

**BRAZIL COMMENTS**  
**Round 2**  
**Part I. Technological justifications (Items 1-6) to**  
**Matters referred from the Codex Committee on Food Additives (CCFA)**  
CCPFV - Electronic working group (eWG)

Brazil would like to congratulate the USA for the efforts to reach consensus and to further elaborate and provide comments to the recommendations on food additives applied to selected Standards on Processed Fruits and Vegetables.

*Item 1a. Request information on the technological justification for the use of “emulsifiers, stabilizers, thickeners” in FC 14.1.2 “Fruit and vegetable juices” and its sub-categories and FC 14.1.3 “Fruit and vegetable nectars” and its sub-categories.*

**Item 1a - Brazil Comment:**

Initially, it is important to mention that Brazil is a country rich in tropical pulpy fruits, which are characterized by high pulp content and, therefore, high content of insoluble solids.

It is worth noting that in Brazil, a large producer of tropical fruits, it is still quite common the use of whole fruit pulps (i.e., products with natural Brix, not concentrated) as well as the use of low concentrates, with high fruit pulp contents.

On those pulpy fruit products it is quite evident the phase separation, both in tropical nectars and juices, due to the high pulp content of such products.

The dilution of fruit pulps in water for the preparation of nectars and tropical juices causes the precipitation of insoluble solids (pulp). This phase difference in juices and nectars is an undesirable factor in the industrialization /commercialization of such products.

The precipitation of some fruit pulps occurs so rapidly that even during the production of tropical nectars/juices the constant agitation of the product is required during its processing so that the produced (packaged) units have a uniform composition throughout the production. Therefore, special attention must be given to this point, especially during temporary production stops, when there may be accumulation of product at certain points in the processing line and until the packaging of the product is returned, phase separation occurs at these locations and then the product is packaged non-homogeneously.

In that sense, stabilizers and emulsifiers are 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.

Ratifies this perspective the ample support for the use pectin in fruit juices in general, a stabilizer and emulsifier additive. Pectin has already been justified for use in fruit juices and, consequently, in their nectars and corresponding concentrates.

Therefore, Brazil would like to share the view that **the classes of stabilizers and emulsifiers are justified for use in these types of products (i.e., nectars and tropical juices and or cloudy juices).**

Additionally, vegetable juices that contain a mixture of fruit juices would also require use of similar stabilizers/emulsifiers.

Since stabilizers and emulsifiers have different efficiency depending on the type of fruit pulp to be stabilized, it is important to have different options, so that they can be applied more efficiently according to the characteristics of the products.

Otherwise, **Brazil does not recognize the technological need of thickener to these products.** The thickening of the product caused by the additive may mislead the consumer, disagreeing with what is proposed in section 3.2 of the GSFA.

That is why in Brazilian legislation (RDC n. 8/2013) guar gum, gellan gum, xanthan gum, microcrystalline cellulose and sodium carboxymethyl cellulose are allowed as stabilizers in nectar and fruit juices with maximum levels (ML) and not as *quantum satis*.

Maximum levels defined in Brazilian legislation are listed below:

Guar Gum (INS412) máx.,. 1000 mg/kg

Gelan Gum (INS 414) máx 500 mg/kg

Xanthan gum (INS 415) máx 2000 mg/kg

Microcrystalline cellulose (INS 460) máx 5000 mg/kg

Sodium Carboxymethyl Cellulose (INS 466) máx. 3000 mg/kg

It is also important to note that Brazil recognizes the technological need only for cloudy juices, not applying to grape, orange, lemon and grapefruit juices, for example.

*Item 1b. Request information on the technological justification for the use of pectin in products under sub-categories 14.1.2.2 (vegetable juice) and 14.1.2.4 (concentrates for vegetable juice).*

**Item 1b - Brazil Comment:**

On complementation to our previous position, it is also important to note that Brazil recognizes the technological need of Pectins only for cloudy juices, not applying to grape, orange, lemon and grapefruit juices, for example.

*Item 1c. Request information on the technological justification for the use of xanthan gum as an “emulsifiers, stabilizers, thickeners” in FC 14.1.2 “Fruit and vegetable juices” and its sub-categories and FC 14.1.3 “Fruit and vegetable nectars” and its sub-categories.*

**Item 1c - Brazil Comment:**

Initially, it is important to mention that Brazil is a country rich in tropical pulpy fruits, which are characterized by high pulp content and, therefore, high content of insoluble solids. The dilution of these fruit pulps in water for the preparation of nectars and tropical juices causes the precipitation of insoluble solids (pulp). This phase difference in juices and nectars is an undesirable factor in the industrialization /commercialization of such products.

The precipitation of some fruit pulps occurs so rapidly that even during the production of tropical nectars/juices the constant agitation of the product is required during its processing so that the produced (packaged) units have a uniform composition throughout the production. Therefore, special attention must be given to this point, especially during temporary production stops, when there may be accumulation of product at certain points in the processing line and until the packaging of the product is returned, phase separation occurs at these locations and then the product is packaged non-homogeneously.

It is worth noting that in Brazil, a large producer of tropical fruits, it is still quite common to use whole fruit pulps (natural Brix, not concentrated) or low concentrates, with high fruit pulp contents. Therefore, the phase separation in tropical nectars and juices in Brazil is quite evident due to the high pulp content of such products.

So, stabilizers and emulsifiers are 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.

Also, as pectin, a stabilizer and emulsifier additive, has already been justified for use in fruit juices generally and, consequently, in their nectars and corresponding concentrates, then the classes of **stabilizers and emulsifiers are justified for use in these types of products**. Additionally, vegetable juices that contain a mixture of fruit juices would also require use of similar stabilizers/emulsifiers.

Since stabilizers and emulsifiers have different efficiency depending on the type of fruit pulp to be stabilized, it is important to have different options, so that they can be applied more efficiently according to the characteristics of the products.

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 that sense, Brazil would like to highlight that xanthan gum is an alternative to pectin.**

Otherwise, **Brazil does not recognize the technological need of thickener to these products.** The thickening of the product caused by the additive may mislead the consumer, disagreeing with what is proposed in section 3.2 of the GSFA.

That is why in Brazilian legislation (RDC n. 8/2013), xanthan gum is allowed as stabilizer in nectar and fruit juices with maximum level (ML) of 0.2g/100mL.

It is also important to note that Brazil recognizes these technological need only for cloudy juices, not applying to grape, orange, lemon and grapefruit juices, for example.