL: Acceptable. All metabolites of acetic acid are naturally occurring substances and an integral part of mammalian metabolism and do not require toxicity testing.		No comments from applicant	See comment 5(10)

5.9. Medical Data: adverse effects reported in humans

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
5(7)		PL: Acceptable. No report is described, in general use of vinegar as food.		No comments from applicant	See comment 5(10)

5.10. Additional Information related to therapeutic properties or health claims

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
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No comments

5.11. Additional information related to use as food

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
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No comments

5.12. Acceptable daily intake, acute reference dose, acceptable operator exposure level

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
5(8)		PL: Acceptable. The establishment of an ADI and ARfD for the oral intake of acetic acid is not considered necessary based on the widespread presence of acetic acid in human food and the fact that the substance is		No comment from applicant	See comment 5(10)

5.12. Acceptable daily intake, acute reference dose, acceptable operator exposure level

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
		a normal metabolite in humans and animals.			

5.13. Impact on human and animal health arising from exposure to the substance or impurities contained in it

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
5(9)	5.13	NL: In this section it is referred to the EFSA outcome of the previous evaluation on vinegar as a basic substance (EFSA, 2014). This approach is not agreed with. The previous application was for use as seed treatment and disinfection of cutting tools. This leads to a completely different exposure scenario than the current use as spray application. For acetic acid an AOEC of 1 mg/m ³ was derived. The exposure resulting from the basic substance use as spray	EFSA: Non-dietary exposure estimates to acetic acid in vinegar should be provided according to the intended uses as a herbicide.	Risk to applicator and operator. POEM UK calculation included in basic substance application. US EPA reference added. Threshold limit value (TLV) was estimated to 25 mg/m ³ Reference added in the basic substance application. Higher application rate is intended of up to 100 kg as/ha per application.	See comment 5(10)

5.13. Impact on human and animal health arising from exposure to the substance or impurities contained in it					
No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
		application should be compared to this reference value.			
5(10)		<p>EFSA: Acetic acid and vinegar, fulfil the criteria of a 'foodstuff as defined in Article 2 of Regulation (EC) No 178/2002³</p> <p>The active substances acetic acid is not predominantly used for plant protection purposes; however it was already approved as a herbicide in pome fruit, stone fruit, paths and roads, ornamental trees and shrubs, turf and lawns.</p> <p>As previously commented by EFSA, (EFSA, 2014) considering the inhalation toxicity effects of acetic acid in humans, vinegar could be considered as a</p>	<p>EFSA: Non-dietary exposure estimates to acetic acid in vinegar should be provided according to the intended uses as a herbicide.</p>	<p>Risk to applicator and operator. POEM UK calculation included in basic substance application. Basic substance is vinegar food grade. POEM UK calculation included in basic substance application. Maximum exposure per day is 2.5 g. Compared to usual food this quantity is negligible.</p>	<p>The active substance of vinegar, acetic acid, was already approved as an herbicide in pome fruit, stone fruit, paths and roads, ornamental trees and shrubs, turf and lawns. As previously commented by EFSA (EFSA, 2014), considering the inhalation toxicity effects of acetic acid in humans, vinegar could be considered as a substance of concern. The applicant provided non-dietary estimates and compared them to consumption figures. However, the main route of concern is inhalation exposure. Inhalation exposure should have been compared to the</p>

³ Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety. OJ L 31, 1.2.2002, p. 1–24.

5.13. Impact on human and animal health arising from exposure to the substance or impurities contained in it					
No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
		<p>substance of concern.</p> <p>Non-dietary exposure estimates to acetic acid in vinegar should be provided according to the intended uses as a herbicide.</p>			<p>agreed Acceptable Operator Exposure Concentration (AOEC) of 1 mg/m³ and not to dietary intake or consumption figures. On the basis of current assessment as presented by the applicant it is not possible to EFSA to judge if non-dietary exposure estimates, according to the intended uses, will exceed the AOEC of 1 mg/m³. It is noted that for similar herbicides uses of acetic acid indicated exposure levels of up to 117% of the AOEC was found. The highest application rate in the EFSA conclusion on acetic acid (EFSA, 2013) was 102 kg a.s./ha.</p>

6. Residues

Residues

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
6(1)		PL: no comments-natural substance, no expected residues, used as a grocery for consumption		Vinegar is an allowed foodstuff food additive and food technological auxiliary all over the world with daily uses for millenary uses.	Provided that food grade vinegar should be the active substance, an assessment of residues is not considered relevant.
6(2)		EFSA: In view of the requested uses (non-agricultural use and pre-emergence use in herbs) and the provision that food grade vinegar should be the active substance, an assessment of residues is not considered relevant.		No comments from applicant	See comment 3(1)

7. Fate and Behaviour in the environment

7.1 Fate and Behaviour in the environment

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
7(1)	Acetic acid	PL: Vinegar was discussed in EU review (EFSA, 2013).		Vinegar is cited in this reference as an example of smell.	PEC calculations from: Conclusion on the peer review of the pesticide risk assessment of the active substance acetic acid (EFSA, 2013) have been added to the application but the application rates assessed in this previous EFSA conclusion have not been cited and compared to what has been requested in this application which has a slightly lower application rate when expressed as acetic acid/ ha.
7(2)		PL: The acetic acid in vinegar has the potential for long-range atmospheric transport since it is prone to volatilization. Although using the estimates of sales volumes provided by the applicant, the contribution to exposure in remote areas from the use of acetic acid as a herbicide was indicated to be insignificant when compared to other		No comments from applicant	Addressed

7.1 Fate and Behaviour in the environment

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
		anthropogenic emission sources.			
7(3)		PL: Acetic acid has low DT ₅₀ value. Therefore, its persistence in soil is expected to be negligible.		No comments from applicant	Addressed
7(4)	7.1 (p. 22)	NL: The statement 'Natural microorganisms are secreted acetic acid' is unclear	NL: Should it read 'Microorganisms secrete acetic acid under natural conditions'?	Corrected in basic substance application	Addressed
7(5)	7.1 (p. 22)	NL: It is stated that white vinegar 12% is registered for the control of perennial weeds in cranberry fields. It is not clear whether this is a Canadian (and not an EU) authorisation.	NL: Please make clear whether this is a Canadian authorisation.	Corrected in basic substance application	Addressed

7.2 Estimation of the short and long-term exposure of relevant environmental media (soil, groundwater, surface water)

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
7(6)		PL: A groundwater contamination problem was indicated from the herbicide uses.		Groundwater contaminations are not suspected (see reference to PAN (as of 2015)	Groundwater contamination is indicated with the available FOCUS groundwater modelling

7.2 Estimation of the short and long-term exposure of relevant environmental media (soil, groundwater, surface water)

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
		<p>The acetic acid in vinegar has the potential to contaminate groundwater (due to its very low soil adsorption). However, it is not an exogenous molecule in environment and it is subjected to fast degradation. Therefore, the risk of groundwater contamination seems to be low when acetic acid is used according to intended uses.</p>			<p>from the herbicide uses.</p>
7(7)		<p>PL: Due to the short half-life of acetic acid in water even multiple applications did not lead to any accumulation in surface water.</p>		<p>No comments from applicant</p>	<p>Addressed</p>
7(8)	7.2 (p. 22)	<p>NL: Values of PAN Germany are quoted with regards to K_{oc} and DT₅₀. However these values differ from the values given in the EFSA conclusion on acetic acid (EFSA, 2013): DT₅₀ of 1.23 days and K_{oc} of 0.</p>	<p>NL: Rather than including the values of PAN Germany, present and refer to the EFSA conclusion on acetic acid.</p>	<p>Corrected in basic substance application</p>	<p>Addressed</p>
7(9)	7.2 (p. 22)	<p>NL: In the EFSA consultation on</p>	<p>NL: Information should be provided</p>	<p>Corrected in basic substance</p>	<p>Groundwater contamination is</p>

7.2 Estimation of the short and long-term exposure of relevant environmental media (soil, groundwater, surface water)

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
		<p>the basic substance application for vinegar the risk on groundwater exposure resulting from the use of vinegar as seed treatment was identified (EFSA, 2014). For the current application for the use as a herbicide, this risk is very realistic. For example, in the EFSA conclusion on acetic acid (EFSA, 2013), the same use rate of 100 kg/ha as in the intended uses in the current application, leads to a PECgw higher than 0.1 µg/L for 3 out of 9 standard scenarios (with a maximum PECgw of 26.4 µg/L for Okehampton). However, no PECgw calculations are provided in the current application.</p>	<p>to demonstrate that vinegar has no unacceptable effect on the environment. Therefore, PECgw concentrations based on agreed endpoints (EFSA, 2013) should be provided.</p>	<p>application</p>	<p>indicated with the available FOCUS groundwater modelling from the herbicide uses.</p>
7(10)	7.2 (p. 23)	<p>NL: No information is given regarding the predicted environmental concentrations of vinegar in surface water. In the EFSA conclusion on acetic acid (EFSA, 2013) a risk to</p>	<p>NL: PECsw calculations should be included. The calculations should include PECsw for use on hardened surfaces.</p>	<p>Corrected in basic substance application Hagner, 2013 reference added</p>	<p>PEC in surface water have not been calculated for the herbicide uses being requested. In the EFSA conclusion on acetic acid (EFSA, 2013) a risk to aquatic organisms was</p>

7.2 Estimation of the short and long-term exposure of relevant environmental media (soil, groundwater, surface water)

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
		aquatic organisms is identified based on similar use rates as the current intended use.			identified based on similar use rates as the current intended use.
7(11)	7.2 (p. 23)	NL: No information is given regarding the predicted environmental concentrations of vinegar in soil. In the EFSA conclusion on acetic acid (EFSA, 2013) a risk to wild non target terrestrial vertebrates and invertebrates is identified based on similar use rates as the current intended use.	NL: PECsoil calculations should be included.	Corrected in basic substance application	Addressed. PEC in soil have been added to the application.
7(12)	7.2 (p. 23)	NL: On what information are the three general conclusions that are listed based? Also, what is the purpose of these statements? Also, the pH change caused by an acid is dependent on its pKa, and therefore is different for each acid.	NL: It would be more informative to provide information the background concentrations of acetic acid in the environment, than to state that vinegar 'is not an exogenous molecule in environment'.	Concentration of vinegar (as of acetic acid main active substance) in soil generated by wheat straw in decomposition may vary from 180 mM down to 10 mM. References added in the basic substance application	Addressed.
7(13)		EFSA: We concur with comments 7(1), 7(4), 7(5), 7(8), 7(9), 7(10) and 7(11)	EFSA: We concur with the column 3 proposals at comments 7(4), 7(5), 7(8), 7(9), 7(10) and 7(11) so would recommend that this information is added to the		See comments 7(4), 7(5), 7(8), 7(9), 7(10) and 7(11).

7.2 Estimation of the short and long-term exposure of relevant environmental media (soil, groundwater, surface water)

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
			application.		

8. Effects on non-target species

8.1. Effects on terrestrial vertebrates

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
8(1)	Section 8.1, Effects on terrestrial vertebrates	PL: According to the available literature acetic acid may be toxic to birds and mammals. Despite the fact the likely acrid taste and pungent smell might reduce the consumption of contaminated feed items, the EFSA conclusion for acetic acid (EFSA, 2013) identified several data gaps in the risk assessment. A further risk assessment is required.		Vinegar is administered to various vertebrate including mammals and birds. More references added in the basic substance application.	No information has been presented allowing a proper consideration of the level of exposure to birds and mammals for the intended uses included in this application. Overall, a risk assessment to birds and mammals is requested.
8(2)	8.1 General considerations	NL: Instead of only providing references, it would have been more convenient if the applicant had provided relevant information. Furthermore, many data gaps were identified during the EU review of the active substance as regards non-target organisms. These data gaps have yet to be addressed.		Vinegar is administrated to various animals, birds, fish and bees with various concentrations between 0.5 % to 3 % thus, residues of vinegar are not generally considered as toxic for all non-target species.	See comment 8(1)
8(3)	8.2	NL: The risk assessments for birds and mammals are missing		Vinegar is administrated to various animals, birds with	See comment 8(1)

8.1. Effects on terrestrial vertebrates

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
		completely. The applicant refers to EFSA, 2014 but no actual risk has been provided for the proposed GAP. Therefore, the risk remains unresolved.		various concentrations between 0.5 % to 3 %. Reference added in the basic substance application.	

8.2. Effects on aquatic organisms

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
8(4)	Section 8.2; Effects on aquatic organisms	PL: The toxicity risk for aquatic organisms seems to be low when acidic acid is used according to intended uses.		Vinegar is administrated to various fish with various concentrations up to 5 %. Reference added in the basic substance application Corrected in basic substance application Hagner, 2013 reference added	No information has been presented allowing a proper consideration of the level of exposure to aquatic organisms for the intended uses included in this application. Overall, a risk assessment to aquatic organisms is requested. See also comment 7(10)
8(5)	8.3	NL: No PECsw nor the risk assessment itself are provided. Therefore, the risk		Data are detailed in reference, $PEC_{soil} = 392\ 000\ g\ ha^{-1} * (1 - 0.1) / (100 * 5\ cm * 1.5\ cm -$	See comment 8(4)

8.2. Effects on aquatic organisms

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
		remains unresolved.		3) = 470.4 mg kg-1	

8.3. Effects on bees and other arthropods species

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
8(6)	Section 8.3; Effects on bees and other arthropods	PL: Based on the available toxicological data with a formulation containing approximately 10% acetic acid a high risk to honeybees and other non-target arthropods was identified. The exposure of bees and other arthropods will not be uniform in fields where application is by spot treatment, and that such applications might reduce the risk to some extent.		Vinegar is used in beehives	No information has been presented allowing a proper consideration of the level of exposure to bees and non- target arthropods for the intended uses included in this application. Overall, risk assessments to bees and non-target arthropods are requested.
8(7)	8.4.1	NL: No risk assessment was provided, therefore, the risk remains unresolved. Furthermore, the reference EFSA, 2014 refers to seed		Remark added in GAP "phytotoxic to plant"	See comment 8(6)

8.3. Effects on bees and other arthropods species

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
8(8)	8.4.2	<p>treatment, not to spray application of plant leaves.</p> <p>NL: No risk assessment was provided, therefore, the risk remains unresolved. Furthermore, the referenced EFSA, 2014 refers to the exposure to 100 kg a.i./ha, while the present GAP indicates the application of up to 200 kg a.s./ha.</p>		<p>GAP is 100 kg a.s./ha per application.</p> <p>Hagner, 2013 reference added</p>	See comment 8(6)

8.4. Effects on earthworms and other soil macroorganisms

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
8(9)	Section 8.4; Effects on earthworms and other soil macro-organisms	<p>PL: Based on the available data, the risk to earthworms from the representative uses was assessed as low when acidic acid is used according to intended uses.</p>		<p>Data are calculated in reference Hagner 2013.</p> <p>The initial risk characterization was performed by means of toxicity-to-exposure ratios (TER). TER is used as an indicator of risk in the assessment process (EC</p>	Addressed

8.4. Effects on earthworms and other soil macroorganisms

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
				2003 ⁴). TER value for wood vinegar on earthworms (II: LC ₅₀ 6560 mg kg ⁻¹) was calculated according the following formula (European Commission, 2002): TERacute = 6560 mg kg ⁻¹ / 470.7 mg kg ⁻¹ = 13.9 · acceptable risk	
8(10)	8.5	NL: No PECsoil nor the risk assessment itself are provided. Therefore, the risk remains unresolved.		Data are calculated in reference Hagner, 2013. PECsoil = 392 000 g ha ⁻¹ * (1-0.1) / (100 * 5 cm * 1.5 g cm ⁻³) = 470.4 mg kg ⁻¹	See comment 8(9) and 7(11)

8.5. Effects on soil microorganisms

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
8(11)	Section 8.5; Effects on soil micro-	PL: The risk to soil nitrogen transformation was assessed		PPDB reference (as of 2017) added in basic substance	Addressed

⁴ European Commission, 2003. Technical Guidance Document in support of Commission Directive 93/67/EEC on risk assessment for new notified substances and Commission Regulation (EC) No 1488/94 on risk assessment for existing substances and Commission Directive (EC) 98/8 of the European parliament and of the Council concerning the placing of biocidal products on the market. 2nd Edition. TDG. Part II. Ispra, Italy: European Chemical Bureau, institute for Health and Consumer Protection.

8.5. Effects on soil microorganisms

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
	organisms	as low (EFSA 2013). Also it seems that there is no significant adverse effect on carbon mineralisation (PPDB reports).		application	
8(12)	8.6	NL: No PECsoil nor the risk assessment itself are provided. Therefore, the risk remains unresolved.		Data are calculated in ref. Hagner 2013. $PEC_{soil} = 392\ 000\ g\ ha^{-1} * (1 - 0.1) / (100 * 5\ cm * 1.5\ g\ cm^{-3}) = 470.4\ mg\ kg^{-1}$	See comment 8(9) and 7(11)

8.6. Effects on other non-target organisms (flora and fauna)

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
8(13)	Section 8.6; Effects on other non-target organisms (flora and fauna)	PL: No comments. Not enough information.		Remark added in GAP phytotoxic to plant	No information has been presented allowing a proper consideration of the level of exposure to non-target terrestrial plants.
8(14)	8.7	NL: No risk assessment was provided, therefore, the risk remains unresolved. Furthermore, data gap was		Remark added in GAP phytotoxic to plant	See comment 8(13)

8.6. Effects on other non-target organisms (flora and fauna)

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
		identified for non-target terrestrial plants.			

8.7. Effects on biological methods of sewage treatment

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
8(15)	Section 8.7; Effects on biological methods of sewage treatment	PL: No comments Not enough information.		Vinegar is used in Bioaugmentation of Domestic Sewage Aerobic Treatment Reference added	The reference added (Meg et al., 2003) gives some indications of the bioaugmentation of acetic acid to remove pollutants in domestic sewage aerobic treatment. However, it is not explained how this potential positive effect can be linked to the uses requested under this application. In the EFSA conclusion on acetic acid (EFSA, 2013) it was concluded that the risk to sewage treatment plants for the representative uses could be considered as low, except for the uses on roads and paths

8.7. Effects on biological methods of sewage treatment

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
					for which a data gap was identified.
8(16)		NL: No comments			Noted

9. Overall conclusions with respect of eligibility of the substance to be approved as basic substance

Overall conclusions with respect of eligibility of the substance to be approved as basic substance

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
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No comments

10. Other comments

Other comments

No.	Column 1 Reference to Application Template	Column 2 Comments from Member States / EFSA	Column 3 Proposal by Member States/EFSA on how the application should be updated to address the comment	Column 4 Follow up response from applicant	Column 5 EFSA's scientific views on the specific points raised in the commenting phase conducted on the application
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No comments

Appendix B – Identity and biological properties

Common name (ISO)	there is no ISO common name for this substance
Chemical name (IUPAC)	acetic acid (main active substance)
Chemical name (CA)	acetic acid
Common names	vinegar
CAS No	90132-02-8
CIPAC No and EEC No	290-419-7 (EINECS)
FAO specification	none
Minimum purity	Food grade containing a maximum of 10 % acetic acid
Relevant impurities	none
Molecular mass and structural formula	<p>Not relevant (Acetic acid:</p> $\begin{array}{c} \text{H}_3\text{C} \quad \text{OH} \\ \quad \diagdown \quad / \\ \quad \quad \text{C} \\ \quad \quad \\ \quad \quad \text{O} \end{array}$ <p>Mw: 60.05 g/mol)</p>
Mode of Use	spray
Preparation to be used	Undiluted (AL any other liquid)
Function of plant protection	herbicide

Appendix C – List of uses

Crop and/or situation (a)	Member State for use	Example product name as available on the market	F G I (b)	Target (c)	Product**		Application				Application rate per treatment			Total rate	PHI (days) (m)	Remarks (**)
					Type (d-f)	Conc of a.i. g/kg (i)	Method kind (f-h)	Growth stage and season** (j)	Number min max (k)	Interval between applications (min)	kg a.i./hl min max (kg/ha)	Water l/ha min max	kg a.i./ha min max (kg/ha) (l)			
non-agricultural areas	MS France	Vinegar	F	Weed	Any other liquid (AL)	100*	Spray*	Not applicable	1 to 2	7 to 21 days	10	1000	100	100 to 200	None: Not applicable	Temp > 20°C ** phytotoxic to plant, may kill the young plants
Medicinal aromatic and perfume crops	MS France	Vinegar	F G	Adventitious plants	Any other liquid (AL)	100*	Spray*	Pre crop emergence	1	-	10	100	10	10	> 120	- ** phytotoxic to plant, may kill the young plants

* Of main active substance acetic acid.

** Treatments must be delayed 24-48 hours or more after rain

(a): For crops, the EU and Codex classification (both) should be taken into account ; where relevant, the use situation should be described (e.g. fumigation of a structure)

(b): Outdoor or field use (F), greenhouse application (G) or indoor application (I)

(c): e.g. pests as biting and suckling insects, soil born insects, foliar fungi, weeds or plant elicitor

(d): e.g. wettable powder (WP), emulsifiable concentrate (EC), granule (GR) etc..

(e): GCPF Codes – GIFAP Technical Monograph N° 2, 1989

(f): All abbreviations used must be explained

(g): Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench

Outcome of the consultation on the basic substance application for vinegar

- (h): Kind, e.g. overall, broadcast, aerial spraying, row, individual plant,
- (i): g/kg or g/L. Normally the rate should be given for the active substance (according to ISO)
- (j): Growth stage at last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including where relevant information on season at time of application
- (k): Indicate the minimum and maximum number of application possible under practical conditions of use
- (l): The values should be given in g or kg whatever gives the more manageable number (e.g. 200 kg/ha instead of 200 000 g/ha or 12.5 g/ha instead of 0.0125 kg/ha)
- (m): PHI - minimum pre-harvest interval between the plant – type of equipment used must be indicated