



PROGRAMA CONJUNTO FAO/OMS SOBRE NORMAS ALIMENTARIAS

COMITÉ DEL CODEX SOBRE ETIQUETADO DE ALIMENTOS

Cuadragésimo primer período de Sesiones

Charlottetown, Isla del Príncipe Eduardo, Canadá, 14 al 17 de mayo de 2013

DIRECTRICES PARA LA PRODUCCIÓN, ELABORACIÓN, ETIQUETADO Y COMERCIALIZACIÓN DE ALIMENTOS PRODUCIDOS ORGÁNICAMENTE

Uso del etileno como inhibidor de la brotación para cebollas y papas

I. ANTECEDENTES

El Comité del Codex sobre Etiquetado de Alimentos (CCFL) celebró su 40^a sesión en mayo de 2012 y consideró una propuesta sometida por la Unión Europea (UE) solicitando el uso del etileno como un inhibidor de la brotación para cebollas y papas (Tema 5b del Programa).

Durante la 40^a Sesión del CCFL, el GTe informó que no había realizado una recomendación final sobre esta sustancia. El CCFL acordó continuar con un Grupo de Trabajo electrónico (GTe), presidido conjuntamente por los Estados Unidos y Camerún, con los términos de referencia de considerar el uso del etileno para la inhibición de la brotación de cebollas y papas.

Este informe incluye un resumen de las respuestas a informaciones adicionales que fue considerado por los participantes en el GTe. Este informe final será sometido al Secretariado antes de la 41^a sesión del CCFL.

II. PARTICIPACIÓN EN EL GTe

En agosto del 2012, los Estados Unidos y Camerún, como copresidentes de este GTe, invitaron a todos los miembros del CCFL a participar en el GTe sobre la revisión de las Directrices para la producción, elaboración, etiquetado y comercialización de alimentos producidos orgánicamente. Dieciocho países miembros y una organización miembro expresaron interés en participar en este GTe. Se provee una lista de participantes en el Apéndice I.

El GTe estableció una fecha límite del 7 de septiembre de 2012 para someter datos adicionales o información de investigaciones en apoyo de la propuesta para el uso del etileno para la inhibición de la brotación de papas y cebollas. Una sumisión de Noruega fue recibida para esa fecha límite. Una publicación revisada por expertos¹ fue recibida como información de antecedentes.

En noviembre de 2012, los Estados Unidos, como copresidentes del Grupo de Trabajo, distribuyeron a los miembros del GTe la plantilla de la propuesta e información adicional de antecedentes con instrucciones para someter comentarios.

Luego de haber recibido los comentarios, un borrador de informe se distribuyó a los miembros del Grupo de Trabajo para una segunda ronda de comentarios que fueron incorporados en este informe final.

Una fecha límite actualizada para el trabajo de este GTe se provee también en el *Apéndice III*.

¹ EFSA Journal 2012; 10(1):2508, disponible en <http://www.efsa.europa.eu/en/efsajournal/doc/2508.pdf>

III. REVISIÓN DEL ANEXO 2 SUSTANCIAS: ETILENO PARA LA INHIBICIÓN DE LA BROTAÇÃO EN PAPAS Y CEBOLLAS

A. Sumario de las respuestas en la Ronda 1

La información adicional de antecedentes provista por Noruega fue distribuida a los participantes en respuesta a los comentarios recibidos durante la 40ª sesión del Comité del Codex sobre Etiquetado de alimentos respecto al uso del etileno como inhibidor de la brotación.

Además de la respuesta original de la UE, y de la información adicional sometida por Noruega, cuatro países miembros (Australia, Brasil, los Estados Unidos y Uruguay) respondieron a la solicitud original para comentarios. Todos los comentarios de la primera ronda de respuestas fueron incorporados en la plantilla revisada que se proporciona en el *Apéndice II*.

B. Sumario de las respuestas en la Ronda 2

En base al número limitado de respuestas de la primera ronda de comentarios, no les quedó claro a los copresidentes, luego de esa primera ronda de comentarios, si existía suficiente consenso en el Grupo de Trabajo electrónico para apoyar o para oponerse a la adición del etileno al Anexo 2 para propósitos de inhibición de la brotación en papas y cebollas.

Para la segunda ronda de comentarios sobre el borrador de informe, los copresidentes emitieron un borrador de informe que incluyó tres opciones para retroalimentación por parte de los miembros del GTe.

Los copresidentes indicaron en la solicitud para comentarios que la Opción A pudiera representar la mejor oportunidad para alcanzar consenso y responder a las preocupaciones levantadas por varios miembros participantes en el GTe. Los comentarios referentes a todas las tres opciones debían recibirse para 19 de abril de 2013 como fecha límite.

Los copresidentes también sugirieron durante la segunda solicitud para comentarios que los miembros consideren los siguientes pasos a seguir si no se pudiera alcanzar consenso sobre el listado de la sustancia bajo la Opción A.

Las tres opciones que fueron consideradas para la inclusión del etileno en el Cuadro 2 se presentan a continuación.

CUADRO 2

SUSTANCIAS PARA EL CONTROL DE PLAGAS Y ENFERMEDADES DE LAS PLANTAS

| Sustancia | Descripción; requisitos de composición; condiciones para su uso | |
|------------------|---|--|
| IV. OTRAS | | |
| [Etileno] | Opción A: | [Necesidad reconocida por el organismo o autoridad de certificación para la inhibición de la brotación en papas y cebollas almacenadas cuando no están disponibles variedades con características de dormancia larga o cuando dichas variedades no sean apropiadas para las condiciones locales de producción. Debe ser usado en una manera que minimice la exposición de operadores y trabajadores] |
| [Etileno] | Opción B: | [Necesidad reconocida por el organismo o autoridad de certificación para la inhibición de la brotación en papas y cebollas almacenadas cuando no están disponibles variedades con características de dormancia larga o cuando dichas variedades no sean apropiadas para las condiciones locales de producción] |
| | Opción C: | Ningún listado adicional. Si un miembro del GTe no apoya usos adicionales del etileno para la inhibición de la brotación, por favor indicar la razón o razones en la respuesta. |

Trece miembros respondieron a la solicitud para una segunda ronda de comentarios: Argentina, Australia, Brasil, Camerún, Canadá, Chile, Costa Rica, UE, India, México, Noruega, Estados Unidos y Uruguay.

Comentarios sobre las opciones propuestas

Opción A.

La mayoría de los comentarios apoyaron la Opción A.

La UE indicó que había sido necesario enmendar las condiciones de aprobación del etileno en la UE y restringir las autorizaciones a su uso en interiores por usuarios profesionales y que esta restricción también se aplica a la producción agrícola orgánica. La UE aun considera que es necesaria la inclusión del etileno como un inhibidor de la brotación para cebollas y papas en el Anexo II, siguiendo la Opción A.

Opción B.

Un miembro (Australia) apoyó la Opción B.

Australia indicó que apoyaba la Opción B debido a preocupaciones con referencia a la exposición del operador y los trabajadores.

Opción C.

Un miembro (Noruega) apoyó la Opción C, que no incluiría al etileno en el Anexo 2.

En sus comentarios, Noruega indicó que apoya la Opción C (no listar) porque cree que hay aún lagunas en los datos e inconsistencias con el criterio 5.1, por ejemplo en referencia a los puntos 3 y 4 respecto a no contribuir efectos dañinos para el medio ambiente y que debería tener los más mínimos efectos sobre el medio ambiente.

Noruega indicó que sigue aún muy preocupada respecto al uso del etileno como regulador del crecimiento de las plantas en base al hecho de que varias lagunas en los datos respecto al uso han sido publicadas en el EFSA Journal 2012; 10(1):2508². Todos los comentarios recibidos para la segunda ronda de respuestas están incluidos en el *Apéndice IV*.

C. Conclusiones

Los copresidentes reconocen y aprecian las contribuciones significativas hechas por cada uno de los miembros que participó en el GTe durante la primera y segunda rondas de comentarios sobre el uso propuesto del etileno como un inhibidor de la brotación para papas y cebollas. La mayoría de los que respondieron apoyaron la inclusión del etileno; sin embargo dado que aún quedan preocupaciones de un miembro sobre los datos presentados en la propuesta, los copresidentes recomiendan una discusión durante la 41^a Sesión del CCFL para ver si se puede alcanzar consenso sobre la inclusión de esta sustancia en la lista.

² <http://www.efsa.europa.eu/en/efsajournal/doc/2508.pdf>

APPENDIX I

Electronic Working Group on the Review of the Guidelines for the Production, Processing and Labelling of Organically Produced Food

LIST OF PARTICIPANTS

| Membre Country/ Observer | Name and Contact Information |
|-----------------------------|---|
| Argentina | <p>Ingo. Agar. Juan Carlos Ramírez Coordinator of Organic Production Republic of Argentina National Agri-food Health and Quality Service (SENASA) Email address: jramirez@senasa.gov.ar</p> <p>Ing. Agr. Pilar Huergo Email: phuergo@senasa.gov.ar</p> <p>Ing. Agr. Liliana Úbeda Email: lubeda@senasa.gov.ar</p> |
| Australia | <p>Ms. Angela O'Sullivan Director, International Food Standards Department of Agriculture, Fisheries and Forestry Email: angela.osullivan@daff.gov.au Email: codex.contact@daff.gov.au</p> |
| Brazil | <p>Rodrigo Vargas Email: rodrigo.vargas@anvisa.gov.br</p> |
| Cameroon | <p>Mrs. Jeanine Nkodo Atanga Ingénieur Agronome Economiste Sous-Directeur de la Coopération Ministère de l'Agriculture et du Développement Rural Email: jeanine_nkodo@yahoo.fr</p> <p>Mr. Jean Martin Etoundi Ingénieur Général des Techniques Industrielles (Spécialiste de Nutrition des Technologies Alimentaires) Secrétaire Technique du CCAFRICA, Secrétaire Technique du CNCOSAC, Sous Directeur de la Promotion à l'ANOR. Email: pointfocalcodexcameroun@yahoo.fr Email: etoundijme@yahoo.fr</p> |
| Canada | <p>Etienne Dako Associate professor (University of Moncton) and member of Canadian CCFL Delegation Email: etienne.dako@umoncton.ca</p> |
| Chile | <p>Ligia Morend Profesional Subdepartamento de Agricultura Organica Division Proteccion de Recursos Naturales Renovables Servicio Agrícola y Ganadero Email: ligia.morend@sag.gob.cl</p> <p>Roxana Vera Profesional Subdepartamento de Negociaciones Internacionales Division Asuntos Internacionales Servicio Agrícola y Ganadero Email: roxana.vera@sab.gob.cl</p> |
| Costa Rica | <p>Amanda Lass Cruz Asesora Tecnología de Alimentos – Codex Alimentarius Dirección de Mejora Regulatoria y Reglamentación Técnica Ministerio de Economía, Industria y Comercio Email: mailto:alasso@meic.go.cr</p> |

| | |
|-----------------|---|
| Egypt | <p>Ms. Noha Mohammed Attia Food Standard Specialist E-mail : nonaaatia@yahoo.com Phone : 00202 22845531 Fax : 00202 22845504</p> |
| European Union | <p>Mr. Luis Martin Plaza European Commission DG Agriculture and Rural Development Unit H.3 – organic farming L130 03/245 B-1049 Brussels/Belgium Tel.: +32 229-93736 Email: Luis.MARTIN-PLAZA@ec.europa.eu</p> <p>Ms Maria Fladl European Commission DG Agriculture and Rural Development Unit H.3 – organic farming L130 03/236 B-1049 Brussels/Belgium Tel.: +32 2 298 04 40 E-mail: maria.fladl@ec.europa.eu</p> |
| FoodDrinkEurope | <p>Dirk Jacobs Director Consumer Information, Diet and Health Email: d.jacobs@fooddrinkeurope.eu</p> |
| India | <p>Ms. Vinod Kotwal Director (Codex) Food Safety and Standards Authority of India E-mail: vinod.kotwal@nic.in Email: codex-india@nb.nic.in</p> |
| Japan | <p>Mr. Tsuyoshi Uchida Associate Director Ministry of Agriculture, Forestry and Fisheries of Japan Email: tsuyoshi_uchida@nm.maff.go.jp Email: codex_maff@nm.maff.go.jp</p> |
| Malaysia | <p>Ms. Fauziah Arshad Deputy Director Standard and Codex Branch Food Safety and Quality Division Ministry of Health Malaysia Phone: +603 BB85 0794 Email: fauziaharshad@moh.gov.my</p> <p>Ms. Noraini Wahab Principal Assistant Director Codex and International Section Food Safety and Quality Division Ministry of Health Malaysia Phone: +603 B8B5 0736 Fax: +603 BBB5 0790 E-mail: norawahab@moh.gov.my ccp_malaysia@moh.gov.my</p> |
| Mexico | <p>Lidia P. Barrios Alvarado Jefa de Departamento de Diseño y Gestión Regulatoria Dirección General de Inocuidad Agroalimentaria, Acuícola y Pesquera Guillermo Pérez Valenzuela No. 127, Col. Del Carmen. Del. Coyoacán, México, D.F. C.P. 04100. Tel. +52 (55) 5090 3000 Ext. 51532 Email: lidia.barrios@senasica.gob.mx codexmex@economia.gob.mx</p> |
| Norway | <p>Dr. Hanne Marit GRAN Senior Advisor Section for Plants, Organic Production and GMs Norwegian Food Safety Authority - Head Office E-mail: hamgr@mattilsynet.no</p> |

| | |
|--------------------------|---|
| Poland | <p>Mr. Grzegorz Ziemiecki Senior expert in the Department of Promotion and Communication of the Ministry of Agriculture and Rural Development Email: grzegorz.ziemiecki@minrol.gov.pl Email: kodeks@ijhars.gov.pl</p> |
| Thailand | <p>Ing-Orn Panyakit Senior Standard Officer National Bureau of Agricultural Commodity and Food Standards (ACFS) Ministry of Agriculture and Cooperatives 50 Paholyothin Road, Jatujak, Bangkok, 10900 Thailand Phone: +66 2 5612277 ext 1426 Fax: +66 2 5613373 Email: codex@acfs.go.th Email: p_ingorn@yahoo.co.th</p> |
| United Kingdom | <p>Nicolas Turner Senior Policy Advisor Organic Team Department for Environment, Food and Rural Affairs 8C Millbank c/o 17 Smith Square London SW1P 3JR United Kingdom Tel: +44 (0)207 238 5869 Email: Nicolas.Turner@DEFRA.GSI.GOV.UK</p> |
| United States of America | <p>Lisa M. Brines, Ph.D. Agricultural Marketing Specialist National Organic Program, Standards Division Agricultural Marketing Service U.S. Department of Agriculture 1400 Independence Ave SW, Stop 0268 Washington, DC 20250-0268 Tel: +1-202-720-3252 Email: Lisa.Brines@ams.usda.gov</p> <p>Jeffrey Canavan U.S. Department of Agriculture 1400 Independence Ave., SW-Stop 5273 Patriots Plaza 3, 8th Floor-161A Washington, DC 20250 Phone: (301) 504-0860 Fax: (202) 245-4792 Email: jeff.canavan@fsis.usda.gov</p> |
| Uruguay | <p>Ing. Agr. Fabiana Osorio Departamento de Promoción Comercial Dirección General de la Granja Ministerio de Ganadería, Agricultura y Pesca Avda Gral Eugenio Garzon 456, 1º Piso 12900 Montevideo - Uruguay Tel: (598) 23047422 Fax: (598) 23048051 Email: fosorio@mgap.gub.uy</p> |

APPENDIX II

CCFL ELECTRONIC WORKING GROUP ON THE REVIEW OF THE GUIDELINES FOR THE PRODUCTION, PROCESSING AND LABELLING OF ORGANICALLY PRODUCED FOOD

ANNEX 2 PERMITTED SUBSTANCES FOR THE PRODUCTION OF ORGANIC FOODS

Review of New Substances proposed for inclusion in Annex 2 – September 2011Including Responses from Round 1 of eWG Review

A. Substance: ethylene

B. Use: Sprouting inhibition in potatoes and onions

C. Applicable specific criteria: b) substances used for the purpose of plant disease or pest and weed control

D. Submitted By: European Union (EU)

| Assessment against Section 5.1 Criteria | |
|--|--|
| I. General Description of Substance | |
| Member/Observer | Description |
| EU | Natural gas C ₂ H ₄ (CH ₂ =CH ₂) produced by all higher plants and therefore omnipresent in nature. The ethylene (identical to the naturally occurring ethylene) used for agricultural purposes is obtained through chemical processes. Constant exposure of stored potatoes and onions to ethylene in low concentration inhibits sprouting. |
| II. Section 5.1 General Criteria (all criteria in this section should be addressed) | |
| 5.1.i) Is the substance consistent with the principles of organic production as outlined in the Guidelines? | |
| Member/Observer | Answer |
| EU | This use of ethylene is consistent with the principle of careful handling of products in order to maintain their quality during the storage and contributes to the economic and ecological sustainability of organic potato and onion production, while being consistent with the other principles of organic production. |
| 5.1.ii) Is use of the substance necessary/essential for its intended use? | |
| Member/Observer | Answer |
| EU | A longer marketing period is important for the economic sustainability of farms. |
| Brazil | Sprout control impacts the quality of potatoes and onions and allows their storage for extended periods of time. Ethylene can help controlling sprout of potatoes and onions. |
| Uruguay | While several countries suggest that the use of low concentrations of ethylene inhibit sprouting of potatoes and onions, there is literature that indicates stimulation of sprouting in potatoes, among other adverse effects of its use (i.e. "Effect of ethylene on quality of fresh fruits and vegetables". Saltveit ME, Postharvest Biology and Technology 15 (1999) 279-292). ³ |
| 5.1.iii) Does the manufacture, use and disposal of the substance result in, or contribute to, harmful effects on the environment? | |
| Member/Observer | Answer |
| EU | No. Ethylene is often considered a by-product in chemical engineering process manuals, and to the extent that it is captured rather than released into the environment can be seen as reducing the ambient air pollution. |
| Brazil | Brazil has no data on the impact of manufacture, use and disposal of ethylene on the environment. |

³ Available at <http://www.sciencedirect.com/science/article/pii/S092552149800091X>

| | |
|--|--|
| | <p>In relation to the comments from Norway, we would like to point out that the EFSA assessment identified data gap on the environmental fate of ethylene. Thus, there is no conclusive evidence of harmful effects on the environment.</p> <p>Besides ethylene has history of safe use in organic and traditional agriculture and CCFL has already approved its use for the ripening of bananas and kiwi fruits, for degreening of citrus for fruit fly prevention and as a flowering agent for pineapples.</p> |
|--|--|

5.1.iv) Does the substance have the lowest negative impact on human or animal health and quality of life?

| Member/ Observer | Answer |
|---------------------|--|
| EU | <p>No adverse effect known on human or animal health.</p> <p>No adverse effect on intrinsic food quality. Under conditions of prolonged storage, a higher external and internal quality can be maintained (absence of sprouts and wrinkles, composition of tubers).</p> |
| Brazil | <p>Brazil did not identify any study on the impact of ethylene on human or animal health.</p> <p>In relation to the comments from Norway, it should be noted that the EFSA assessment did not reach any conclusion on the toxicity of ethylene due to the lack of data. This data gap should not be interpreted as evidence of harmful effects on human or animal health.</p> <p>Besides ethylene has history of safe use in organic and traditional agriculture and CCFL has already approved its use for the ripening of bananas and kiwi fruits, for degreening of citrus for fruit fly prevention and as a flowering agent for pineapples.</p> |

5.1.v) Are approved alternative available in sufficient quality or quantity?

| Member/ Observer | Answer |
|---------------------|---|
| EU | <p>Cold storage, use of varieties with high dormancy and/or caraway seed oil (for potatoes, where registered) may provide solutions in certain situations.</p> <p>However, both alternatives are not adequate for use in many situations.</p> <p><u>Cold storage</u> Cold storage of potatoes increases reducing sugars. This leads to increased acrylamide when cooked (e.g. frying, baking, roasting). The Codex Code of Practice for reduction of acrylamide in food (CAC/RCP 67-2009) highlights that cold storage of potatoes at low temperatures is to be avoided and that alternatives should be determined to help reduce acrylamide in potato foods (whether processed foods, foods prepared in restaurants or at home). This Code of Practice was adopted by the Codex Committee on Contaminants in Food and CAC in 2009. Alternatives to cold storage of potatoes are therefore needed.</p> <p><u>Caraway seed oil</u> The experience with the use of this substance is rather limited. Its use is not registered in many countries and can therefore not be used by organic producers in these countries.</p> <p><u>Use of potato varieties with high dormancy</u> The choice of varieties is very important in organic production. The potato variety chosen should ideally have a strong resistance against potato blight and other diseases and should also have characteristics that make it suitable for organic production in the local circumstances. While high dormancy is a positive characteristic of a variety, it is not always possible to choose a variety that possesses as well the other positive characteristics sought. Therefore in many situations a variety with high dormancy can not be chosen.</p> <p><u>Conclusion</u> Alternatives are not sufficiently available. The use of ethylene for sprouting inhibition is a useful alternative that meets the requirements for organic production.</p> |
| Brazil | <p>Brazil is aware of other alternatives to sprout control in potatoes and onions, such as the use of certain vegetable oils, cold storage and high dormancy varieties.</p> <p>However, these alternatives might not be available in sufficient quality and quantity for all organic producers.</p> |
| Uruguay | <p>With regard to Appendix III of the document, point 5.1.v. - Regarding refrigerated storage, at least in our conditions, this practice not always increases the content of reducing sugars, because this process typically occurs at a temperature of 4 ° C.</p> <p>Uruguay has also the option of storing potatoes in the ground and the use of varieties with different periods of dormancy. It is also noteworthy that the potato crop has two production cycles per year (spring and fall) in our country.</p> |

| Has the applicant adequately addressed the general criteria in section 5.1? | |
|---|--|
| Member/Observer | Answer |
| Brazil | <p>Brazil understands that the applicant has adequately addressed the general criteria in section 5.1.</p> <p>We believe that the history of use of ethylene by organic and traditional farmers without evidence of adverse effects should be taken into consideration.</p> <p>Additionally, CCFL has already approved the use of ethylene for the ripening of bananas and kiwi fruits, for degreening of citrus for fruit fly prevention and as a flowering agent for pineapples.</p> <p>Thus, we understand that the decision on the use of ethylene for sprouting inhibition of potatoes and onions should be consistent with the other approved uses for ethylene.</p> <p>If the available information is considered insufficient to fulfill the general criteria in section 5.1, the use of ethylene for other purposes should be review until new data is available.</p> |
| IV. Section 5.1 Specific Criteria: b) substance used for the purpose of plant disease or pest and weed control | |
| 5.1.b)1) Is the substance essential for the control of a harmful organism or a particular disease for which other biological, physical or plant breeding alternatives and/or effective management practices are not available? | |
| Member/Observer | Answer |
| EU | This use of ethylene is not directly linked to the control of a pest or disease, but this use of ethylene can nevertheless be considered to be plant protection and therefore the same criteria should apply. Cold storage, use of varieties with high dormancy and/or caraway seed oil (for potatoes, where registered) may provide solutions in certain situations. |
| Australia | Australia is not confident this matter is about plant protection; rather it is more about post harvest storage treatment and marketing of potatoes and onions. |
| Brazil | The use of ethylene might be an alternative to the control of sprout in potatoes and onions, especially when other practices are not available. |
| United States | We have not observed the need for ethylene for post harvest use on organic potatoes and onions in a variety of growing regions in the United States. Organic producers can use natural plant oils and cold storage as alternatives. We recognize that plant oils may not be available in all regions, although the use of natural substances would be preferable to the use of synthetic ethylene under the criteria at 5.1.b)4). |
| 5.1.b)2) Does its use take into account the potential harmful impact on the environment, the ecology (in particular non-target organisms) and the health of consumers, livestock and bees? | |
| Member/Observer | Answer |
| EU | <p>Environmental fate, hazards and risks are assessed in detail during pesticide registration in the EU, and authorizations are accompanied by obligations for appropriate risk management.</p> <p>Ethylene does not raise environmental or health concerns.</p> <p>Theoretically, after release from the storage rooms, ethylene could affect the vegetation, but the quantities used are negligible in comparison to natural and industrial emissions.</p> |
| Australia | Based on current practices (e.g. de-greening) ethylene gas does not pose any major contamination risk to the environment, local ecology, or health of humans, terrestrial animals and insects. |
| Brazil | As explained before, we understand that the use of ethylene for sprouting inhibition in potatoes and onions takes into account these factors. |
| Norway | Exposure of operators and workers may occur when entering the application room, after ventilation and during maintenance works; bystanders may be exposed to leakages from the treatment rooms or during the venting of the gas into the atmosphere after treatment. No information was available to quantify the potential exposure derived from these scenarios. Therefore no conclusion could be reached on the risk assessment for ethylene exposure and a data gap was set to address this issue. |
| 5.1.b)3) Is the substance of plant, microbial or mineral origin? Has it undergone any of the following processes: physical (mechanical, thermal), enzymatic, microbial (composting, fermentation)? | |
| Member/Observer | Answer |
| EU | Ethylene is a natural gas produced by all higher plants. The ethylene (identical to the naturally occurring ethylene) used for agricultural purposes is obtained through decomposition of petroleum gases or by dehydration of alcohol. |
| Australia | Noted |
| Brazil | We agree with the EU comments. |

5.1.b)4) Is the substance chemically synthesized? Are there alternatives products available in their natural form? Do the conditions of use result in the presence of residues on edible parts of the product?

| Member/ Observer | Answer |
|---------------------|---|
| EU | The ethylene used is chemically produced and is identical to the naturally occurring ethylene. Ethylene does not result in the presence of residues in any part of the plant. |
| Australia | Noted |
| Brazil | We agree with the EU comments. |

5.1.b)5) Should the substance use be restricted to specific conditions, specific regions, or specific commodities?

| Member/ Observer | Answer |
|---------------------|---|
| EU | It should be limited to sprouting inhibition in potatoes and onions. |
| Australia | Where varieties of potatoes and onions that have long dormancy characteristics are not available, or these varieties are not suited to local growing conditions, the inspection body may approve the use of ethylene gas to limit the sprouting of stored potatoes and/or onions. |
| Brazil | We agree with the EU comments. |
| United States | We have not observed the need for ethylene for post harvest use on organic potatoes and onions in a variety of growing regions in the United States. Organic producers use natural plant oils and cold storage as alternatives. We recognize that plant oils may not be available in all regions, although the use of natural substances would be preferable to the use of synthetic ethylene under the criteria at 5.1.b)4). |

Has the applicant adequately addressed the specific criteria in section b) substances used for the purpose of plant disease or pest and weed control

| Member/ Observer | Answer |
|---------------------|--|
| Brazil | Brazil understands that the applicant has adequately addressed these aspects. |
| Norway | For the time being, these [data] gaps and findings are too essential for us to be able to agree upon including ethylene for various purposes in Annex 2, Table 2 to GL32-19922. They may conflict with the criteria for general inclusion of substances, point 3 and 4 saying "use and disposal of the substance should not result in, or contribute to, harmful effects on the environment and should have the lowest negative impact on human or animal health and quality of life". |

VI. General questions for all proposals

Is there any information needed to complete the review of the new substance? (Please include links to supporting research here)

| Member/ Observer | Answer |
|---------------------|--|
| Australia | <p>There are a few claims that did not include supporting information. For example, is there evidence to:</p> <ul style="list-style-type: none"> – indicate that low levels of ethylene do inhibit sprouting? – support the claim that by capturing ethylene rather than releasing it into the environment can be seen as reducing the ambient air pollution? <p>Does controlling the amount of light (unsubstantiated information from the Internet) coupled with dry ambient temperatures provide ideal storage conditions and help reduce sprout formation in potatoes and onions?</p> <p>The FAO suggests that using potato varieties with long <i>dormancy</i> periods and proper <i>curing</i> methods are options to control sprouting in potatoes and onions:- www.fao.org/wairdocs/x5014e/X5014e0b.htm www.fao.org/docrep/X5415E/x5415e03.htm#3.3%20control%20of%20sprouting</p> |
| Brazil | No additional comments. |
| Norway | A recently published scientific peer review of pesticide risk assessment of the active substance ethylene (EFSA Journal 2012; 10(1):2508) identified several data gaps regarding the use of ethylene for plant growth regulator on bananas and potatoes (point 7 in the report). ⁴ |

Are any additional conditions of use needed?

⁴ Report is available at <http://www.efsa.europa.eu/en/efsajournal/doc/2508.pdf>

| Member/ Observer | Answer |
|-----------------------------|---|
| Australia | Yes: Need for ethylene recognised by the certification body or authority for sprout inhibition of stored potatoes and onions where varieties that have long dormancy characteristics are not available, or these varieties are not suited to local growing conditions. [Option 2]. If there is strong support for option 1, Australia would be open to considering certain restrictions, such as limiting the time the treatment may be applied. |
| Brazil | No additional comments. |
| Uruguay | Uruguay suggests including ethylene in Table 2 and proposes supporting option 2, leaving to national authorities the possibility of permitting its use in each country. |

Would you support the addition of the new substance in Annex 2?

| Member/ Observer | Answer |
|-----------------------------|---|
| Australia | If supported, ethylene for sprout inhibition not be listed as a substance for plant pest and disease control (Annex 2, Table 2), but be appended to the current reference to ethylene for ripening (Annex 1, para 82) or be listed as a processing aid (Annex 2, Table 4). |
| Brazil | Yes. |
| Norway | [No.] For the time being, these gaps and findings are too essential for us to be able to agree upon including ethylene for various purposes in Annex 2, Table 2 to GL32-19922. They may conflict with the criteria for general inclusion of substances, point 3 and 4 saying "use and disposal of the substance should not result in, or contribute to, harmful effects on the environment and should have the lowest negative impact on human or animal health and quality of life." |
| Uruguay | Uruguay suggests including ethylene in Table 2 and proposes supporting option 2, leaving to national authorities the possibility of permitting its use in each country. |

APPENDIX III

Electronic Working Group on the Review of the Guidelines for the Production, Processing and Labelling of Organically Produced Food**UPDATED Timeline**

| | |
|----------------|--|
| Completed | Letter of invitation to join the eWG sent to member countries and observers; Request for any data or research information on ethylene to be considered by working group. |
| Completed | Deadline for submitting interest to participate in eWG. Deadline for submission of data or research information on ethylene to be considered by eWG. |
| Completed | Proposal and new data and research information sent to eWG members for consideration using structured work approach and review templates |
| Completed | Comments on proposal due |
| Completed | eWG Draft Report distributed to participants |
| Completed | Comments on eWG Draft Report due |
| April 30, 2013 | eWG Final Report submitted to Codex Secretariat for distribution and consideration of the 41 th Session of the CCFL in May 14-17, 2013 |

APPENDIX IV

COMPILATION OF COMMENTS SUBMITTED FOR THE SECOND ROUND OF COMMENTS ON THE DRAFT REPORTARGENTINA**Comments from Argentina to the Draft Report of the Electronic Working Group on the Review of the Guidelines of Production, Processing, Labelling and Marketing of Organically Produced Foods (CAC/GL 32-1999) specifically on use of ethylene as a sprouting inhibitor for potatoes and onions**

Argentina agrees to include ethylene as allowed substance within the Guidelines like a sprouting inhibitor for potatoes and onions

Argentina maintains its earlier position about the location where the substance should be included in the Annexes – Tables. Argentina supports the inclusion of the ethylene in a new Table to be incorporated in the Annex 2 as follows:

ANNEX 2 PERMITTED SUBSTANCES FOR THE PRODUCTION OF ORGANIC FOOD

Table 2' "Substances permitted for the post harvest management".

Justification: Is understood that the inclusion of the ethylene in the Table 2 "Substances for plant pest and disease control". IV "Other" is not right. The purpose of the use of ethylene is not the control of pests and diseases but to make the management of sprouting of potatoes and onions in the post harvest

Regarding to the three options presented in the final report of the electronic working group, **Argentina agrees with the Option A** as follows:

"Need recognized by the certification body or authority for sprout inhibition of stores potatoes and onions where varieties that have long dormancy characteristics are not available, or this varieties are not suited to local growing conditions. Must be used in a manner that minimizes exposure to operators and workers."

AUSTRALIA

Australia does not support the recommendation of accepting proposed Option A. Australia considers that the wording at the end of Option A '*...Must be used in a manner that minimizes exposure to operators and workers*' represents an issue that is related to occupational health and safety, which is the responsibility of each member country and we believe is outside the scope of Codex. Further, Australia supports Brazil's comments in section 5.1.iv of Annex 2 of the draft eWG report, which highlight that '*...the EFSA assessment did not reach any conclusion on the toxicity of ethylene due to the lack of data. This data gap should not be interpreted as evidence of harmful effects on human or animal health.*'

Australia supports proposed Option B, which does not have the additional occupational health and safety wording.

BRAZIL

Brazil supports the use of ethylene as sprouting inhibitor for onions and potatoes and its inclusion in Table 2. We understand that Option A, as suggested by co-chairs, covers adequately the conditions that should be taken into consideration for the use of ethylene as sprouting inhibitor for onions and potatoes.

CAMEROON

Comments from Cameroon to the Draft Report of the Electronic Working Group on the Review of the Guidelines of Production, Processing, Labeling and Marketing of Organically Produced Foods (CAC/GL 32-1999) specifically on use of ethylene as a sprouting inhibitor for potatoes and onions

Cameroon is a producer of potatoes and onions. The varieties of these crops produced have high dormancy characteristics and, the post harvest process for inhibition of germination is natural specially, through sun drying. In fact, more the sun is, better the products are stored, and less it is, greater are the losses related to post-harvest sprouting. Then, natural drying solution is not sufficient.

Considering the discussion of the first round of the EWG and studies previously carried out by the EU which led to introduce the adoption of the standard project in discussion, we infer that it is essential to have an alternative and economically viable solution such as the use of ethylene.

Furthermore, Cameroon is a producer of bananas where ethylene is used as a retarder of ripening. We have not so far observed on workers, animals and environment, adverse effects of this product for the simple reason that it is used in very small quantities from which workers are generally protected.

In addition, potatoes are produced in regions of Cameroon where climate is relatively cold with less temperature. Ethylene thus presents itself as an effective alternative for many post harvest losses observed in these growing areas because of low intensity of sunlight.

Regarding the risks faced by workers due to the use of ethylene, it is necessary to require Member States to implement the establishment of a manual of additional procedures for their protection. However, if the risks appear forward, it would be quite recommended reviewing these procedures manuals, where necessary.

In conclusion, Cameroon supports the use of ethylene as a sprout inhibitor for potatoes and onions, and agrees to option A as recommended by the co-chairs.

CANADA

Canada is pleased to provide the following comments.

Canada would like to remind the Committee that the Annex in the *Guidelines for the Production, Processing, Labelling and Marketing of Organically Produced Foods* is an indicative list intended to provide guidance on substances which might be used by national authorities. Each country must evaluate, against the established criteria, whether or not it is appropriate to use a particular substance, given their regional circumstances.

As stated in the Guidelines, "The following lists do not attempt to be all inclusive or exclusive, or a finite regulatory tool, but rather to provide advice to governments on internationally agreed inputs. A system of review criteria as detailed in Section 5 of these Guidelines for products to be considered by national governments should be the primary determinant for acceptability or rejection of substances."

Thus Canada could support Option A provided the "authority" determines that it meets the criteria established in Section 5.1 of the Guidelines. However, as this is the case with all substances, Canada questions whether listing this or other substances in this manner is necessary.

Canada looks forward to reviewing further justification which will be presented in the report of the electronic working group.

CHILE

Chile considered the three proposed conditions for use for ethylene and we agree with the Option A.

COSTA RICA

Costa Rica desea externar su agradecimiento por la oportunidad de emitir los siguientes comentarios:

El etileno y los usos propuestos en las diferentes modalidades que se han planteado ante el CODEX, no encajan en ninguno de los anexos de las normas orgánicas. Debe proponerse una lista de productos permitidos en pos-cosecha y que en este momento no existe.

Lo anterior por cuanto no es fertilizante, no es producto fitosanitario y tampoco coadyuvante ni ingrediente. Debe ser un anexo aparte que también incluya otras sustancias que se han identificado como necesarias para la protección de los productos durante la pos-cosecha tanto de origen vegetal como animal.

Como comentario general cabe mencionar que Costa Rica argumentó para la justificación del uso de etileno en la inducción de floración en piña:

- el etileno es un gas naturalmente producido por las frutas en su proceso de maduración, por lo que está presente siempre en la naturaleza.
- el sistema de utilización del etileno en espacios cerrados, tampoco provoca mayor contaminación a la atmosfera, que vale aclarar que tampoco existen muchos datos en la literatura sobre este aspecto.
- su uso está en concordancia con los principios de la producción orgánica.
- aunque en Costa Rica en la producción orgánica no se está utilizando en papa orgánica, sería un factor que ayudaría a conservar la calidad del producto por un tiempo más prolongado.
- los principios que se utilizaron para aceptar el etileno en otros usos, aplican en este caso también, ya que las posibilidades de otras alternativas son limitadas o en algunos casos no existen y en el caso de la papa las variedades utilizadas en Costa Rica , requerirían del uso del etileno.

Costa Rica want to externalize their appreciation for the opportunity to provide the following comments: Ethylene and the proposed uses in the different modalities that have been raised before the CODEX, do not fit in any of the annexes of organic standards. Should be offered a list of products allowed in post-harvest and at this time there. This is because fertilizer is not plant protection product or adjuvant either ingredient. You must be a separate annex that also includes other substances that have been identified as necessary for the protection of products during postharvest both plant and animal.

As a general comment it should be mentioned that Costa Rica argued for the justification of the use of ethylene in the induction of flowering in pineapple:

- Ethylene gas is produced naturally in the fruit ripening process, so it is always present in nature.
- the use of ethylene system indoors, not causes more pollution into the atmosphere, that it is clear that there are not many data in the literature on this aspect.
- Their use is in accordance with the principles of organic production.

- Although in Costa Rica in organic production is not being used in organic potato would be a factor that would help preserve the quality of the product for a longer time.

- The principles that were used to accept the ethylene in other applications, apply in this case also, since the chances of other alternatives are limited or in some cases do not exist and in the case of potato varieties used in Costa Rica, require the use of ethylene.

EUROPEAN UNION

The EU agrees with your recommendation for listing the substance in Annex 2 following Option A.

[I] would like to stress that in the light of current scientific and technical knowledge, it has been necessary to amend the conditions of approval of ethylene in the EU and to restrict the authorisations to indoor uses by professional users. This restriction also applied to the organic farming production. Therefore, the EU considers still needed the addition of Ethylene as a sprouting inhibitor for onions and potatoes in Annex II, following Option A.

INDIA

India would like to mention that Option A is the most suitable which is "Need recognized by the certification body or authority for sprout inhibition of stored potatoes and onions where varieties that have long dormancy characteristics are not available, or these varieties are not suited to local growing conditions. Must be used in a manner that minimizes exposure to operators and workers", since ethylene, a naturally produced chemical / plant hormone during ripening of fruits is used as growth regulator and also for artificial ripening of fruits. Residues of gaseous ethylene in agricultural or horticulture products may not pose health alert.

MEXICO

Thank you for the information, we support option A.

| Substance | Description; compositional requirements; conditions for use | |
|------------------|---|---|
| IV. OTHER | | |
| [Ethylene] | Option A: | [Need recognized by the certification body or authority for sprout inhibition of stored potatoes and onions where varieties that have long dormancy characteristics are not available, or these varieties are not suited to local growing conditions. Must be used in a manner that minimizes exposure to operators and workers.] |

NORWAY

In consideration of the criteria at section 5.1. of the guidelines, the eWG has identified three options, please find our comments below.

Norway is still very concerned about the use of ethylene as a plant growth regulator based on the fact that several data gaps regarding the use are published in EFSA Journal 2012; 10(1):2508⁵.

We strongly support Option C, as we consider this the most appropriate option for ethylene.

The reason for this is that data gap is identified for toxicological information allowing to set reference values for ethylene if the levels of exposure of consumers, operators, workers and bystanders are shown to exceed natural background exposure levels. Based on this EFSA could not reach a conclusion on the potential genotoxic or carcinogenic effect of ethylene exposure.

Similar data gap is also identified for ethylene oxide derived from the use of ethylene. Ethylene oxide is of toxicological concern and appears to be more toxic than ethylene, and is considered as a category 2 carcinogen and mutagen. The EFSA publication also points out a potential for long-range transport of ethylene oxide through the atmosphere, and appoint this as a critical area of concern.

It is our opinion that these gaps and findings are too essential to support the inclusion of ethylene for various purposes in Annex 2, Table 2 to GL32-1992⁶ at this time, even when including conditions for use as described in option A and B.

We also consider the inclusion of ethylene to be in conflict with the criteria for general inclusion of substances, point 3 and 4 saying "use and disposal of the substance should not result in, or contribute to, harmful effects on the environment and should have the lowest negative impact on human or animal health and quality of life".

To conclude: We do not support the proposal from the co-chairs that option A is the way forward as it is our strong opinion that ethylene, based on current data, cannot be included in the list of substances for plant, pest and disease control for organically produced foods.

URUGUAY

Uruguay comments on the Draft Report of the Electronic Working Group on the Review of the Guidelines for the Production, Processing and Labeling of Organically Produced Food. Uruguay considers that the option A is the most adequate.

⁵ <http://www.efsa.europa.eu/en/efsajournal/doc/2508.pdf>

⁶ Guidelines for the production, processing, labelling and marketing of organically produced foods, GL 32-1999.