

# CODEX ALIMENTARIUS COMMISSION



Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization

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**Agenda Item 2**

**CRD 2**

**September 2016**

**ORIGINAL LANGUAGE**

## JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON PROCESSED FRUITS AND VEGETABLES

28<sup>th</sup> Session  
Washington DC, United States of America,  
12 – 16 September 2016

Comments on

**MATTERED REFERRED TO THE COMMITTEE BY THE CODEX ALIMENTARIUS COMMISSION  
AND/OR ITS SUBSIDIARY BODIES**

**COMMENTS SUBMITTED BY:**

**CHILE, COSTA RICA, EUROPEAN UNION, INDONESIA, KENYA, UNITED STATES OF AMERICA,  
IFAC, IFU**

### **CHILE**

Chile supports comments of Costa Rica.

### **COSTA RICA**

#### **ENGLISH**

#### **I. Background**

During the 47<sup>th</sup> session of the Committee on Food Additives (CCFA), the Committee agreed to ask CCPFV to clarify whether the use of “emulsifiers, stabilizers, thickeners” in general, and xanthan gum (INS 415) in particular, was technologically justified in food categories 14.1.2 “Fruit and vegetable juices” and 14.1.3 “Fruit and vegetable nectars,” in general and in specific sub-categories.

#### **II. Analysis**

##### **Food Category No. 14.1.2.1 (Fruit Juice). XANTHAM GUM (INS 415)**

**POSITION:** We support the use of xanthan gum in fruit juices.

**Justification:** Xanthan gum provides viscosity to the drinks and enhances the appearance, as it stabilizes the turbidity through a sufficiently viscous suspension to prevent the sedimentation of fine particles. It also contributes to the drink’s organoleptic properties by improving the mouthfeel and releasing flavor. Its use is justified in sub-category 14.1.2.1. Given that xanthan gum contains no specific numeric ADI, the maximum level adopted should be BMP.

##### **Food Category No. 14.1.2.2 (vegetable juice).**

PECTIN (INS 440)

XANTHAN GUM (INS 415)

**POSITION:** We support the recommendation of the eWG to further discuss the use of pectin and xanthan gum as emulsifiers, stabilizers, and thickeners in category 14.1.2.2 vegetable juice.

**Justification:** Xanthan gum can be used in vegetable juices to prevent the sedimentation of fine particles. Carrot juice, which is classified under 14.1.2.2, has a total solid content of around 6%. This is similar to the solid content of starfruit (5.9%). Xanthan gum can also contribute to the organoleptic properties of vegetable juices by enhancing the mouthfeel and releasing flavor. Similar technological functions can be attributed to pectin.

**Food Category No. 14.1.2.3 (concentrates for fruit juices)**

XANTHAN GUM (INS 415)

**POSITION:** We support the adoption according to the BMP.

**Justification:** The use of xanthan gum is technologically permitted in fruit juices as an emulsifier, stabilizer, and thickener, considering its use is also justified in sub-category 14.1.2.3, with the same technological function.

**Food Category No. 14.1.2.4 (concentrates for vegetable juices)**

PECTIN (INS 440)

XANTHAN GUM (INS 415)

**POSITION:** We support the recommendation to further discuss the use of pectin and xanthan gum as emulsifiers, stabilizers, and thickeners in sub-category 14.1.2.4.

**Justification:** The use of xanthan gum and pectin is technologically permitted in vegetable juices as an emulsifier, stabilizer, and thickener. Its use is also justified in sub-category 14.1.2.4, with the same technological function

**Food Category No.14.1.3.1 (fruit nectar)**

XANTHAN GUM (INS 415)

**POSITION:** We support the adoption of BMP.

**Justification:** Xanthan gum provides viscosity to the drinks and stabilizes the appearance of a turbid drink through a sufficiently viscous suspension to prevent the sedimentation of fine particles. It also contributes to the drink's organoleptic properties by improving the mouthfeel and releasing flavor. Therefore, its use is justified in sub-category 14.1.3.1. Given that xanthan gum contains no specific numeric ADI, the maximum level adopted should be BMP.

**Food Category No. 14.1.3.2 (vegetable nectar)**

XANTHAN GUM (INS 415)

**POSITION:** We support the recommendation of the eWG to adopt it according to the BMP. Stabilizers, emulsifiers, and thickeners are justified on a case-by-case basis, and the information provided indicates that this additive is used by several Codex members.

**Justification:** Xanthan gum provides viscosity to the drinks and stabilizes the appearance of a turbid drink through a sufficiently viscous suspension to prevent the sedimentation of fine particles. It also contributes to the drink's organoleptic properties by improving the mouthfeel and releasing flavor. Therefore, its use is justified in sub-category 14.1.3.1. Given that xanthan gum contains no specific numeric ADI, the maximum level adopted should be BMP.

**Food Category No. 14.1.3.3 (concentrates for fruit nectar)**

XANTHAN GUM (INS 415)

**POSITION:** We support the recommendation of the eWG to adopt according to the BMP.

**Justification:** Stabilizers, emulsifiers, and thickeners are justified on a case-by-case basis and the information provided indicates that this additive is used by several Codex members. The use of xanthan gum is technologically justified in fruit nectar as an emulsifier, stabilizer, and thickener. Its use is also justified in sub-category 14.1.3.3, with the same technological function.

**Food Category No. 14.1.3.4 (concentrates for vegetable nectar)**

XANTHAN GUM (INS 415)

**POSITION:** Adopt according to BMP.

**Justification:** The use of xanthan gum is technologically justified in vegetable nectar as an emulsifier, stabilizer, and thickener. Its use is also justified for sub-category 14.1.3.4, with the same technological function.

**SPANISH****I. Antecedentes**

Durante la 47ª reunión del Comité de Aditivos Alimentarios (CCFA), el Comité acordó pedir al CCPFV que aclare si el uso de "emulsionantes, estabilizadores, espesantes" en general, y de goma xantana (SIN 415) en particular, se justifica tecnológicamente en las categorías de alimentos 14.1.2 "Zumos (jugos) de frutas y hortalizas" y 14.1.3 "Néctares de frutas y hortalizas" en general y en determinadas subcategorías.

**II. Análisis****Categoría de Alimentos No. 14.1.2.1 (Jugos de frutas). GOMA XANTAN (INS 415)**

**POSICION:** Se apoya el uso de goma xantana en jugos de frutas.

**Justificación:** La goma xantana proporciona viscosidad a las bebidas y mejora la apariencia ya que estabiliza la turbidez mediante una suspensión suficientemente viscosa para evitar la sedimentación de las partículas finas. También contribuye a las propiedades organolépticas de la bebida mediante la mejora de la sensación en boca y la liberación de sabor. Su uso se justifica en la subcategoría 14.1.2.1. Dado que la goma xantana no tiene ninguna IDA numérica especificada, el nivel máximo que se adopte debe ser BPM.

**Categoría de Alimentos No. 14.1.2.2 (jugos vegetales).**

PECTINAS (INS 440)

GOMA XANTANA (INS 415)

**POSICION:** Se apoya la recomendación del eWG de que se debe dar mayor discusión en el uso de pectinas y goma xantana como emulsificante, estabilizante y espesante en la categoría 14.1.2.2 jugos vegetales.

**Justificación:** La goma de xantana se puede utilizar en los jugos de vegetales para evitar la sedimentación de partículas finas. El jugo de zanahoria, que se clasifica en 14.1.2.2, tiene un contenido total de sólidos alrededor del 6%. Esto es similar, por ejemplo, al contenido de sólidos de jugo de carambola (5,9 %). Además, la goma de xantana puede contribuir a las propiedades organolépticas de los jugos vegetales mediante la mejora de la sensación en boca y la liberación de sabor. Funciones tecnológicas similares se pueden atribuir a las pectinas.

**Categoría de Alimentos No. 14.1.2.3 (Concentrados de frutas)**

GOMA XANTANA (INS 415)

**POSICION:** Se apoya la adopción según las BPM.

**Justificación:** El uso de la goma xantana está permitido tecnológicamente en jugos de frutas como emulsificante, estabilizante y espesante, considerando que también está justificado su uso en la subcategoría 14.1.2.3 con la misma función tecnológica.

**Categoría de Alimentos No. 14.1.2.4 (Concentrados para jugos vegetales)**

PECTINAS (INS 440)

GOMA XANTANA (INS 415)

**POSICION:** Se apoya la recomendación de que se debe dar mayor discusión en el uso de pectinas y goma xantana como estabilizante, emulsificante y espesante en la Subcategoría 14.1.2.4.

**Justificación:** El uso de la goma xantana y las pectinas está justificado tecnológicamente en jugos vegetales como emulsificante, estabilizante y espesante; asimismo, también está justificado su uso en la subcategoría 14.1.2.4 con la misma función tecnológica.

**Categoría de Alimentos No.14.1.3.1 (Néctares de frutas)**

GOMA XANTANA (INS 415)

**POSICION:** Se apoya su adopción según las BPM.

**Justificación:** La goma xantana aporta viscosidad a las bebidas y estabiliza la apariencia de una bebida turbia produciendo una suspensión suficientemente viscosa para prevenir sedimentación de partículas finas. Además contribuye a las propiedades organolépticas de la bebida mejorando la sensación en la boca y liberando sabor. Por lo tanto, su uso está justificado en la subcategoría 14.1.3.1. Como la goma xantana no tiene ADI numérico el nivel máximo que se debe adoptar es BPM.

**Categoría de alimentos No. 14.1.3.2 (Néctar de vegetales)**

GOMA XANTANA (INS 415)

**POSICION:** Se apoya la recomendación del eWG de adoptarlo según las BPM. Estabilizantes, emulsificantes y espesantes están justificados en una base caso por caso y la información suministrada indica que este aditivo es utilizado por varios miembros del Codex.

**Justificación:** La goma xantana aporta viscosidad a las bebidas y estabiliza la apariencia de una bebida turbia produciendo una suspensión suficientemente viscosa para prevenir sedimentación de partículas finas. Además contribuye a las propiedades organolépticas de la bebida mejorando la sensación en la boca y liberando sabor. Por lo tanto, su uso está justificado en la subcategoría 14.1.3.1. Como la goma xantana no tiene ADI numérico el nivel máximo que se debe adoptar es BPM.

**Categoría de alimentos No. 14.1.3.3 (Concentrados de néctares de frutas)**

GOMA XANTANA (INS 415)

**POSICION:** Se apoya la recomendación del eWG de adoptarlo según las BPM.

**Justificación:** Estabilizantes, emulsificantes y espesantes están justificados en una base caso por caso y la información suministrada indica que este aditivo es utilizado por varios miembros del Codex. El uso de la goma xantana está justificado tecnológicamente en néctares de frutas como emulsificante, estabilizante y espesante; asimismo, también está justificado su uso en la subcategoría 14.1.3.3 con la misma función tecnológica.

**Categoría de alimentos No. 14.1.3.4 (Concentrados de néctares vegetales)**

GOMA XANTANA (INS 415)

**POSICION:** Adoptar según BPM.

**Justificación:** El uso de la goma xantana está justificado tecnológicamente en néctares de frutas como emulsificante, estabilizante y espesante; Asimismo, también está justificado su uso en la subcategoría 14.1.3.4 con la misma función tecnológica.

**EUROPEAN UNION****70th SESSION OF EXECUTIVE COMMITTEE (2015)**

The EU and its Member States do not see a need to develop an approach for the management of the work of CCPFV similar to that used by CCFH.

**47<sup>th</sup> AND 48<sup>TH</sup> SESSIONS OF THE COMMITTEE ON FOOD ADDITIVES (2015-2016)**

The European Union (EU) would like to provide the following comments:

**Use of “emulsifier, stabilizer, thickener” and “xanthan gum” (INS 415) in food categories 14.1.2 “Fruit and vegetable juices” and 14.1.3 “Fruit and vegetable nectars”**

To the EU knowledge the technological need for emulsifiers, stabilisers and thickeners (E, T, S) for the mentioned food categories and their subcategories is very limited and **with the exception of INS 440 pectins used in certain specific fruit juices or nectars the use of E, S, T is not technologically justified in fruit juices, juice concentrates, nectars and nectar concentrates.**

Some juices or nectars need to improve their colloidal suspension stability and/or to improve or standardise viscosity. This applies in particular to pineapple and passion fruit juice and nectar. In contrast to other stabilisers or thickeners pectin is a natural component of raw materials used for production of juices, nectars or their concentrates. Therefore, the use and addition of pectins does not have an impact on the indigenous characteristics of juices or nectars. Indeed, this is not the case for any other thickener or stabiliser which could be potentially used in juices or nectars for its functional properties. For example, the use of INS 415 xanthan gum leads to a viscous texture which is different and not characteristic to the original juice or nectar. In addition it could have an impact on the taste of juices or nectars as well. Therefore, the EU questions the technological need for the use of xanthan gum.

## Technological justification on the use of food additives

### a) 04.1.2 "Processed fruit" of:

- antioxidants in processed fruit in general and the use of tocopherols (INS 307a, b, c), specifically in standardized and non-standardized foods for all subcategories.

The category 04.1.2 covers a very broad range of products and consists of 12 subcategories referring to 23 commodity standards/commodities; therefore, it might be quite complex to consider the request at the upcoming Committee session for all subcategories and standardized and non-standardized foods.

In general, the EU considers that the use of antioxidants and in particular tocopherols might be justified for many products falling under category 04.1.2 except for the following categories/foods: 04.1.2.1 Frozen fruit, 04.1.2.4 Canned or bottled (pasteurized) fruit, 04.1.2.5 Jams, jellies, marmalades, 04.1.2.6 Fruit-based spreads, and fruit compotes falling under the category 04.1.2.9 and all the commodity standards that correspond to the mentioned subcategories.

### b) 04.1.2.2 "Dried fruit" of:

- acidity regulators (general use), and tartrates (INS 334, 335 (ii), 337) specifically, in products conforming to CODEX STAN 177-1991.

Dried fruit category is quite broad and acidity regulators might be needed for certain products. However, as regards the use of acidity regulators and tartrates in products conforming to CODEX STAN 177-1991 the EU would like to point out that the technological need for different functional classes and individual food additives was extensively discussed at CCPFV25 (see REP 11/PFV, paras 28-40) and the need for acidity regulators including tartrates was not identified. Instead, the Committee agreed only on the technological need for sulfites as a preservative/antioxidant and citric acid as an antioxidant. The EU is of the view that this outcome is still valid.

### c) 04.1.2.3 "Fruit in vinegar, oil or brine" of:

- tartrates (INS 334, 335 (ii), 337) as acidity regulators in products conforming to CODEX STAN 260-2011.

The EU takes note that specific acidity regulators were listed in CS 260-2007 and since the last amendment in 2015 the standard refers to acidity regulators more in general. The EU could accept the use of tartrates in category 04.1.2.3.

### d) 04.1.2.5 "Jams, jellies, marmalades" of:

- propylene glycol alginate (INS 405) as a thickener in products conforming to CODEX STAN 296-2009.

The EU takes note that CS 296-2009 refers to thickeners used in accordance with Table 3 of the GSFA. Table 3 offers a broad variety of thickeners and the EU is not aware of any specific functionality of INS 405 which could not be achieved by alternative thickeners with "ADIs not specified" listed in Table 3. Therefore, the EU considers that there is no need to amend CS 296-2009, and the request for the use of INS 405 propylene glycol alginate is not justified.

e) 04.1.2.6 "Fruit based spreads (e.g. chutney) excluding products of food category 04.1.2.5" of:- tartrates (INS 334, 335 (ii), 337) as acidity regulator in products conforming to CODEX STAN 160-1987.

The EU does not have any information whether the use of tartrates is needed/ justified in such specific products as mango chutney.

## Revocation of food additive provisions

The EU concurs with the principle that food additives shall not be listed in commodity or regional standards without having specifications developed by JECFA. Therefore, the EU supports removing the provisions from the CCPFV standards for INS 228 potassium bisulfite, INS 515(ii) potassium hydrogen sulfate and INS 227 calcium hydrogen sulphite as suggested in paras 14 and 15 of CX/PFV 16/28/2.

## Consistency terms pertaining flavourings

Generally, the EU supports the recommendation made by the CCFA48 to revise the text pertaining to flavourings to ensure consistency with the *Guidelines for the Use of Flavourings* (CAC/GL 66-2008) **in those commodities/commodity standards in which the use of flavourings is referred to**. In addition, the revision should **reflect the limitations and restrictions** for the use of flavourings as laid down in the standards.

Such approach would be fully in line with the approach taken by the CCFA in the alignment exercise (e.g. when the meat standards were revised the general reference to the use of flavourings was inserted for those referring to flavourings, i.e. CS 89-1981, CS 96-1981, CS 97-1981 and CS 98-1981 but not to CS 88-1981 – see Appendix VII of REP14/FA; when the cocoa/chocolate standards were revised the restrictions for the use of flavourings were reflected in CS 87-1981, 141-1983 and 105-1981; see Appendix V of REP16/FA).

Therefore, such approach should be applied “mutatis mutandis” also on the standards for processed fruits and vegetables.

For example, the EU considers that **the revised wording for CODEX STAN 17-1981 should read as follows:**

“The flavourings used in products covered by this standard should comply with *the Guidelines for the Use of Flavourings* (CAC/GL 66-2008). Only those flavourings that do not imitate the flavour of apples are permitted at GMP.”

## **INDONESIA**

### **47TH AND 48TH SESSIONS OF THE COMMITTEE ON FOOD ADDITIVES (2015 - 2016)**

#### **MATTERS FOR ACTION**

##### **Technological justification on the use of food additives**

13. CCFA48 agreed to ask CCPFV for guidance on the use of food additives in the following food categories:

a) 04.1.2 “Processed fruit” of:

- antioxidants in processed fruit in general and the use of tocopherols (INS 307a, b, c), specifically in standardized and non-standardized foods for all subcategories.

#### **Comment:**

As a tropical country, Indonesia needs antioxidant for food product in food category 04.1.2.

#### **Rationale :**

Indonesia considers that as natural antioxidant, tocopherols is one of the effective antioxidants for these product.

## **KENYA**

#### **MATTERS FOR ACTION**

##### **Monitoring of Standards Development**

3. The Executive Committee agreed to recommend all Committees to consider the need to develop an approach for the management of their work similar to that used by the Committee on Food Hygiene (while recognizing the differences in topics, working procedures, etc. among various committees).

#### **COMMENT**

***Kenya proposes that monitoring of implementation of the Strategic Plan was the responsibility of the Codex Secretariat which should, therefore, regularly review Codex work management. At the CAC-39th Session, the commission agreed to discontinue discussion on the ToR of the internal Secretariat-led review and requested the Secretariat to regularly review Codex work management as part of the monitoring of the Codex Strategic Plan and regularly inform both CCEXEC and CAC on the findings and recommended actions.***

#### **MATTERS FOR ACTION**

##### **Standard for Certain Canned Fruits**

8. CCMAS36 agreed to replace the CAC/RM 46-1972 (method for fill of glass containers) with ISO 8106 (glass containers – determination of capacity by gravimetric methods) and to apply this change to all relevant standards on processed fruits and vegetables.

#### **COMMENT**

***We accept the replacement of CAC/RM 46-1972 with ISO 8106 as agreed by CCMAS for ISO 8106 is a validated method which is widely used by many countries.***

10. CCMAS37 agreed to remind Codex committees that existing Codex Recommended methods (RM methods) should be replaced by internationally validated methods and that recommendations should be made to CCMAS for endorsement.

**COMMENT**

***We accept the replacement of CAC/RM 46-1972 with ISO 8106 and it should be forwarded to CCMAS for endorsement.***

**MATTERS FOR ACTION**

**Use of “emulsifier, stabilizer, thickener” and “xanthan gum” (INS 415)**

12. CCFA47 agreed to ask CCPFV to clarify whether the use of “emulsifier, stabilizer, thickener” in general, and xanthan gum (INS 415) in particular was technologically justified in food categories 14.1.2 “Fruit and vegetable juices” and 14.1.3 “Fruit and vegetable nectars” in general and in specific sub-categories.

**COMMENT**

***We have no problem using emulsifier, stabilizer, thickener and xanthan gum (INS 415) in Fruit and vegetable juices” and 14.1.3 “Fruit and vegetable nectars” in general and in specific sub-categories.***

**Technological justification on the use of food additives**

13. CCFA48 agreed to ask CCPFV for guidance on the use of food additives in the following food categories:

a) 04.1.2 “Processed fruit” of:

- antioxidants in processed fruit in general and the use of tocopherols (INS 307a, b, c), specifically in standardized and non-standardized foods for all subcategories.

**COMMENT**

***It can be used for stabilizing oil based flavours that are used in these products. It is also commonly used to reduce the oxidation of the product and retain the original colour.***

b) 04.1.2.2 “Dried fruit” of:

- acidity regulators (general use), and tartrates (INS 334, 335 (ii), 337) specifically, in products conforming to CODEX STAN 177-1991.

**Comment**

***We accept the usage of acidity regulators (general use), and tartrates (INS 334, 335 (ii), 337) specifically, in products conforming to CODEX STAN 177-1991.***

c) 04.1.2.3 “Fruit in vinegar, oil or brine” of:

- tartrates (INS 334, 335 (ii), 337) as acidity regulators in products conforming to CODEX STAN 260-2011.

**COMMENT**

***We accept the usage of tartrates (INS 334, 335 (ii), 337) as acidity regulators in products conforming to CODEX STAN 260-2011.***

d) 04.1.2.5 “Jams, jellies, marmalades” of:

- propylene glycol alginate (INS 405) as a thickener in products conforming to CODEX STAN 296-2009.

**COMMENT**

***We do not accept since propylene glycol alginate (INS 405) does not appear in the codex standard 296-2009 and GSFA***

e) 04.1.2.6 “Fruit based spreads (e.g. chutney) excluding products of food category 04.1.2.5” of:

- tartrates (INS 334, 335 (ii), 337) as acidity regulator in products conforming to CODEX STAN 160-1987.

**Comment**

***We accept the usage of tartrates (INS 334, 335 (ii), 337) as acidity regulator in products conforming to CODEX STAN 160-1987.***

### **Consistency terms pertaining flavourings**

16. CCFA48 agreed to recommend to CCPFV to consider revising the text pertaining to flavourings in the standards indicated below to ensure consistency with the *Guidelines for the Use of Flavourings* (CAC/GL 66-2008)

- a) Standard for Canned Applesauce (CODEX STAN 17-1981)
- b) Standard for Certain Canned Fruits, Annex on Canned Pears (CODEX STAN 319-2015)
- c) Standard for Canned Fruit Cocktail (CODEX STAN 78-1981)
- d) Standard for Canned Tropical Fruit Salad (CODEX STAN 99-1981)
- e) Standard for Pickled Cucumber (Cucumber Pickles) (CODEX STAN 115-1981)
- f) Standard for Canned Chestnuts and Canned Chestnut Puree (CODEX STAN 145-1981)
- g) Standard for Kimchi (CODEX STAN 223-2001)
- h) Standard for Canned Stone Fruits (CODEX STAN 242-2003)
- i) Standard for Jams, Jellies and Marmalades (CODEX STAN 296-2009)

### **COMMENT**

We accept the revision of the text pertaining to flavourings in the above Codex standards to ensure consistency with the *Guidelines for the Use of Flavourings* (CAC/GL 66-2008) to prevent confusion.

### **UNITED STATES OF AMERICA**

The United States reports that there is clear technological justification for the use of emulsifiers, stabilizers, and thickeners (E, S, Ts) in general, and xanthan gum (INS 415) in particular, in fruit and vegetable juices and nectars. E, S, Ts, including xanthan gum (INS 415) allow manufacturers to innovate, enhance, and maintain the quality of certain juice and nectar products without misleading consumers or fundamentally altering the natural properties of these products.

### **Technological Needs for Emulsifiers, Stabilizers, and Thickeners, Generally**

Juice or nectar from the same type of fruit or vegetable can vary in composition (e.g. sugar, fiber) and sensory properties (e.g. color, flavor, and texture). E, S, Ts including pectin (INS 440) and xanthan gum (INS 415) are mainly used to improve mouthfeel (texture) and provide product stability (e.g. allow uniform suspension of pulp particulates). Hence, E, S, Ts are necessary to obtain a juice or nectar product that meets consumer performance expectations.

### **Technological Needs for Xanthan Gum and Other Table 3 E, S, Ts**

Different hydrocolloids may have unique application advantages and disadvantages depending on the product and process. Xanthan gum (INS 415) and other non-fruit derived E, S, Ts offer technological functionality comparable to pectin (INS 440), and in some applications are far superior. Many of these E, S, and Ts have Acceptable Daily Intakes (ADIs) of “not specified” assigned by the Joint Expert Committee on Food Additives (JECFA). An ADI of “not specified” means that the E, S, T is of low toxicological concern, and therefore use is only limited by good manufacturing practice. In the General Standard for Food Additives (GSFA; CODEX STAN 192-1995) food additives with a JECFA ADI of “not specified” are placed in Table 3, and are known as Table 3 additives.

Due to technological limitations of pectin (INS 440) in certain applications (e.g. requirement for hot water solubilization), many fruit and vegetable juice and nectar producers prefer using xanthan gum or other Table 3 E,S,Ts (e.g. gellan gum) instead of pectins. Xanthan gum is currently used in many fruit and vegetable juice and nectar products by major juice producers worldwide including those in Brazil, Canada, Chile, China, Colombia, Ecuador, India, Indonesia, Malaysia, Mexico, Netherlands, Pakistan, Peru, Puerto Rico, Russia, Saudi Arabia, Sri Lanka, United Kingdom, United States and Vietnam. Expanding the permitted E, S, Ts for fruit and vegetable juices and nectars to include xanthan gum, or other safe and suitable Table 3 E, S, Ts greatly enhances manufacturing flexibility to meet consumer preferences and expectations.

We do not agree that the use of xanthan gum (INS 415) and other Table 3 E,S, Ts (e.g., gellan gum) alters the natural sensory characteristics of fruit and vegetable juices and nectars. We remind CCPFV that, pectin (INS 440), which is currently permitted for use for the same food categories, is used to achieve similar end product characteristics as xanthan gum and other Table 3 E,S,Ts (e.g. gellan gum). There is no compelling reason to allow pectin but no other suitable Table 3 E,S,Ts, such as xanthan gum and gellan gum.

We do not agree that the fact that the hydrocolloid is not derived from fruits or vegetables (e.g., xanthan gum) disqualifies its use in fruit and vegetable juices and nectars. There are other non-plant derived food additives currently permitted for fruit and vegetable juices and nectars. For example, sulfites, a non-plant derived food additive, is currently permitted for use in fruit and vegetable juices and nectars.



In addition, we do not believe the use of xanthum gum and other Table 3 E, S, Ts will mislead consumers. CODEX STAN 1-1985 (Labelling of Prepackaged Foods) Section 4.2.3.3 provides guidelines for the labeling of food additives. Consumers would be informed of the presence of these additives by the food additive information on the product label.

### **INTERNATIONAL FOOD ADDITIVE COUNCIL (IFAC)**

This Conference Room Document (CRD) is respectfully submitted by the International Food Additives Council (IFAC). IFAC is a global association representing manufacturers of food ingredients. This CRD addresses a matter referred to the Codex Committee on Processed Fruits and Vegetables (CCPFV) by the Codex Committee on Food Additives (CCFA) regarding provisions for Table 3 additives with the function “stabilizer” and “thickener” in food categories 14.1.2 and 14.1.3.

#### Introduction

During the 48<sup>th</sup> CCFA Session, provisions for Table 3 additives in the General Standard for Food Additives (GSFA) were considered, including those with the function “stabilizer” and “thickener.” With regard to food categories 14.1.2 “Fruit and vegetable juices” and 14.1.3 “Fruit and vegetable nectars,” CCFA asked CCPFV to determine whether Table 3 additives with the stabilizer and/or thickener function are technologically justified in these food categories.

#### IFAC Position

IFAC strongly supports provisions for the use of Table 3 additives with the function stabilizer and thickener, especially xanthan gum and gellan gum, in food categories 14.1.2 and 14.1.3. IFAC believes there is clear technological justification for these additives. These materials have been shown to be safe, have an acceptable daily intake of “GMP” and allow manufacturers to innovate and enhance juice products.

#### Technological Justification for Table 3 Additives with a Stabilizer and/or Thickener Function Other than Pectin

Table 3 additives with a stabilizer and thickener function, particularly xanthan gum and gellan gum, are used in several types of fruit and vegetable juices. They are used in clear as well as cloudy juices, juices produced from tropical fruits and also products marketed as “100% juice.”

These additives provide optimal colloidal suspension of solids (including insoluble materials like pulp) and can improve “mouth feel” and viscosity in juice products. Many of these additives function particularly well in high-acid environments that are common in juices and juice concentrates. They are also particularly effective in maintaining homogeneity and distribution of pulp and fruit in juice products, avoiding issues related to separation during production, filling and transportation, and prior to purchase, storage and consumption by consumers. These technological functions help reduce food waste and improve consumer acceptance of many juice products.

Many fruits and vegetables have different varieties which bring diversity in color, flavor, fiber and sugar content, among other factors depending on time of harvest. The use of stabilizers is necessary to obtain a uniform juice product that consumers will accept and may be particularly important when the product is sold in clear packaging.

Pectin is widely used by some juice makers for thickening and stabilization. IFAC understands some stakeholders are likely to insist that pectin be the only stabilizer/thickener allowed in products conforming to these food categories. IFAC understands that the preference for pectin is due to historical processing practices and because pectin is derived from citrus or other fruits, and some object to the use of non-fruit-derived hydrocolloids in juice products despite the fact that these hydrocolloids have similar functionality to pectin and are generally derived from botanical sources or fermentation. While IFAC supports the use of pectin as a stabilizer and thickener in juice products, we also believe the other Table 3 stabilizers and thickeners offer technological functionality that make them superior to pectin in certain applications. These additives are not only technologically justified, but offer new and innovative functionality that is helping these food categories expand to meet consumer tastes and regional preferences. They also help address challenges related to longer food distribution networks and the desire of manufacturers to lower the overall impact on the environment.

When using pectins, it is generally recommended that the pectin solution be dissolved in the liquid product at a temperature of 80°C for optimal hydration and activation. Such high temperature processing may be undesirable in some applications, including when the juice is very sensitive to temperature fluctuation; may be less attractive for low impact, ecologically friendly processors; or may be cost prohibitive in some regions of the world. On the other hand, xanthan gum is cold-soluble. The ability to use xanthan gum at lower processing temperatures (e.g., room temperature) supports sustainability and productivity, as manufacturers are able to reduce energy consumption while producing a comparable or superior product to pectin based juice. In other cases, lower processing temperatures simplify processing steps and production time, which in turn reduces production costs, protects workers and provides comparable or superior products.

Several Table 3 alternatives are also superior to pectin because they are tasteless and impart no flavor or added mouth feel in the product. Gellan gum, for example, is completely tasteless and works extremely well in juice applications, whereas the use of pectin could impact the taste profile of the final product. Gellan gum also offers extremely effective stabilization without contributing to mouth feel, which can be particularly important in juice applications where stabilization of insoluble ingredients like pulp is desired but the manufacturer does not want to thicken the juice. At rest, a gellan-enhanced fluid gel has a very high apparent viscosity, but because of the weak molecular associations, the network is easily disrupted, resulting in a low viscosity, smooth pour and light, refreshing mouth feel. Pectin, on the other hand, will impact mouth feel when used as a stabilizer (generally by thickening or gelling the mixture), which may impart undesirable characteristics on the final juice product either through poor pour performance or mouth feel.

Juices are increasingly being looked to by consumers as health foods, and manufacturers are offering a greater variety of multi-component, high-pulp and low-calorie juices. In these products, Table 3 thickeners can enhance body and mouth feel in low-calorie juices without impacting flavor and at much lower usage levels than pectin. They can also help to maintain pulp in solution over a greater period of time at lower usage levels, which can impact consumer acceptance of new products. Given the desire by some consumers to consume products containing fewer ingredients, this lower usage level is an important consideration for many manufacturers as they develop new and innovative products.

Finally, there appears to be widespread support and technological justification for the use of all Table 3 stabilizers and thickeners in food categories 14.1.2 and 14.1.3. However, opposition exists to expanding the provisions for stabilizers and thickeners in these categories beyond pectin. Per the principles of the "horizontal approach," which has been applied by the CCFA to numerous other food categories and other additives, if a Table 3 additive is found to be technologically justified in a food category, all other Table 3 food additives with that justified technological function should be suitable for use in that food category.

### Conclusion

There are specific functional limitations of pectin that make other hydrocolloids desirable in certain juice applications, including those marketed as "100% juice." Given the specific technological benefits of Table 3 additives with a stabilizer and thickener function, and considering the principles of the horizontal approach that has been applied by CCFA, IFAC sees no reason why all Table 3 additives with a stabilizer and thickener function should not be permitted in food categories 14.1.2 "Fruit and vegetable juices" and 14.1.3 "Fruit and vegetable nectars." There is no safety concern, they will not mislead consumers and they are technologically justified. Should CCPFV be uncomfortable approving all Table 3 stabilizers and thickeners, IFAC believes clear technological justification exists to recommend approval of the provisions for xanthan gum and gellan gum.

### **INTERNATIONAL FRUIT AND VEGETABLE JUICE ASSOCIATION (IFU)**

#### MATTERS FOR ACTION

Use of "emulsifier, stabilizer, thickener" and "xanthan gum" (INS 415)

12. The CCFA47 agreed to ask CCPFV to clarify whether the use of "emulsifier, stabilizer, thickener" in general, and xanthan gum (INS 415) in particular was technologically justified in food categories 14.1.2 "Fruit and vegetable juices" and 14.1.3 "Fruit and vegetable nectars" in general and in specific sub-categories.

#### **Comment:**

The International Fruit and Vegetable Juice Association (IFU) has been for more than sixty years the only representative of the worldwide fruit and vegetable juice industry. The members of IFU are producers of juices and related products, associations, traders, machinery and packaging producers, public and private scientific institutions from around the world.

**IFU is opposed to the addition of other thickeners than those naturally present in fruit and vegetables (i.e. pectin) to juice and nectars.**

In the General Standard for Food Additives (CODEX STAN 192-1995) the justification for the use of additives are listed in section 3.2. Specifically, *to enhance the keeping quality or stability of a food or to improve its organoleptic properties, provided that this does not change the nature, substance or quality of the food as to deceive the consumer.*"

It is the result of the assessment by the IFU Science and Technology Commission that there is no technical need for the additive xanthan gum in fruit juices and nectars. Fruits and vegetables contain a high concentration of pectic substances which are able to stabilize cloudy fruit juices and nectars and fruit and vegetable purees.

In many fruits the pectin contents are so high that their concentration must be reduced partially.

It is a task of modern fruit and vegetable juice technology to assure the quality and stability by using physical means instead of additives. Desired levels of viscosity and mouth feel can be achieved by appropriate extraction of pectins from the tissue of fruits and vegetables and/or by blends of juices with 100% purees.

Thickeners may change the sensory properties, especially the mouth feel and the aroma properties.

The maintenance of such properties are specified in section 3.2 *Quality Criteria* of the Codex General Standard for Fruit Juices and Nectars (CODEX STAN 247-2005). Specifically, "*The fruit juices and fruit nectars shall have the **characteristic colour, aroma and flavour** of the juice from the same kind of fruit from which it is made.*"

Very importantly, the addition of chemical substances not otherwise naturally found in fruits would also contradict section 3.3 **Authenticity** in the same standard: "*Authenticity is the maintenance of the product's essential physical, **chemical, organoleptic** and nutritional characteristic of the fruit (s) from which it comes.*"

**Maintaining the authenticity of fruit and vegetable juices and nectars is an important goal for the international juice industry, supporting the interests of the consumer.**

Finally, it is worth noting that some regions that have traditionally significant production and consumption of vegetable and fruit juices and nectars (e.g. Eurasian Customs Union - Russia, Kazakhstan, Belarus, Armenia, Kyrgyzstan) also prohibit the addition of xanthan gum (NB; all thickeners other than pectins) in vegetable and fruit juices and nectars by law. The addition of xanthan gum is only allowed in vegetable and fruit juice drinks. The reference: Technical Regulation of the Customs Union, TR CU 023/2011, Technical Regulations on Fruit and Vegetable Juice Products.

## CONCLUSION

**IFU is opposed to the addition of other thickeners than those naturally present in fruit and vegetables (i.e. pectin) to juice and nectars.** Such additives are not in-line with the interests of the fruit and vegetable juice industry. It also contradicts the quality and authenticity requirements set in the Codex General Standard for Fruit Juices and Nectars (CODEX STAN 247-2005).

The addition of xanthan gum or other foreign substances would change the character of fruit and vegetable juices and also endanger their naturalness which is desired by the consumer, nutritional organisations as well as the fruit and vegetable juice industry itself. The presence of native pectins in juices and nectars allows the stabilisation by natural means using modern beverage technologies.

Fruit and vegetable juice is a mirror picture of the fruit and vegetable. Consumers expect that the composition of juice reflects this fact.

The science and technology commission (STC) of the IFU cannot recognise a technological need for stabilisers, thickeners and emulsifiers, in general. For decades, stable juices and nectars are produced successfully without such substances.